Efficacy of Chicken's Gizzard Membranes and Corn silk Tea Using Among Patients Having Kidney Stones in Al-Najaf City

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ABSTRACT

corn silk tea on patients having kidney Stones and its relationship with kidney stone elimination within 3 days at Al -Najaf City. A quasi-experimental study design. Sociodemographic data were obtained on one hundred (100) patients having kidney stones (males and females) at kidney lithotrity Najaf center over two years period. Statistical methodology comprised Pearson X^2 test, Likelihood Ratio, Correlation coefficient and logistic regression analysis. A significant inverse relation was observed between patient's age (43-53) years and daily activity. Causes correlation among all the studied items of patients with kidney stones were significantly correlated with (0.01) level (2-tailed) Pearson Correlation among patient's complain; patient's psychological data and patient's diagnosis. Causes correlation ship between patient's desired and response to share the herbal treatment and their knowledge were high significant difference (**HS**), $X^{2=200,}$ **c.c. (0.707), P value (0.00001) HS.** These data have shown that aged patients (males and females) a correlate of kidney stones is associated with old age (43-53) years and daily activity. This association seems to be largely explained by patient's (complain, psychological data and patient's diagnosis). The association between patient's desired and response to share the herbal treatment and their knowledge were high significant. Kidney stones has long been viewed as both an indicator of renal failure and as a stressful situation associated with high morbidity and mortality risks. Further analysis suggests to apply on kidney stone's patients in different communities and large population using the chicken's gizzard membrane and corn silk drink to be largely explained.

Keywords: Chicken gizzard membrane, Corn Silk, tea, patient, kidney stones, elimination.

INTRODUCTION

One in every twenty people has kidney stones in their life. A kidney stone is a hard mineral and crystalline material formed within the kidney-urinary tract and sometimes kidney stones are called renal calculi.[1] Kidney stone is a solid mass that consists of a collection of tiny crystals. The stones may be one or more present at one time in the kidney or in the ureter. Men are likely to develop kidney stones, and Whites get them more often than Black people, and people living in the South and South West have higher incidences. The prevalence of kidney stone was higher in Africans' America than people living in other parts of United States.[2] The peak incidence occurs in people aged 35 to 45 years, due to low socioeconomic status begins to rise when men reach their 40 and continues to climb into their 70s. Approximately 30 million people are at risk in United States. A 4 mm Stone has an 80% chances of passage while, a 5 mm stone has a 20% chance.[3] Kidney stones may be the size of sand or as a pearl or even large. The main function of the kidney is to filter and eliminate toxins from the body including waste, excess fluids, salt and other potentially harmful materials from the body.[4] Kidneys are paired organs that lie posterior to the abdomen in the lower back. Medically there are 5 types of kidney stones, and there cures depend on their components. These are calcium phosphate stones, calcium oxalate stones, struvite stones, uric acid stones, and cysteine stones.[4;5] Kidney stones are a very common disease among both men and women[5]. The formation of the stones is a normal condition as a number of stones are formed and pass through the urinary stream. When these stones grow larger than the normal size of 2 to 3 mm, they cannot pass through and one stuck in the tract causing pain. Kidney stones are generally diagnosed when a patient seeks treatment for intense pain in the kidney or bladder, may be felt in the lower back or on either side of the spine accompanied by nausea, vomiting, difficult urination, or blood in the urine.[6; 7] Approximately, 12% of men and 7% of women have a lifetime risk of being affected by stones. 20s to 40s of patients to 80% will have a recurrence with 5 years of their first stone calculi larger than 7 mm are unlikely to pass easily.[8] Diagnosis is made through urine analysis, x-rays and ultrasounds. Treatment required increased fluid intake and antibiotics for urinary tract infection.[9] Some kidney stones pass within 3 to 4 days, other stone passage takes several weeks. Limiting of high calorie foods, like ice-cream, alcohol to treat kidney stones formation.[10] Women are affected less than men regarding kidney stone incidence, 4 out 5 kidney stone suffers are men between the ages of 20 to 60 years old. Out of 10,000 of kidney stones are responsible for 7 to 10 hospital admissions. It is associated with economic cost to society, and may cause great suffering and damage the kidney if not treated promptly.[11] The incidence of kidney

stones has triple in Japan since World 11 due to high animal protein, high alcohol consumption and high fat intake, low magnesium and vitamin D enriched milk products have all linked to kidney stone formation due to high levels of uric acid.[12] Chronic dehydration is the main factor especially in hot weather, heavy sweating or too little water consumption. The first step in treating kidney stones is prevention. So, Kidney stone is a global picture of prevalence, incidence, and the associated risk factors in the world.[12] The preventive measures required avoiding dehydration, drinking plenty of fluids; urination as soon as possible when is needed and drinking lemonade. Medications may be prescribed, treating hypertension and maintaining a normal weight are also preventive measures.[13] Alternative treatments for Kidney Stones are mainly watermelon juice, orange juice, citrus, corn silk, pumpkin, chicken's gizzard, and other Chinese and Iraqi folk remedies.[14] Traditional herbalism offers plenty of information available regarding treatment of kidney infections and kidney stones.[15]

Chicken's gizzard membrane: The Botanical Name of the Chicken's gizzard membrane (Gallus Gallus domesticus Brisson), which is the internal wall of the chicken's gizzard in the family Phasianidae. Common name is (Chicken's gizzard skin or lining).[15] Chicken's gizzard membrane is used traditionally as a drug for removing food stagnation after killing a chicken. Properties and Taste (Sweet and neutral). Meridians (Spleen, stomach, small intestine and urinary bladder). Therapeutic effect to eliminate food retention and to transform stones.[16]

Indications:

Indigestion, retention of food and epigastric and abdominal distension and fullness; Infantile weakness of the spleen, including infantile malnutrition; Gallstones and urinary tract stones. Chicken was domestic a in South Asia at least 4,000 years ago from a parent stock of one or more species of jungle fowl principally G. gallus.[15; 16] Corn Silk**:** The long shiny fibers at the top of an ear of corn are called corn silk. Corn is a plant that was believed to be first cultivated by the Aztecs and Mayans. This particular tea has actually been used by Native Americans as an herbal remedy since 5000 B.C. Corn silk is a diuretic has antiseptic properties and soothing to the urinary tract and used as a medicine for bladder infections, inflammation of the urinary system, inflammation of the prostate, kidney stones, and bedwetting. It is also used to treat congestive heart failure, diabetes, high blood pressure, fatigue, and high cholesterol levels.[17] Corn silk contains proteins, carbohydrates, rich in vitamins and minerals such as Vitamin K, C, and potassium as well and fiber.[18] It also contains chemicals which might work like water-pills (diuretics), and it might alter blood sugar levels, and help reduce inflammation**.** 80 % of the people who use this herb get rid of the kidney stones and pain.[19] The Common Names **(**Corn Silk) or Indian corn. Botanical

Name (Zea mays), Family Graminaceae (Grass Family). Some of the studies have confirmed the earlier findings and new research discoveries have proven that Corn Silk is safe and non-toxic.[20] Corn-silk is a completely safe herb to use in large or frequent doses when it needed. It can confidently be taken by pregnant or breastfeeding women and can be used with benefit by the young or old. Corn Silk tea is a chopped corn silk with boiling water.[21]

Objectives

To examine the effect of chicken's gizzard membrane and corn silk tea using among patients having kidney stones. To identify the relationship between patients having kidney stones using the chicken's gizzard membrane and corn silk tea for 3 days and patients using less than 3 days on kidney stones elimination according to their demographic characteristics.

MATERIALS AND METHOD

A quasi-Experimental study design was carried on a purposive sample consisted of one hundred patients having kidney stones were selected from kidney stone elimination unit at Al-Sadder Medical City-Najaf province, during September first, 2012 to November ten, 2014. Questionnaire and interview tools were applied for patients and data collection. The questionnaire was consisted from 6 parts. Part1- related to patient's demographic characteristics with 7 variable items. These are (age/year) from < 18 years - >54 years; Gender (50 males and 50 females); (marital status (single, married, divorced, others); educational level (illiterate; read and write; primary school graduated; secondary school graduated; institute, college, or higher education); residence (rural, urban); monthly income (sufficient, insufficient); occupation (student, housewife, employed, retired, unemployed); stone character (1, 2-6, 7and more); stone type (bilateral and multiple); and stone size (mm) includes (<=4, 5-9, 10 and more). Part 2: Medical history about (hypertension, urinary tract infection, cardiovascular disease, diabetes, and kidney stones). Part 3: Patient's daily activities contains 12 items, each item required only one of three answers (always, sometime, and never). Part 4: Patient's psychosocial characteristics include 16 items required one answer for each item (always, sometime, or never). Part 5: Patient's complain contains 11 items, each item answered according to patients' selection as always, sometime, or never. Oral permission was obtained from each patient prior teaching session about the present study and methods of using the chicken's gizzard membrane and corn silk tea during the study for three days at breakfast without using any other stone treatment, and wait until the fourth day coming to show the stones will be discharged from the patient's urethra at morning pass urine. Patients were collected purposively, using the questionnaire format and interview to answer all parts of the questionnaire format

according to patients' (knowledge and kidney reports). Using the inside membrane of the chicken's gizzard membrane after is peeled off, cleaned and dried in the sun, then it was ground into powder, the dosage each time was (1.5 – 3) grams (g.) and the total dosage were (3-10 g,) for three times if prepared as a powder. Teaching patients and providing them the total amount of the study treatment requirements with detail explanation about the using methods for each patient separately or more than one patient for each session nearly consumed I hour. **Corn Silk tea** is prepared by using about **1 tablespoon** of chopped corn silk per cup of almost boiling water and let until cool enough to drink, the leftovers can store in the refrigerator for two to three days[19]. The data were collected from the involved patients before and after using the study treatment according to patient's name, age .gender, residence, and marital status, mobile number, day and date of interview, then computerized and analyzed statistically by using the descriptive statistical methods (frequencies, percentages) and the inferential statistical method (x^2, t-test, P. value) with SPSS version 10

RESULTS AND DISCUSSION

Table (1): Observed frequencies and percentages for demographics characteristics of 100 patients with kidney stones according to their age - groups, gender, educational level, occupation, marital status, stone character, stone type, stone size (mm), residence, and income per month. As shown in figures (1 to 10). Patients at age 18 years or less were only two (20%) of the study sample with kidney stones. Other Patients had frequency age-group (43-53) were (35%) and others had (22%) at age 54 year or above (figure 1). Genders of the sample were (50%) males and (50%) females' patients with kidney stones (figure 2). Patients with institute, College or higher educational levels had 38 frequencies (38%) greater than other educational levels (figure 4). (75%) patients were urban residents, but only (25%) were rural residents (figure 5). According to patients' occupation, (figure 6) shows (40%) patients with kidney stones were employed, unemployed (23%), housewife patients were (21%), and students (10%) and retired patients were only (6%). Most Patients' income per month had (58%) insufficient month income, and (42%) had sufficient month income (Figure 7). Stone character was (2-6) kidney stones within (60%) patients. While, (36%) of patients had 7 or more kidney stones, and (4%) of patients had only 1 kidney stone (figure 8). Most patients (63%) had multiple kidney Stones, but only 37% patients had bilateral kidney stones (figure 9). The stone size found (50%) of kidney stone patients had stone size with 10 mm or more, (49%) had stone size 5-9 mm, and only one patient had stone size with 4mm or less (figure 10).

Table 1: Observed frequencies and percentages for demographic characteristics.

Variables	Category	Frequency	Percentage %
Age Groups	<= 18	2	2.0
	19 – 30	20	20.0
	31 – 42	21	21.0
	43 – 53	35	35.0
	54 Up	22	22.0
Gender	Female	50	50.0
	Male	50	50.0
Marital status	Single	31	31.0
	Married	49	49.0
	Divorced & Others	20	20.0
Educational level	Illiterate	13	13.0
	Read and write	12	12.0
	Primary school graduated	11	11.0
	Secondary School graduated	26	26.0
	College, Institute, Higher Education	38	38.0
Residence	Rural	25	25.0
	Urban	75	75.0
Occupation	Student	10	10.0
	Housewife	21	21.0
	Employed	40	40.0
	Retired	6	6.0
	Unemployed	23	23.0
Month income	Sufficient	42	42.0
	Insufficient	58	58.0
Stone character	$\leq$ 1	4	4.0
	2 – 6	60	60.0
	$\geq$ 7	36	36.0
Stone Type	Bilateral	37	37.0
	Multiple	63	63.0
Stone Size (mm)	$\leq$ 4	1	1.0
	5 – 9	49	49.0
	$\geq$ 10	50	50.0
Total		**100**	**100%**

Table 2: Causes Relationship among Age groups and Daily activity

Age Groups		Daily activity			Total	Sig.
		Never	Sometime	Always		
<= 18	No.	0	2	0	2	X^2=35.145
	%	0.0%	3.2%	0.0%	2.0%	C.C=0.510
19 – 30	No.	0	6	14	20	P-value=0.000
	%	0.0%	9.5%	40.0%	20.0%	High Sig.
31 – 42	No.	2	7	12	21	
	%	100.0%	11.1%	34.3%	21.0%	
43 – 53	No.	0	29	6	35	
	%	0.0%	46.0%	17.1%	35.0%	
54 Up	No.	0	19	3	22	

	%	0.0%	30.2%	8.6%	22.0%	
Total	No.	2	63	35	100	
	%	100.0%	100.0%	100.0%	100.0%	

The causes relationship among patient's age–groups and daily activity, found the causes relationship at some time daily activity and in patients having kidney stones at age–group (43-53) years were significantly higher (P- value= 0.000), Coefficient of correlation (C.C) was 0.510, Chi-square (x^2) was 35.145; figure 11).

Table 3: Causes Relationship among Age groups and Psychosocial data

Age Groups		Psycho-social data			Total	Sig.
		Never	**Sometime**	**Always**		
<= 18	No.	0	2	0	2	X^2=8.765
	%	0.0%	5.1%	0.0%	2.0%	C.C=0.284
19 – 30	No.	1	8	11	20	P-value=0.363
	%	100.0%	20.5%	18.3%	20.0%	Not Sig.
31 – 42	No.	0	8	13	21	
	%	0.0%	20.5%	21.7%	21.0%	
43 – 53	No.	0	15	20	35	
	%	0.0%	38.5%	33.3%	35.0%	
54 Up	No.	0	6	16	22	
	%	0.0%	15.4%	26.7%	22.0%	
Total	No.	1	39	60	100	
	%	100.0%	100.0%	100.0%	100.0%	

The causes relationship among patient's age-groups and psychosocial data, reveals that causes relationship among age-groups and patients' psychosocial data were not significant (P-value=0.363; C.C=0.284; x^2=8.765; figure 12).

Table 4: Causes Relationship among Age groups and patient's complain

Age Groups		patient's complain			Total	Sig.
		Never	**Sometime**	**Always**		
<= 18	No.	0	2	0	2	X^2=10.793
	%	0.0%	4.3%	0.0%	2.0%	C.C=0.311
19 – 30	No.	1	7	12	20	P-
	%	100.0%	14.9%	23.1%	20.0%	value=0.217
31 – 42	No.	0	12	9	21	Not Sig.
	%	0.0%	25.5%	17.3%	21.0%	
43 – 53	No.	0	19	16	35	
	%	0.0%	40.4%	30.8%	35.0%	
54 Up	No.	0	7	15	22	
	%	0.0%	14.9%	28.8%	22.0%	
Total	No.	1	47	52	100	
	%	100.0%	100.0%	100.0%	100.0%	

Explanation of causes relationship among age-groups and patient's complain, found the relationship between patient's complain and patients age-groups was not significant (P-value= 0.217; C.C=0.311; x^2=10.793; figure 13).

Table 5: Causes Relationship among Age groups and patient's diagnosis

Age Groups		patient's diagnosis			Total	Sig.
		Never	**Sometime**	**Always**		
<= 18	No.	0	0	2	2	X^2=14.343
	%	0.0%	0.0%	3.2%	2.0%	C.C=0.354
19 – 30	No.	0	10	10	20	P-value=0.073
	%	0.0%	27.8%	16.1%	20.0%	Not Sig.
31 – 42	No.	1	5	15	21	
	%	50.0%	13.9%	24.2%	21.0%	
43 – 53	No.	0	18	17	35	
	%	0.0%	50.0%	27.4%	35.0%	
54 Up	No.	1	3	18	22	
	%	50.0%	8.3%	29.0%	22.0%	
Total	No.	2	36	62	100	
	%	100.0%	100.0%	100.0%	100.0%	

Determination of Causes relationship among age-groups and patient's diagnosis specified the causes relationship among patient's diagnosis and patient's age-groups   was not significant (P-value = 0.073; C.C=0.354; x^2=14.343; figure 14).

Table 6: Causes correlation among all Studied items

Items		Daily activity	Psychosocial data	patient's complain	patient's diagnosis
Daily activity	Pearson Correlation	1	.097	-.220-*	.007
	Sig. (2-tailed)		.338	.028	.942
	N	100	100	100	100
Psycho-social data	Pearson Correlation	.097	1	.335**	.170
	Sig. (2-tailed)	.338		.001	.091
	N	100	100	100	100
patient's complain	Pearson Correlation	-.220-*	.335**	1	.269**
	Sig. (2-tailed)	.028	.001		.007
	N	100	100	100	100
patient's diagnosis	Pearson Correlation	.007	.170	.269**	1
	Sig. (2-tailed)	.942	.091	.007	
	N	100	100	100	100
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

Causes correlation among all the studied items were significantly correlated** with (0.01) level (2-tailed) Pearson Correlation among patients complain and the patient's psychosocial data; and patient's complain with the patient's diagnosis. The Pearson Correlation was significant* at (0.05) level (2-tailed) among the correlation of patient's daily activity and patient's complain.

Table 7: Causes correlation ship between patient's desire and response to share the herbal treatment and their knowledge

Causes correlation ship between patient's desire and response to share the herbal treatment and their knowledge	Always (%)	Sometime (%)	Never (%)
Desire to share study	70	11	19
Using herbal study less than 3 days	60	40	0
Using herbal study 3 days , feeling well	65	31	4

$X^2 = 200$, **C.C. = 0.707, (P. value = 0.00001) were high significant, (figure 15).**

Causes correlation ship between patient's desire and response to share the herbal treatment and their knowledge: 1. Patient's desire to share this study, always with 70 %; sometime sharing the study only 11%, but never sharing the study were just 19%. 2. Patients who accept to use the herbal study less than 3 days with always answers were 60%, sometime using with less than 3 days (40%), and never using (0%). 3- Patients

using the study herbal 3 days completely and feeling well with no more colic pain always were(65%), sometime (31%), while (4%) of them were never using the study herbal. $X^2 = 200$, C.C. = 0.707, (P. value = 0.00001) were high significant, (figure 15). **Age/year * Psychosocial data: Crosstab**

			Psycho-social data			Total
			Never	**Sometime**	**Always**	
Age/year	<= 18	Count	0	2	0	2
		% within Psycho-social data	0.0%	5.1%	0.0%	2.0%
	19 – 30	Count	1	8	11	20
		% within Psycho-social data	100.0%	20.5%	18.3%	20.0%
	31 – 42	Count	0	8	13	21
		% within Psycho-social data	0.0%	20.5%	21.7%	21.0%
	43 – 53	Count	0	15	20	35
		% within Psycho-social data	0.0%	38.5%	33.3%	35.0%
	54 Up	Count	0	6	16	22
		% within Psycho-social data	0.0%	15.4%	26.7%	22.0%
Total		Count	1	39	60	100
		% within Psycho-social data	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.765[a]	8	.363
Likelihood Ratio	8.655	8	.372
Linear-by-Linear Association	2.855	1	.091
N of Valid Cases	100		

a).7 cells (46.7%) have expected count less than 5. B).The minimum expected count is 02.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.923[a]	4	.750
Likelihood Ratio	2.653	4	.618
Linear-by-Linear Association	.116	1	.733
N of Valid Cases	100		

a).5 cells (55.6%) have expected count less than 5.b).The minimum expected count is .01.
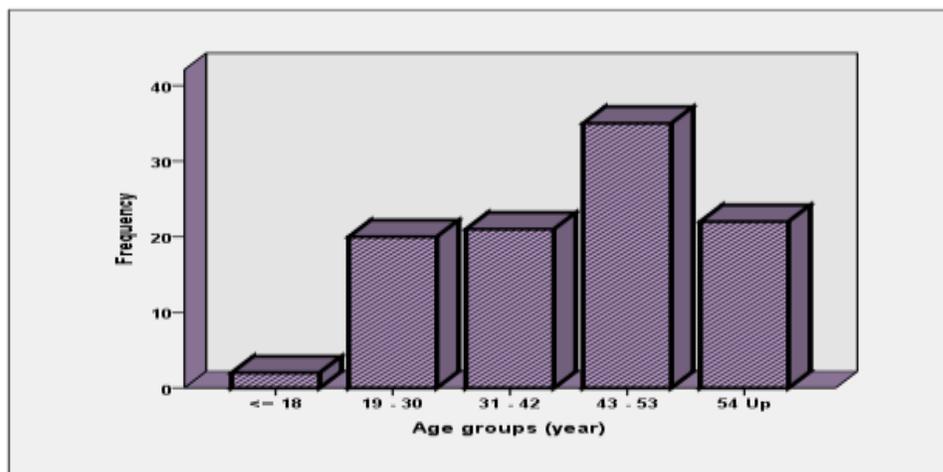
Figure 1: Cluster Bar chart of Age Groups Distribution
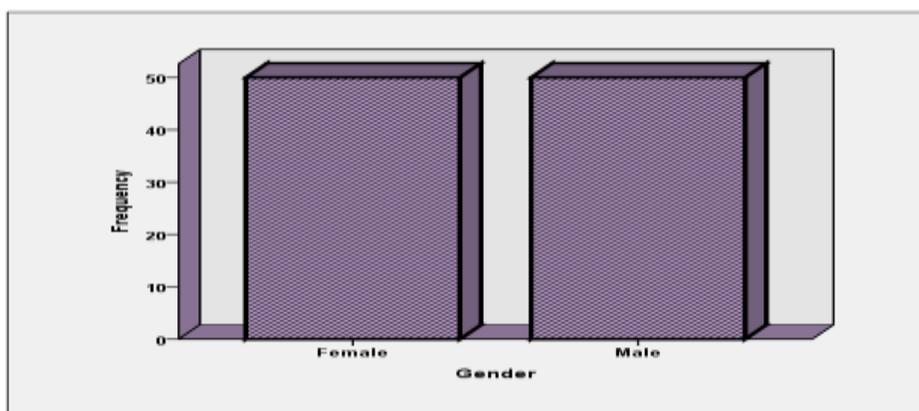
Figure 2: Cluster Bar chart of Gender
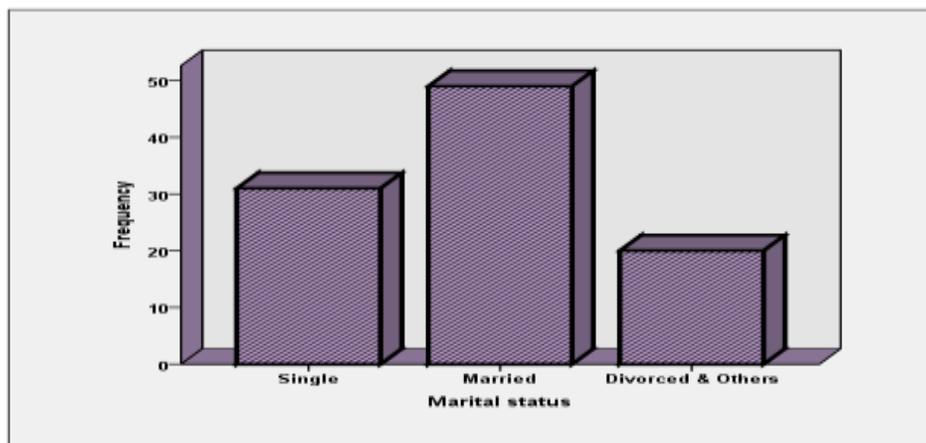
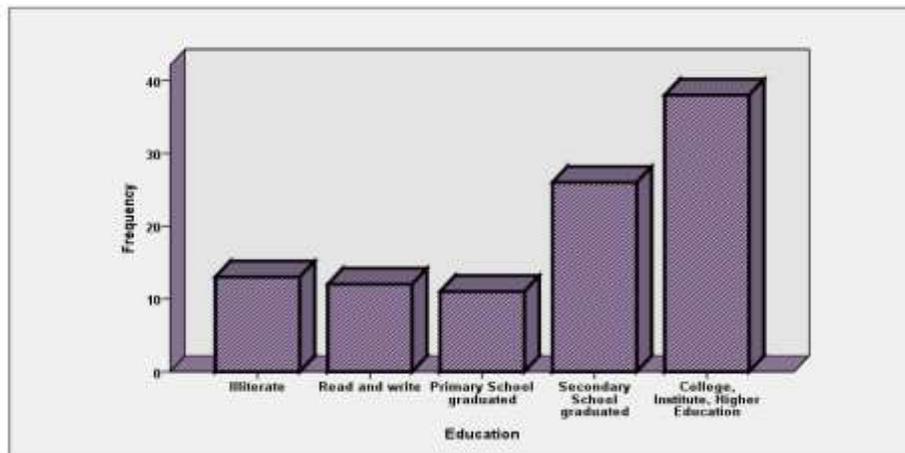**Figure 3: Cluster Bar chart of marital status**

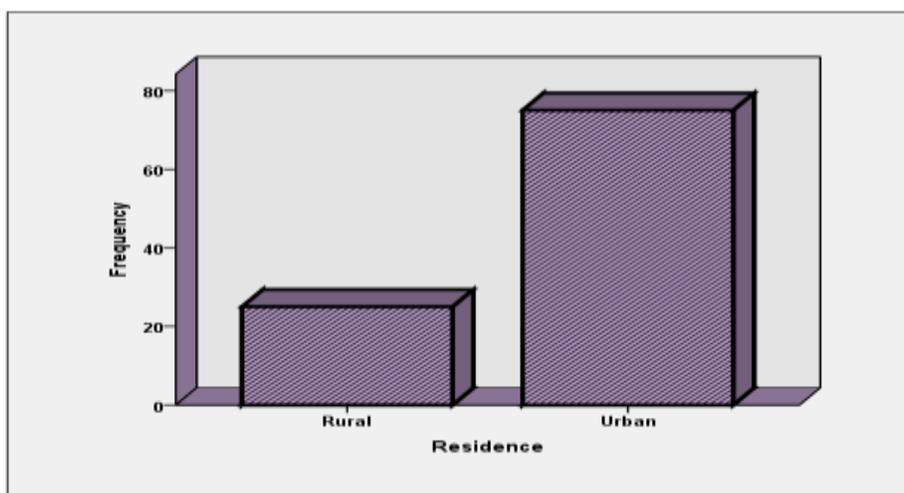**Figure 4: Cluster Bar chart of Educational Level Distribution**

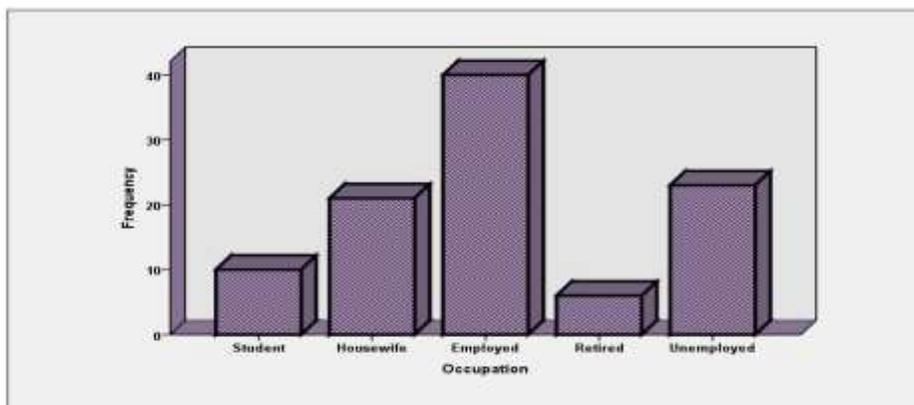**Figure 5: Cluster Bar chart of Residence Distribution**

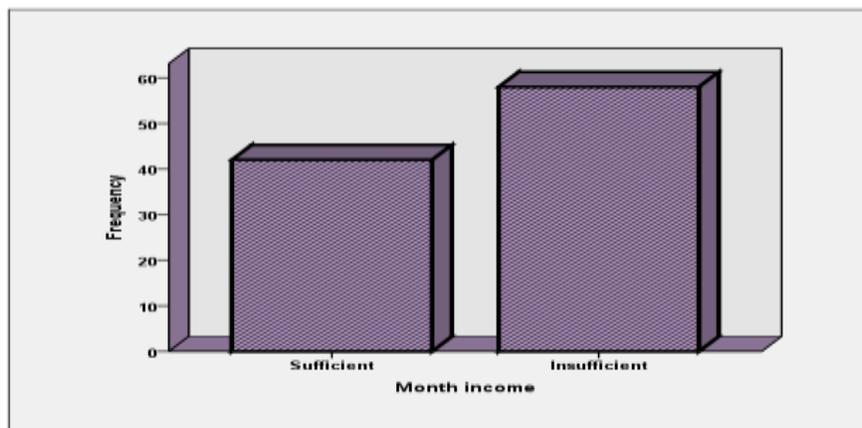**Figure 6: Cluster Bar chart of Occupational status Distribution**

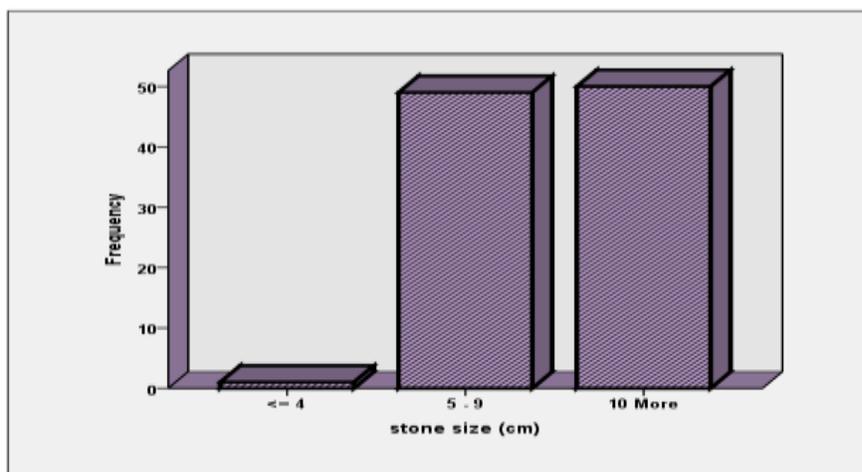**Figure   7: Cluster Bar chart of Month income**
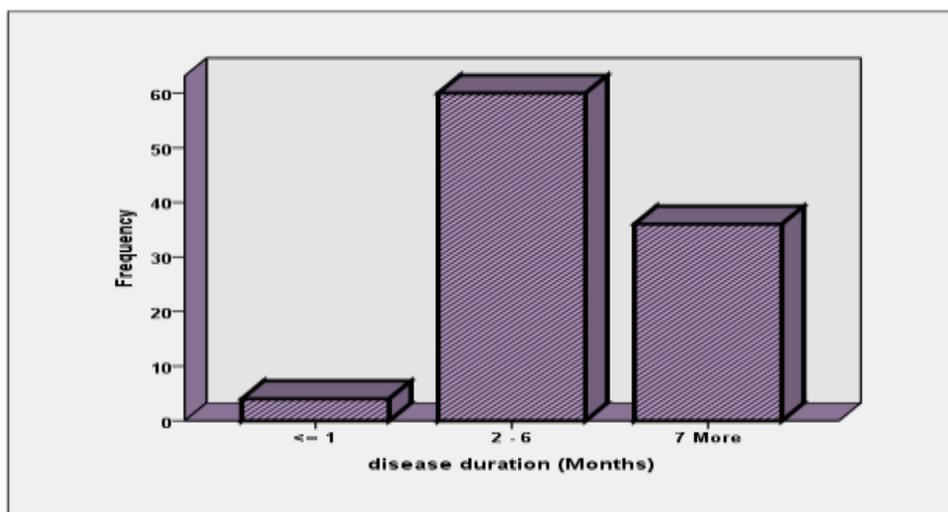

Figure 8: Cluster Bar chart of Stone size in millimeter

Figure 9: Cluster Bar chart of disease duration (months)
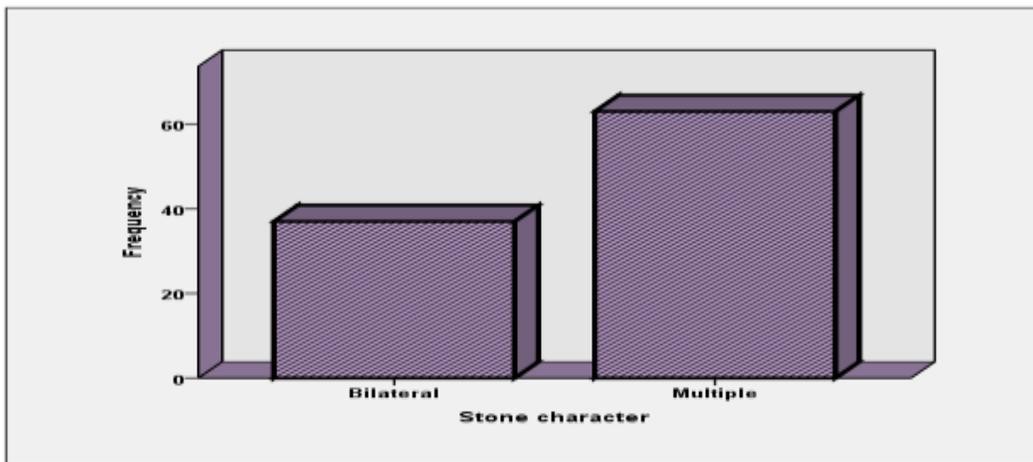
Figure 10: Cluster Bar chart of stone character Distribution
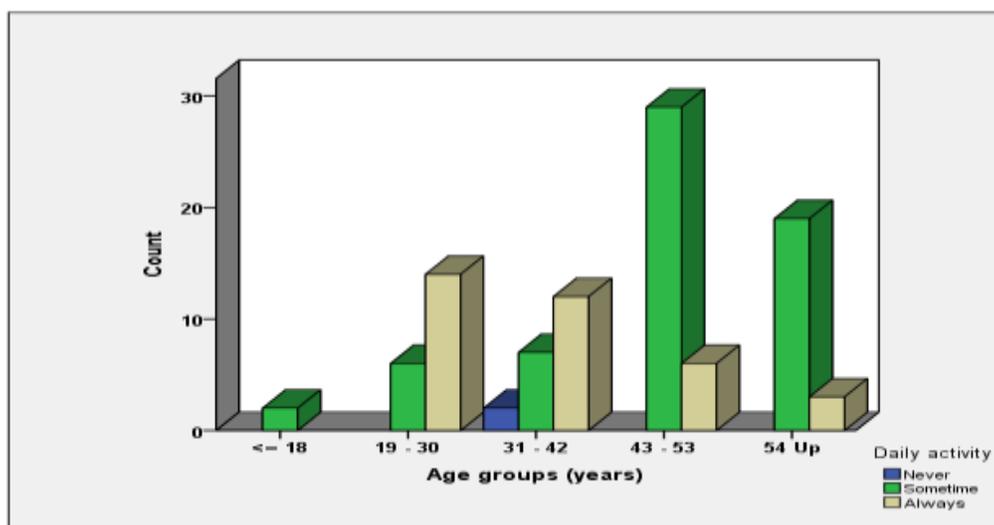
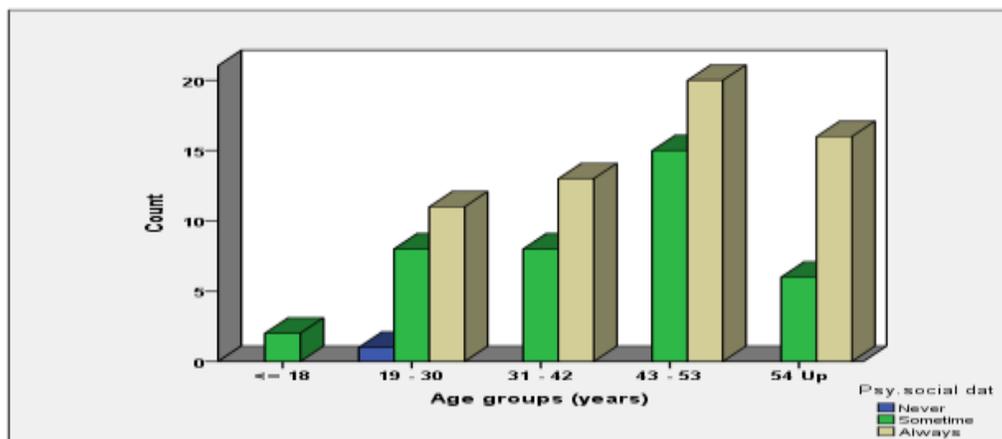**Figure 11: Causes Relationship among Age groups and Daily activity**

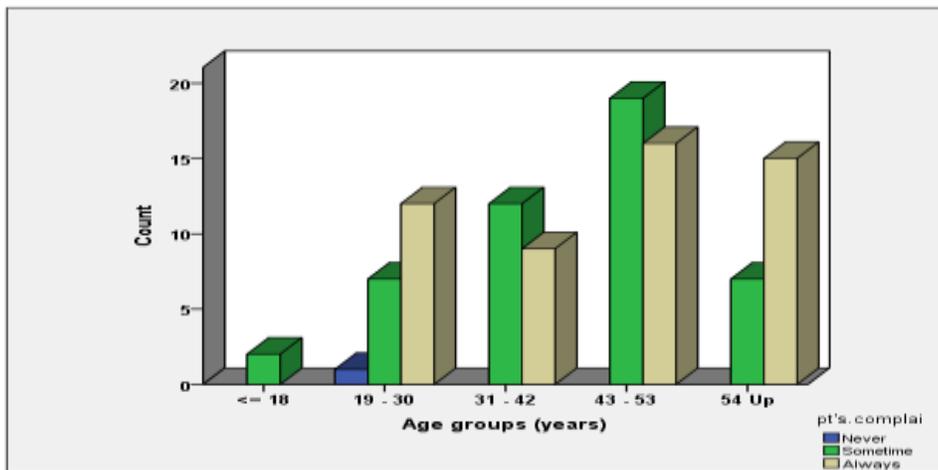**Figure 12: Causes Relationship among Age groups and Psychosocial data**

Figure 13: Causes Relationship among Age groups and patient's complain
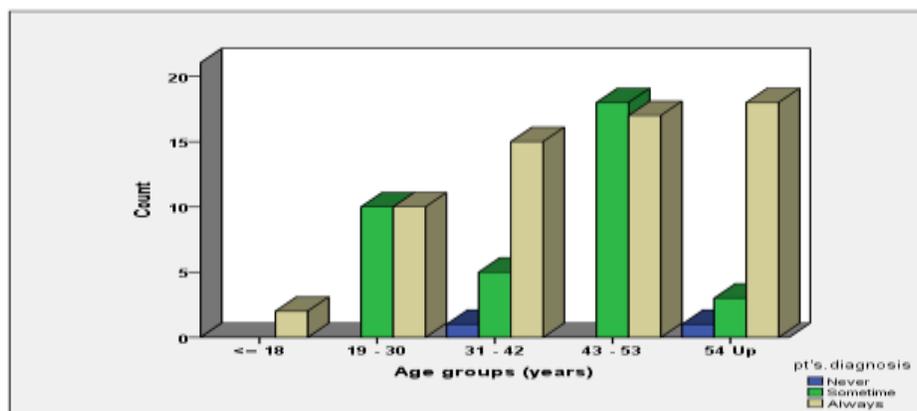

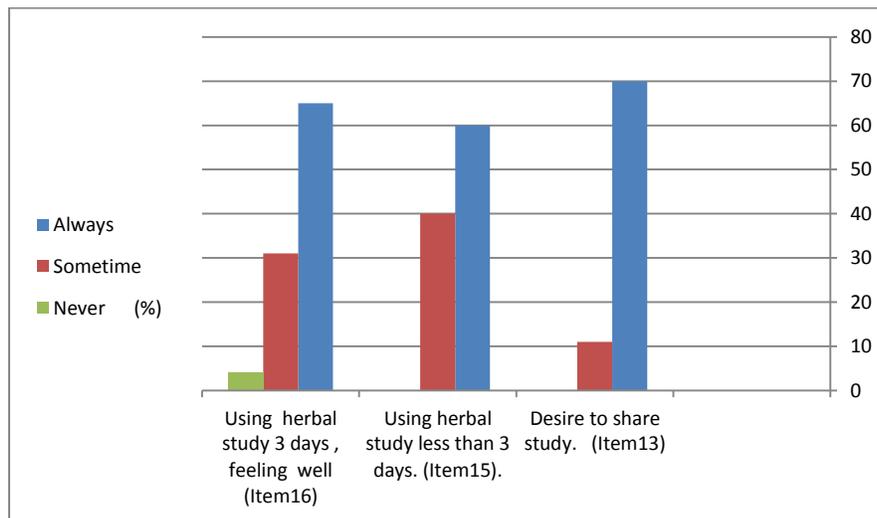**Figure 14: Causes Relationship among Age groups and patient's diagnosis.**

Figure 15: Causes correlation ship between patient's desire and response to share the herbal treatment and their knowledge, X^2=200, C.C=0.707. (P. value = 0.00001) high significant (H.S).

DISCUSSION

The present study found that the peak incidence with kidney stones occurred in patients aged 31 to 53 years up to 54 years, and decreased in young patients aged l8 years or less due to insufficient income, which agreed with [Leslie, 2007][2] result, that people aged 35 to 45 years had the peak incidence of kidney stone's attack due to socioeconomic status. Men and women were similarly affected with kidney stones 50%, that disagreed with [9(Tricia, 2007)] who stated women are affected less than men with kidney stone incidence between the ages of 20 to 60 years old. The study sample 63% had multiple kidney stones and 37% had bilateral kidney stones with 5 mm to more than 10 mm sizes (table 1), as mentioned that a 5 mm stone size has a 20% chance of passage [1]. Alternative treatment with chicken's gizzard membrane and corn silk tea were used for kidney stones removing and to transform stones[13, 14 and 15.] Corn silk is a diuretic has antiseptic properties and soothing to the urinary system and kidney stones[16, and 17.] The present study found that causes correlation among all the studied items were correlated significantly at 0.05 levels (2-tailed), Pearson correlation between the psychosocial data and patients complain items in patients used the chicken's gizzard membrane with corn silk tea for less than 3days. While, the correlation was significant at 0.01 level (2-tailed), Pearson correlation between the found items of patients complain with psychosocial data; and patients complain with patient's diagnosis (table 6). These results found in patients used the chicken's gizzard membrane with corn silk tea for 3days; these results approved by the study [11; 12; 13; 14; 15 and 16].

CONCLUSION

According to the study aims, the present study found that aged patients (43-53 and above 54) years were more affected with kidney stones in one hand, and more desired and to followed the study information. Most the studied sample with kidney stones (65%) that followed the study instructions and teaching were cured from kidney stones pain due to 3 days using of the chicken's gizzard membrane with corn silk tea regularly, ($X^{2=200,}$ **c.c. = 0.707, P value = 0.00001 with high significant (HS).**

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