

Screening of Chronic Kidney Disease in Kafr-Elsheikh University, Egypt

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Abstract

Chronic Kidney Disease (CKD) represents a significant public health problem, with nearly 20 million people in the United States having kidney damage or reduced kidney function, most patients with kidney disease are asymptomatic, underling the need for routine screening of all patients who are at risk for developing kidney disease. Screening of unending kidney sickness "around Obviously solid people in Kafr- Elsheikh university, egypt. Those parameters contain :Full history taking including: personal history, secret word history, family history Furthermore medication historical backdrop. Physical examination including: blood pressure, particular figure weight, tallness Also constitution impostor list. Furthermore lab investigations Concerning illustration serum creatinine, urinary protein Eventually Tom's perusing dipstike Also HbA1c. Over 13. 8% from claiming Obviously solid subjects needed CKD (62. 2% needed phase I, 33. 8% required phase II, 4% needed stage III). CKD might have been higher "around guys over females. Stoutness might have been An hazard component to CKD and the rate of stout "around CKD patients might have been 48%, population i stoutness might have been 47. 3%, population ii Weight 0. 7%. Overweight 29. 1% What's more ordinary weight 22. 9%. Those imply from claiming BMI Around CKD patients might have been 28. 3± 4. 2. Higher recurrence about hypertension were fundamentally connected with CKD patients 33. 8% when contrasted with non CKD subjects 5. 1%. Diabetics might have been diagnosed "around 5. 6% from claiming every last bit examined subjects. Higher recurrence about diabetics were altogether connected with CKD The point when contrasted with non CKD subjects. Those rate of CKD needed diabetics might have been (26%) same time CKD required pre diabetics might have been (25%) about CKD patients. Higher urinary protein evaluations were essentially connected with CKD.

Keywords: Chronic Kidney Disease, CKD; glomerular filtration rate.

1. Introduction

Unending kidney sickness (CKD) is characterized Likewise kidney harm or glomerular filtration rate (GFR) under 60 ml / min/1. 73 m²for 3 months or more, regardless about reason. CKD speaks to An noteworthy general population wellbeing problem, with About 20 million people in the united states Hosting kidney harm alternately lessened kidney function, mossycup oak patients for kidney sickness are asymptomatic, subordinate those requirement to schedule screening for know patients who need aid at danger to Creating kidney sickness [1].

Those two fundamental reason for unending kidney sickness would diabetes What's more helter skelter blood pressure, which need aid answerable for dependent upon two-thirds of the instances. Different states that influence the kidneys are: glomerulonephritis, inherited diseases, for example, such that polycystic kidney disease, lupus Furthermore different maladies that influence those body's safe system, obstructions brought on Eventually Tom's perusing issues similar to kidney stones, tumors alternately an extended prostate organ over men and repeater urinary infections [2].

The objective of a medicinal screening system is with remember An infection On its preclinical period with the goal that intercession might happen In prior stages, hopefully prompting preferred results. Screening projects might additionally Push general population consciousness Furthermore education, energize doctor adherence to clinical act guidelines, Also serve as therapeutic outreach should underserved populaces [3].

The estimation about albuminuria gives An touchy marker from claiming CKD from thick, as right on time

with that's only the tip of the iceberg propelled phases of the infection methodology. An 24-h pee gathering for the analysis about albuminuria stays the gold standard; however, due to the disservice Furthermore errors connected with An timed pee sample, An spot pee example utilizing Possibly albumin-specific dipstick or albumin-to-creatinine proportion is Right away a acknowledged screening system [4].

Alternate alternative will screen to CKD may be with measure GFR autonomous of the albuminuria status. Over addition, Since reducedGFR will be and only those meaning for CKD, legitimacy about screening by this system Might not make assessed; however, equations that estimate GFR What's more creatinine freedom from serum creatinine need been tried for a few investigations Furthermore are presently prescribed. The The greater part regularly utilized equations for Grown-ups would the Cockcroft-Gault [3].

Those point from claiming this examine might have been should screen of unending kidney sickness "around Obviously sound people in Kafr- Elsheikh University, egypt.

2. Patients and methods

This contemplate might have been cross-sectional examine which might have been directed with screen for unending kidney sickness (CKD) "around 2000 clearly solid people in Kafr- Elsheikh University, egypt.

Incorporation criteria: . Agdistis >18 a considerable length of time ,normal status What's more ability without history of CKD,DM What's more HTN.

Avoidance criteria: . • known renal patients. • hepatic patients.

- Patients for urological issues.
- Patients with immune system maladies.
- known diabetic patients.
- cardiovascular patients.
- known hypertensive patients.

Those parameters contain :Full history bringing including: individual history (age, sex), secret word history, family history Furthermore medication regardless historical backdrop. Physical examination including: blood pressure, body weight, tallness Furthermore particular figure impostor list. And research center investigations Similarly as serum creatinine, assessed GFR utilizing Cockcroft- Gault equation $CCr = \frac{(140 - \text{age}) \times \text{weight}}{72 \times \text{SCr}}$ x 0.85 (if female. (Urinary protein Toward dipstike and HbA1c.

2. 1 Factual dissection

The gathered information might have been revised, coded, tabulated Furthermore presented with a pc utilizing Factual bundle for social science (IBM corp. Discharged 2017. IBM SPSS facts for Windows, versify 25. 0. Armonk, NY: IBM corp.). Information were introduced What's more suitability Investigation might have been completed as stated by those kind about information gotten to each parameter. Kolmogorov-Smirnov test might have been carried out on test the typicality of information circulation. Critical information might have been recognized on be nonparametric. Spellbinding statistics: Mean, standard deviation (± SD) for parametric numerical data, same

time average Furthermore go for non-parametric numerical information. Recurrence Also rate of non-numerical information. Explanatory statistics: person t test might have been used to assess the measurable noteworthiness of the Contrast the middle of two examine one assembly methods. To those examination from claiming more than two groups' means, restricted examination of fluctuation (ANOVA) might have been utilized. Chi-Square test might have been used to inspect the association between two qualitative variables. Fisher's accurate test: might have been used to analyze those association the middle of two qualitative variables when the relied upon number may be short of what 5 clinched alongside more than 20% of units.

3. Comes about

A cross-sectional study might have been led with screen about incessant kidney sickness (CKD) Around 2000 Obviously sound people in Kafr- Elsheikh university, egypt. Intend period from claiming concentrated on subjects might have been 36. 8 years, went from 18 to 68 A long time. They were 882 guys (44. 1%) What's more 1118 females (55. 9%). Imply weight might have been 80. 9 Kg, mean stature might have been 171. 6 cm, imply BMI might have been 27. 4 Kg/m². Dietary status might have been assessed, 29. 2% needed ordinary weight, 40. 9% needed overweight, 27% required class i obesity, Also 3% required population ii Weight Table (1).

Table (1) Demographic and anthropometric data of all studied subjects.

		Subjects N=2000	
Age (years)		mean±SD	36.8±12.1
		range	18-68
Male		N, %	882 44.1%
Female		N, %	1118 55.9%
Weight (Kg)		mean±SD	80.9±12.9
Height (cm)		mean±SD	171.6±9.7
BMI (kg/m ²)		mean±SD	27.4±3.9
Normal weight	18.5-25 (kg/m ²)	N, %	583 29.2%
Overweight	25-30 (kg/m ²)	N, %	818 40.9%
Class I obesity	30-35 (kg/m ²)	N, %	540 27%
Class II obesity	35-40 (kg/m ²)	N, %	59 3%

SD, standard deviation.

Among all studied subjects, mean creatinine concentration was 1 mg/dL, mean eGFR was 110.4, mean HA1C was 5.4%. Urinary protein was analyzed using dipstick, 77% showed negative results, 10% had trace protein, 7.5% had 1+, 4% had 2+ and 1.5% had 3+ urinary protein Table (2).

Table (2) Laboratory data of all studied subjects.

		Subjects N=2000	
Creatinine (mg/dL)		mean±SD	1.1±0.1
Normal creatinine		N, %	1910 (95.5%)
High creatinine		N, %	90 (4.5%)
Males		N, %	20 (1%)
		N, %	10 (0.5%)
		N, %	10 (0.5%)
		N, %	30 (1.5%)
females	1.2-1.3	N, %	20 (1%)
	>1.3	N, %	20 (1%)

Table (2) Continue				
eGFR (mL/min/1.73 m ²)		mean±SD	110.4±12.8	
≥90+ evidence of kidney damage		N, %	171 (8.5%)	
60-90 + evidence of kidney damage		N, %	93 (4.6%)	
30-60		N, %	11 (.5%)	
15-30		N, %	0 (0%)	
≤15		N, %	0 (0%)	
HA1C (%)		mean±SD	5.4±0.6	
Urinary protein	Negative	N, %	1540	77%
	Trace	N, %	200	10%
	1+	N, %	150	7.5%
	2+	N, %	80	4%
	3+	N, %	30	1.5%

SD, standard deviation.

During surveillance of CKD within apparently healthy subjects, only 13.8% had CKD Fig (1).



Fig (1) Prevalence of CKD within studied subjects.

CKD cases were found to have different stages, 62.2% had stage I, 33.8% had stage II, 4% had stage III Fig (2).

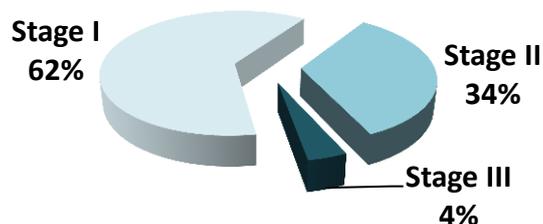


Fig (2) Stages of CKD.

CKD patients had significantly older age, heavier weight, higher BMI, higher frequency in males, and obese patients Table (3).

Table (3) Comparison of demographic and anthropometric data according to CKD among all studied subjects.

		No CKD N=1725		CKD N=275		P
Age (years)	mean±SD	35.1	11.4	47.3	14.6	<0.001 ^T
Male	N, %	717	41.6%	165	60%	<0.001 ^C
Female	N, %	1008	58.4%	110	40%	
Weight (Kg)	mean±SD	80.5	12.4	83.9	15	<0.001 ^T
Height (cm)	mean±SD	171.6	9.6	171.7	10.2	0.823 ^T
BMI (kg/m ²)	mean±SD	27.2	3.9	28.3	4.2	<0.001 ^T
Normal weight	N, %	520	30.1%	63	22.9%	0.014 ^C
Overweight	N, %	738	42.8%	80	29.1%	<0.001 ^C
Class I obesity	N, %	410	23.8%	130	47.3%	<0.001 ^C
Class II obesity	N, %	57	3.3%	2	0.7%	0.019 ^F

SD, standard deviation; T, independent T test; C, Chi square test; F, Fisher exact test.

Higher mean SBP and DBP were significantly associated with CKD when compared to non CKD subjects. Higher frequency of hypertensives; Higher frequency of diabetics; were significantly associated with CKD when compared to non CKD subjects Fig (3).

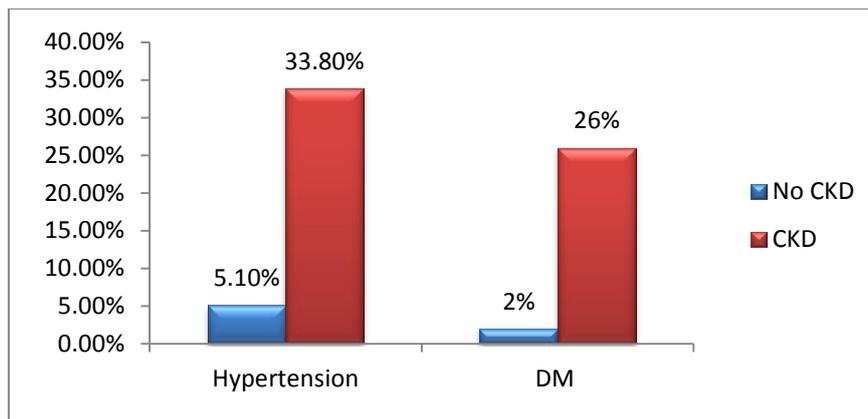


Fig (3) Hypertension and DM according to CKD among all studied subjects.

CKD patients had significantly higher creatinine concentration than non CKD. eGFR was lower in CKD patients than non CKD which was significant. Negative urinary protein was significantly associated with those with no CKD. Higher urinary protein grades were significantly associated with CKD Table (4).

Table (4) Comparison of laboratory data according to CKD among all studied subjects.

		No CKD N=1725		CKD N=275		p	
Creatinine (mg/dL)	mean±SD	0.9	0.1	1.5	0.2	<0.001	
eGFR (ml/min/1.73 m²)	mean±SD	110.7	9.9	85.9	17.9	<0.001	
HA1C (%)	mean±SD	5.4	0.6	5.3	0.6	0.089	
Urinary protein	Negative	N, %	1534	88.9%	6	2.2%	<0.001
	Trace	N, %	191	11.1%	9	3.3%	<0.001
	1+	N, %	0	0%	150	54.5%	<0.001
	2+	N, %	0	0%	80	29.1%	<0.001
	3+	N, %	0	0%	30	10.9%	<0.001

SD, standard deviation.

3. Discussion

This contemplate indicated that, Around know contemplated subjects, intend creatinine focus might have been 1 mg/dL, imply eGFR might have been 110.4, imply HA1C might have been 5.4%. Urinary protein might have been broke down utilizing dipstick, 77% demonstrated negative results, 10% needed follow protein, 7.5% required 1+, 4% needed 2+ and 1.5% needed 3+ urinary protein. This consider indicated that, 13.8% from claiming clearly sound subjects needed CKD (62.2% needed phase I, 33.8% required phase II, 4% required phase III).

This suitably with Ene-Iordache et al. , [5] who pointed should assess the pervasiveness and familiarity with unending kidney sickness What's more its danger factors, Also with examine the danger for cardiovascular disease, for nations from claiming low What's more center money. They finished An cross-sectional investigation to 12 nations from six universe regions: Bangladesh, Bolivia, bosnia Also Herzegovina, China, Egypt, Georgia, India, Iran, Moldova, Mongolia, Nepal, Also nigeria. They analysed information starting with screening programmes clinched alongside these countries, 75 058 people were incorporated for their

study. They discovered that, the pervasiveness about unending kidney sickness might have been 14.3%.

In any case CKD predominance might have been 1.7% done China, 3.1% for Canada, 5.8% On australia [6] What's more 6.7% in the united states [7]. In Europe, the pervasiveness ranges starting with 2.3% done Germany, 2.4% clinched alongside Finland, 4.0% Previously, spain to 5.2% On england. [8] Also this might be expected of the personal satisfaction for wellbeing benefits over these nations.

In the available study, guys were All the more incessant over females. The rate of male "around CKD patients might have been (60%) same time females might have been (40%). However these effects disagreed with An investigation that might have been directed to japan demonstrating to that guys create ESRD more ordinarily over females. [9].

This might have been also different of the discoveries for india Similarly as they discovered that, CKD might have been higher "around guys over females. [10]. Diabetes is An well-known state connected with enormous glomerular hyperfiltration, as apparent starting with expanded downright GFR and renomegaly. Hyperglycaemia advertises those

sodium/glucose cotransporter 2 (SGLT2)-driven reabsorption for sodium in the proximal tubule, An transform that consequently inactivates tubuloglomerular sentiment Furthermore activates the ras toward the macula densa in the renal tubule [11].

In the introduce investigation diabetics might have been diagnosed "around 5. 6% from claiming every one contemplated subjects. Higher recurrence of diabetics were altogether connected with CKD At contrasted with non CKD subjects. Those rate of CKD needed diabetics might have been (26%) same time CKD required pre diabetics might have been (25%) about CKD patients. This might have been assention of the discoveries about hood et al. , who discovered those higher pervasiveness of CKD Around diabetics subjects. [12] What's more clarified instruments that prompt kidney sickness over diabetes incorporate hyperfiltration injury, propelled glycosylation end products, Also sensitive oxygen species. At the sub-atomic level, various cytokines, Growth variables Furthermore hormones for example, transforming development factor-beta What's more angiotensin ii result in pathologic progressions connected with diabetic nephropathy. This examine demonstrated that, CKD patients needed altogether higher creatinine (1. 5) over non CKD patients (0. 9). This consented with Ene-Iordache et al. , [5] who found that, CKD patients needed altogether higher creatinine focus over non CKD patients.

This consider demonstrated that, CKD patients required fundamentally more level eGFR (85. 9) over non CKD patients (110. 7). This suitably for Tsai et al. , [13] who analyzed those progression of CKD by utilizing Normal twelve-month decay On assessed GFR (eGFR) and its danger figures clinched alongside a 10-year catch up CKD accomplice. They discovered that, CKD patients needed altogether more level eGFR over non CKD patients.

This ponder indicated that, higher urinary protein evaluations were altogether connected with CKD. This concurred for Cravedi What's more Remuzzi, [14] who found that, higher urinary protein were altogether connected with CKD. Those significant part of proteinuria done accelerating kidney sickness progression through numerous pathways, including incitement from claiming tubular chemokine statement Furthermore supplement actuation. These events, clinched alongside turn, prompt incendiary cell invasion in the interstitium Furthermore maintained fibrogenesis. The degree from claiming proteinuria will be generally perceived Similarly as a marker of the seriousness from claiming Ceaseless kidney sickness What's more Likewise An predictor for future decrease to glomerular filtration rate. All the more importantly, An diminishment to proteinuria invariably makes as An insurance starting with renal capacity decrease to patients with renal infection.

4. Conclusion

High prevalence of CKD among the studied subjects. It is more common in males than in females.

Obesity was a risk factor for CKD. The main risk factors of renal diseases are hypertension and diabetes.

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