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## Knowledge, attitudes and practices of physicians in davao city toward prevention of recurrent urinary stones

**Kevin Larkin A Callos**

Southern Philippines Medical Center Davao City, Philippines

**Statement of the Problem:** Urinary stones are the most common disease of the urinary tract and have a high rate of recurrence. After an initial stone formation, the recurrence rate is as high as 50% at 5 year and 80-90% at 10 years. The prevention of recurrence still remains to be a serious problem for our medical community. Our main objective was to determine the level of knowledge, attitudes, and practice patterns of Surgeons, Internists, and Family Medicine physicians in Davao City regarding the prevention of recurrent urinary stone formation.

**Methodology & Theoretical Orientation:** The Study was a prospective descriptive research design. A questionnaire based on a validated study on current best practice guidelines for the management of recurrent kidney stones was used and distributed via online Google form. The questions covered 3 domains: knowledge, attitudes, and practice patterns. Demographic data were also collected.

**Findings:** A total of 180 respondents answered the questionnaire in the allotted timeframe. The study showed that despite respondents' sufficient knowledge about urinary stone prevention some did not apply this knowledge effectively in clinical practice.

**Conclusion & Significance:** Unfortunately, having good knowledge about prevention of urinary stones was not enough to change the behaviour of some respondents in preventing future stone formation. More education and training should definitely be given or addressed to Family Medicine physicians so that they can be at par with standards of Internists and Surgeons. Practice patterns towards prevention of recurrent kidney stones did differ significantly with the Internal Medicine and Surgery specialization in concordance with the guidelines practices in comparison to the Family Medicine specialization. We believe that our study represents a good chance to understand and evaluate the current stone recurrence prevention practices in Davao City.

Table 1 Practices patterns about fluid intake of the respondents

Practices	What do you recommend about fluid intake to patients with kidney stone disease?				P-value
	Drink enough fluids, at least 8 glasses a day (2L)	Drink 6 glasses a day (1.5L)	Drink 4 glasses a day (1L)	Drink 2 glasses a day (0.5L)	
<b>Demographic Profile</b>	100%	00%	00%	00%	
Age					0.07
21-40	400%	80%	400%	00%	
41-60	400%	00%	00%	00%	
61-70	00%	00%	00%	00%	
Sex					0.003
Male	400%	00%	000%	00%	
Female	00%	00%	000%	00%	
Specialization					0.004
Surgeon	000%	00%	000%	00%	
Internal Medicine	00%	00%	000%	00%	
Family Medicine	000%	00%	000%	00%	

Table 2 Practices patterns about protein intake of the respondents

Practices	Recommendations about protein intake to patients who suffer from kidney stone disease?			P-value
	Restrict animal protein	Restrict protein	Restrict vegetable protein	
<b>Demographic Profile</b>	000%	000%	00%	
Age				0.00
21-40	000%	00%	00%	
41-60	00%	00%	00%	
61-70	0%	0%	0%	
Sex				0.00
Male	00%	00%	00%	
Female	00%	00%	00%	
Specialization				0.00
Surgeon	00%	00%	00%	
Internal Medicine	00%	00%	00%	
Family Medicine	00%	00%	00%	

Table 3 Practices after initial presentation of calcium oxalate stone of the respondents

Practices	After the initial presentation of a calcium oxalate stone, I would prescribe to help with prevention of stone recurrence					P-value
	Chlorothalidone	Change lifestyle	Hydrochlorothiazide	Azithromycin	Furosemide	
<b>Demographic Profile</b>	00%	000%	000%	00%	00%	
Age						0.002
21-40	00%	000%	000%	00%	00%	
41-60	00%	000%	000%	00%	00%	
61-70	00%	00%	00%	00%	00%	
Sex						0.002
Female	00%	000%	000%	00%	00%	
Male	000%	000%	000%	00%	00%	
Specialization						0.004
Internal Medicine	00%	000%	000%	00%	00%	
Surgeon	00%	000%	000%	00%	00%	
Family Medicine	00%	000%	000%	00%	00%	

### Recent Publications:

1. Bos and Abara et al. Knowledge, attitudes and Practice patterns among health care providers in the prevention of recurrent kidney stone in Northern Ontario. 2013
2. Binsaleh and Habous et al. Knowledge, attitudes, and practice patterns of recurrent urinary stones prevention in Saudi Arabia. August 2015
3. American Urological Association Medical Management of Kidney Stones Guidelines Available at: [http://www.auanet.org/guidelines/medical-management-of-kidney-stones-\(2014\)](http://www.auanet.org/guidelines/medical-management-of-kidney-stones-(2014)). Accessed May 22, 2018.
4. Anjapfau, MD and Felix Knauf, MD. Update on Nephrolithiasis: Core Curriculum 2016. Am J Kidney Dis. 2016.
5. Goka and Copelovitch et al. Prevention of Recurrent Urinary Stones. 2019 Wolters Kluwer Health, Inc

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**Biography**

Kevin Larkin A Callos is a Filipino physician and has completed his training in Adult-Nephrology fellowship program at Southern Philippines Medical Center Davao City, Philippines. He currently resides in Davao City, Philippines. He is interested in the field of critical care nephrology and plans to pursue a training course. Urinary stones have been an interest during his practice as he encountered a lot of patients with urinary stones and had poor work-ups, dietary advices, medical managements and follow-ups. This study is also being presented for e-poster at the Philippine College of Physicians 53rd annual congress this May 7-10, 2023.

calloskevinlarkin@gmail.com