

Dedication

I would like to dedicate this research to my family both small and big family and to my friends.

A special feeling of gratitude to my husband and my loving parents whose words of encouragement for tenacity still ringing in my ears. I really appreciate their supports and help.

I

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II

Abstract

Renal stones can affect people in all ages and it can be asymptomatic. This is a research deals with the prevalence of renal stones in the students of primary schools in Bargaig city in the Northern state of Sudan. The research data were collected by using a portable ultrasound machine (fukuda) and doing KUB ultrasound scanning for 103 students in two schools (72-females and 31-males)in Bargaig city in the Northern state of Sudan. The students' ages were between 11 and 14years, all of them underwent a standard KUB sonogram performed by the researcher. A number of 36 pupils of 103 were found to be having sizable renal stones either single stone (12.6%) of the studied group or multiple stones (22.3%) of the studied group and 11 pupils were found not to be having renal stones. The remaining 56 pupils were found not to be having sizable renal stones but there were gravels(36.9%) or sandy stones(17.5%)the

overall prevalence of all types of renal stones were (89.3%) in the studied group of the students, (35%) of it were sizable stones which is very high compared to the international readings (highest reading was 20.1% in Saudi Arabia in 2013). The prevalence was higher (7 of 7 pupils 100%) in those who were using wells water as a basic source for drinking water than in those who were using River Nile water as a basic source of drinking (68 of 96) students with percentage of 70.8%, which is also not low rate. By the end of the survey it is found that Kidney stones are relatively common in the primary school students in the north state of Sudan (89.3%). UTI (which is considered to be one of the signs of renal stones) showed high rate (54.2%) in the 72 participant females pupils while it was only (22.6%) in the 31 male pupils.

III

المستخلص

تؤثر حصاوي الكلي علي الناس في جميع الاعمار وقد تكون بدون أعراض. اجري هذا البحث عن نسبة حدوث حصاوي الكلي بين- طلبة مدارس الاساس بمدينة البرقيق بالولاية الشمالية وقد جمعت معلومات هذا البحث باستعمال جهاز محمول للموجات فوق الصوتية (فوكودا) واجريت فحوصات الموجات فوق الصوتية لعدد 103 من الطلاب (72 طالبة و 31 طالب) بمدرستين للاساس بمدينة البرقيق. تراوحت أعمار الطلاب ما بين- 11 الي 14 سنة وقد خضعوا جميعهم الي فحوصات بالموجات فوق الصوتية للكلي ووجد ان 36 من الطلاب لديهم حصاوي بالكلي اما احادية (12.6%) او متعددة (22.3%) , وان 11 طالبا كانوا سليمين ولا يوجد لديهم اي حصاوي . اما بقية التلاميذ (56) فليس لديهم حصاوي ذات حجم ولكن هناك حصي- رملي او تكلسات . وقد كان المعدل العام لحصاوي الكلي بجمع انواعها (89.3%) في تلك العينة التي تم فحصها من

التلاميذ (35%) منها حصاويذا تحجمويعتبر هذا المعدلعاليا جدا مقارنة معاحصاءاتالعالمية (اعلي قراءة كانت 20.1% بالسعودية في 2013). وقد كان معدل الحدوث اعلي (7 من 7 طلاب) (100%) لدي اولئك التلاميذ الذين يعتمدون علي مياه الابار كمصدر اساسي- لمياه الشرب من اولئك الذين يعتمدون علي مياه النيل كمصدر اساسي لمياه الشرب(70.8%) والذي يعتبر ايضا ليس بقليل. وقد وجد بنهاية المسح ان ان حصاوي الكلي منتشرة بين- طلاب مدارس الاساس بتلك المنطقة من الولاية الشمالية بالسودان(89.3%). واطهر التهاب المسالك البولية (والذي يعتبر واحدا من نتائج حصاوي الكلي) قراءة عالية (54.2%) بين- ال 72 طالبة من مجموعة الطلاب بينما كانت النسبة (%) (22.6) بين ال 31 طالب من بين الطلاب الذين تضمنهم المسح.

IV

Table of contents

Subject	Page no
Dedication	I
Acknowledgement	II
Abstract	III
مستخلص	IV
Table of contents	V
List of tables	VI
List of Figures	VII
Abbreviations	VIII
Chapter one	

Introduction	1
Problem of the study	3
Objectives	3
Significant of the study	4
Overview of the study	4
Chapter Two	
Anatomy Of the kidney	5
Kidney structure	6
Renal vasculature and lymphatics	8
Overview of kidney embryology	10
Peritoneal Attachments	11
Normal Physiology of the kidney	12
Pathology of the kidney	15
Previous study	23
Chapter three	
Materials and method	28
Chapter four	
Results	37
Copy of questionnaire	54
Chapter five	
Discussion , Conclusion ,and Recommendation	55
References	60
Appendices	65

Table number	Table content	Page number
(4.1)	Frequency distribution of students' gender	38
(4.2)	frequency distribution table of students' ages	38
(4.3)	frequency of different types of renal stones in the studied sample	38
(4.4)	frequency of the students' sources of drinking water	39
(4.5)	frequency of the medication use in the group of the students	40
(4.6)	frequency of the students' daily water intake in liters	41
(4.7)	frequency of the students' soda intake	41
(4.8)	frequency of students' history of UTI	42
(4.9)	frequency of students' weight	43
(4.10)	frequency of students' positive family history of stones	43
(4.11)	Stones age Crosstabulation	44
(4.12)	stones gender Crosstabulation	45
(4.13)	stones source of drinking water crosstabulation	46
(4.14)	Relation between prevalence of stones and using medications	47
(4.15)	stones daily water intake crosstabulation	48
(4.16)	stones soft drinks cross tabulation	49
(4.17)	stone UTI crosstabulation	50
(4.18)	stones weight cross tabulation	51
(4.19)	gender UTI crosstabulation	51
(4.20)	stones type crosstabulation	52
(4.21)	stones family history Crosstabulation	53
(4.22)	Numeric values	54

IV

List of Figures

Figure number	Figure repression	Page No
(2.1)	perinephric fat	6
(2.2)	right kidney frontal section	7
(2.3)	MajorRegions of the Kidney US appearance	8
(2.4)	Major Regions of the Kidney Diagram	9
(2.5)	Embryology of Kidney	10
(2.6)	kidney peritoneal attachment	16
(2.7)	ARPKD	14
(2.8)	RCC appearance	17
(2.9)	Types of stones according to its components	20
(2.10)	Stones appearance	21
(2.11)	Acoustic shadowing	21
(2.12)	Toxic tubular necrosis	21
(2.13)	Acute pyelonephritis	22
(2.14)	Acute pyelonephritis in CT and ultrasound	23
(3.1)	FUKUDA portable ultrasound machine which used in the survey	30
(3.2)	Longitudinal view US image of RT kidney Stone	32
(3.3)	Longitudinal view US image of LT kidney Stone	32
(3.4)	Longitudinal images of normal right kidney	34
(3.5)	longitudinal and transverse views LT kidney	35
(3.6)	Imaging scan planes of the kidney	36
(4.1)	Frequency of different types of stones	39
(4.2)	frequency of the different sources of drinking water	40
(4.3)	Frequency of medication use in the group of the students	40
(4.4)	students frequency of the daily water intake in	41

	liters	
(4.5)	frequency of soda intake in the group of the students	42
(4.6)	History of UTI in the group of the students	42
(4.7)	Bar graph of students' weight	43
(4.8)	Frequency of students' positive family history of stones	44
(4.9)	Bar graph demonstrating age*stones	45
(4.10)	Bar graph showing the gender* stone	46
(4.11)	Bar graph showing the stones* source of drinking water	46
(4.12)	Relation between the prevalence of stones and using medications	47
(4.13)	Stone daily water intake bar graph	48
(4.14)	Stones soft drinks cross tabulation bar graph	49
(4.15)	Stone UTI crosstabulation bar graph	50
(4.16)	Stones weight cross tabulation bar graph	51
(4.17)	Gender UTI crosstabulation bar graph	52
(4.18)	Stones types	52

VII

Abbreviations

RS	Renal stones
ESRD	End stage renal disease
ADPD	Autosomal dominant polycystic kidney disease
ARPD	Autosomal recessive polycystic kidney disease
UTI	Urinary tract infection
ADH	Antidiuretic hormone

DCT	Distal convoluted tubule
PCT	Proximal convoluted tubule
CT	Computerized tomography
KUB	Kidney ureters bladder
RCC	Renal cells carcinoma
ATN	Acute tubular necrosis
SPSS	Statistical package for social sciences
US	Ultrasound
RT	right
LT	left