SJIF Impact Factor: 6.711

WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

ISSN: 2457-0400
Volume: 9.
Issue: 1
Page N. 01-03
Year: 2025

Original Article www.wjahr.com

THE PREVALENCE OF RENAL STONES AMONG LOCAL RESIDENTS IN MOSUL CITY

Dr. Mohammad Esmail Khaleel[1]*, Dr. Mahood Ali Abdullah[2] and Dr. Aaid Abed Ibrahim[3]

[1]Consultant Family Physician –Nineveh, D.O.H.
[2]Specialist In Internal Medicine-Alsalam Teaching Hospital.
[3]Specialist In Urology-Aljumhoury Teaching Hospital.

Article Received date: 24 October 2024 **Article Revised date:** 13 November 2024 **Article Accepted date:** 02 Dec. 2024

***Corresponding Author: Dr. Mohammad Esmail Khaleel**
Consultant Family Physician –Nineveh, D.O.H.

ABSTRACT

Background: Urolithiasis is the most common urological problem worldwide. It is a recurrent multifactorial problem that is caused by the interaction of several environmental and geneticfactors. This study aimed to assess the prevalence of renal stones among local patients attending Alsalm and Al jumhoury hospitals in Mosul city. **Methods:** A cross-sectional study was conducted using an questionnaire that was distributed randomly through patients attending aljumhory and alsalam hospitals in Mosul city. **Results:** From a total of (400) responders to the questionnaire the age at(18-28) cases years. The second peak 29-39 years. The majority of those diagnosed with kidney stones were obese (40.5%), and the most of patients with kidney stones among urban residency (47%) and with employed occupations rather than unemployed(45.75%). regarding urolethiasis symptoms, flank pain is prominent (57.25%) **Conclusion:** kidney stones is a common health problem with the local incidence being underreported. In present sample shows that Urolithiasis is more frequent among male patients at age group (18-28)years, which commonly presented with flank pain.

KEYWORDS: kidney stone; prevalence; Mosul.

INTRODUCTION

Urolithiasis is a recurrent multifactorial disorder that is caused by the interaction of several environmental and genetic factors.[1] It is considered to be the most common urological disorder among adults. Over the last decades, the incidence has increased in all age groups, all genders, and all races.[2] Several different risk factors can contribute to the development of urolithiasis such as age, gender, ethnicgroups, local climate, dietary habits, physical activity, and occupation.[3] Having a comorbid medical condition such as diabetes, hypertension, and obesity is another major factor.[4] The incidence of this preventable disease ranges from 7%–13% in North America, 5%–-9% in Europe, and 1%–5% in Asia.[5] Kidney stones are composed of inorganicand organiccrystals amalgamated with proteins. Crystallization and subsequent lithogenesis can happen with many solutes in the urine. Calcareous stones are still by far the most common nephritis.[6] There are different components of renal stones, however, stones composed of calcium such as calcium oxalate or calcium phosphate stones are considered to be the most common.[7]

Study Participant

A study sample 400 participant included both genders, age above 18 years old, attending Aljumhuory and Alsalam teaching hospitals in Mosul city who was previously or currently diagnosed with renal stone and we excluded anyone who does not fit those three criteria.

RESULTS

This is a cross-sectional study aimed to explore the prevalence of kidney stones in Mosul city. We had a total of(400) responders to an questionnaire distributed randomly to the patients. From a total of (400) responders to the questionnaire the age at (18-28) years, The second peak 29-39 years .as showed in table (1)

Table 1: The Age Distribution of Sample Size With Urolithiasis Disease.

Urolithiases Disease	Age Group	
178 (44.5%)	28-18	
98 (24.5)		39-29
17%)) 68		50-40
11%))44		51-60
(%3)12	>60	
400		Total

Regarding the gender in this study population were female are more than male (53.5%) (46.5%) respectively as showed in table (2)

Table 2: The Gender Distribution of Sample Size With Urolithiasis Disease.

Urolithiasis Disease	Gender
186 (46.5%)	Male
214 (53.5%)	Female

Regarding others demographic distribution of study population there were married patients (78.55%) are higher than others. While patients from urban residency area more than those from rural residency area (74%)(26%) respectively . and employed patients more than those non employed (45.75%) (29.25%) respectively.

Regarding BMI the study demonstrated that 40.5% of study sample size are obese while 24% are normal BMI. As showed in table (3)

Table 3: Demographic Features of Sample Size with Urolithiasis Disease.

	Marital status
315 (78.55%)	Married
85 (21.25%)	Others (single ,widow, divorce)
	Residency
296 (74%)	Urban
104 (26%)	Rural
	Occupation
75%).45)183	Employed
25%).29)117	Non employed
	BMI
96 (24%)	NORMAL
5%).28)114	OVERWHIGHT
163 (40.5%)	Obese

The clinical presentation of renal stone disease was showed in table (4) which demonstrate that flank pain is a common symptoms (57.25%) while nausea and vomiting is the second most symptoms (16.5%)

The Clinical Presentation Of Renal Stone Disease Was Showed In Table[4]

Renal stone	Frequency	Percentage %
Flank Pain	229	57.25
Dysuria	38	9.5
Nausea/Vomiting	66	16.5
Hematuria	57	14.25
Fever	11	2.75
Total	400	100

DISCUSSION

Adults urolithiasis is still the most common uological problem.[8]

Globally reported that the prevalence and the incidence of nephrolithiasis have increased dramatically for both genders with a huge cost implication related to providing medical care for such patients and accountable job absences.[9] Various factors affect the incidence of forming kidney stones including gender, age, occupation and marital status . Earlier studies concluded that males are more susceptible to renal calculi than females.[3456] A study done by Amir et al. showed a significant gender disparity in stone formation with male predominance

approaching up to 79% of cases.[10] However, in our study female has predominated (214 (53.5%)), with male to female ratio of 31:33.

This could be due to the unequal number of males and females in the study population. Moreover, we find no significant relationship between gender and renal stone incidence (P= 0.377). Age, however, had a significant relation with kidney stones (P< 0.0005) with bimodal age distribution.

The first peak was at the (18–28) age group representing the greatest majority of nephrolithiasis patients to be among young individuals (178) 44.5%)). Similar to local hospital statistics in Saudi

Arabia for the peak age of presentation to be between 22 and 44 years. This observation of young age at presentation to predominate warrants more insight into factors that possibly affect stone formation among young Saudi residents.[11]

CONCLUSION

kidney stones is a common health problem with the local incidence being underreported. In present sample shows that Urolithiasis is more frequent among male patients at age group (18-28)years, which commonly presented with flank pain.

REFERENCES

1. Romero V, Akpinar H, Assimos DG. Kidney stones: A global picture of prevalence, incidence, and associated risk factors. Rev Urol., 2010; 12: e86–96. [PMC free article] [PubMed] [Google Scholar]
2. Seitz C, Fajkovic H. Epidemiological gender-specific aspects in urolithiasis. World J Urol., 2013; 31: 1087–92. doi: 10.1007/s00345-013-1140-1. [DOI] [PubMed] [Google Scholar]
3. Ahmad F, Nada MO, Farid AB, Haleem MA, Razack SMA. Epidemiology of urolithiasis with emphasis on ultrasound detection: A retrospective analysis of 5371 cases in Saudi Arabia. Saudi J Kidney Dis Transpl., 2015; 26: 386–91. doi: 10.4103/1319-2442.152557. [DOI] [PubMed] [Google Scholar]
4. Alkhunaizi AM. Urinary stones in Eastern Saudi Arabia. Urol Ann., 2016; 8: 6–9. doi: 10.4103/0974-7796.164841. [DOI] [PMC free article] [PubMed] [Google Scholar]
5. Amir A, Matlaga BR, Ziemba JB, Sheikh S. Kidney stone composition in the Kingdom of Saudi Arabia. Clin Nephrol., 2018; 89: 345–8. doi: 10.5414/CN109313. [DOI] [PubMed] [Google Scholar]
6. Liu Y, Chen Y, Liao B, Luo D, Wang K, Li H, et al. Epidemiology of urolithiasis in Asia. Asian J Urol., 2018; 5: 205–14. doi: 10.1016/j.ajur.2018.08.007. [DOI] [PMC free article] [PubMed] [Google Scholar]
7. Jarrar BM, AL-Enazi MM, Al-Messar S. Chemical composition of urinary calculi from Al-jouf province of Saudi Arabia. JRMS., 2007; 14: 15–9. [Google Scholar]
8. Bihl G, Meyers A. Recurrent renal stone disease-advances in pathogenesis and clinical management. Lancet., 2001; 358: 651–6. doi: 10.1016/S0140-6736(01)05782-8. [DOI] [PubMed] [Google Scholar]
9. Ragab AR, Al-Mazroua MK. Pattern of pediatric toxicity in Saudi ArabiaEastern province (incidence, demographics and predisposing factors)? Pediat Therapeut., 2015; 5: 1. DOI: 10.4172/2161-0665.1000220. [Google Scholar]
10. Ramello A, Vitale C, Marangella M. Epidemiology of nephrolithiasis. J Nephrol., 2000; 13: S45–50. [PubMed] [Google Scholar]
11. Abomelha MS, Al-Khader AA, Arnold J. Urolithiasis in Saudi Arabia. Urology., 1990; 35: 31–4. doi: 10.1016/0090-4295(90)80008-b. [DOI] [PubMed] [Google Scholar]