Original Article

KNOWLEDGE ATTITUDE AND PRACTICE (KAP)OF CHRONIC KIDNEYS DISEASE AMONG MEDICAL OFFICERS OF TEACHING HOSPITALS OF LAHORE

Muhammad Anees[1], Asim Mumtaz[2], Saleem Uz Zaman Adhmi[3], Muhammad Ibrahim[4]

BSTRACT

OBJECTIVE:

This study was conducted to determine the knowledge, attitude and practice (KAP) about kidney diseases among medical officers working in different hospitals of Lahore.

STUDY DESIGN: Cross sectional Study.

PLACE AND DURATION OF THE STUDY: Department of Nephrology, King Edward Medical University, Mayo Hospital, Lahore from 1st Jan 2013 to 31st March 2013.

METHODOLOGY:

Doctors working on the medical floors of different tertiary care teaching hospitals [Mayo Hospital (MH), Sir Ganga Ram Hospital (SGRH), Service Institute of Medical Sciences (SIMS), Fatima Memoral Hospitals (FMH), Lahore General Hospitals (LGH), Shalamar Hospital (SH), Jinnah hospital (JH)] of Lahore were included in the study. Each doctor was given a questionnaire comprising of 28 questions. Each participant was given 10-15 minutes for completing the questionnaire at the spot. Categorization of doctors according to the KAP score was done as poor (<50%), average (51-70%) and good (>70%).

RESULTS:

One hundred eighty five doctors participated in the study who fulfilled the criteria. In this study majority 134 (62.6%) of the doctors were not taught about nephrology during their graduation which was statistically significant. Most of the doctors either had some knowledge or didn't know about procedures done in nephrology. Majority of the doctors 208(97.2%) know that nephrology deals with medical diseases of the kidney which was statistically significant. Most of the doctors 138(64.5) feel that nephrology services are insufficient in their hospital. More than 90% doctors want that kidney diseases should be taught during MBBS curriculum and separate nephrology department should be established which was statistically significant. Most of the doctors don't know the management of hyperkalemia very well. About 90% of the doctors know that there are five stages of CKD. Majority of the doctors know that ACE

Anees M [1]
Assistant Professor Nephrology.
Chairman, Department of Nephrology
King Edward Medical University,
Lahore. Pakistan.

Mumtaz A [2]
Professor of Pathology
Shalamar Medical and Dental College,
Lahore. Pakistan.

Adhmi S U Z [3]
Consultant Physician
Shalamar Hospital.
Lahore. Pakistan.

Ibrahim M[4]
Associate Professor of Statistics
Registrar, Govt. M.A.O College,
Lahore. Pakistan.

inhibitors are used in hypertension and diabetic nephropathy. They also know that urine complete examination help in early detection of diabetic nephropathy which was statistically significant.

CONCLUSION:

Most of the doctors have poor to average knowledge and practice about kidney diseases. Most of the doctors think that nephrology services are insufficient in their hospitals and it must be taught during graduation. Separate nephrology department should be established for creating awareness about kidney diseases

KEY WORDS:

Kidney diseases, Knowledge, Attitude, Practice, Nephrology, Doctors.

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INTRODUCTION:

A KAP survey is a representative study of a specific population to collect information on what is known, believed and done in relation to a particular topic [(1)]. KAP surveys can identify knowledge gaps, cultural beliefs, or behavioral patterns that may facilitate understanding and action, as well as pose problems or create barriers of that topic [(1)]. These survey help health authorities in developing curriculum and making policies for patients care. According to these surveys in Western World, awareness about clinical practice guidelines and recommendation for CKD patients and its risk factors is still low.[(2-4)] Published reports indicate that between 35% and 54.7% of non-nephrology specialist physicians in the USA have adequate knowledge of CKD.[(5-7)] According to Israni and colleagues,[5] Agrawal et al.,[6] and Charles et al[7] 35% non nephrology physicians, 54% of family physicians and 54.7% of non-nephrology specialist physicians in the USA had adequate CKD knowledge respectively. Boulware and colleagues,[8,9] compared family physicians and non-nephrology internists, reported that 59% and 78% respectively identified the presence of CKD. In Pakistan, there are very limited number of nephrologists[(10)], so pre dialysis is being provided by non renal physicians and urologists. Being untrained in this important specialty, treatment of the CKD patients is not up to the mark leading to late referral to nephrologist and high mortality. In Pakistan there is very limited data regarding the assessment of the knowledge of the doctors regarding kidney disease. One study was conducted by Shaista TZ [(11)] who assessed knowledge between residents and consultant but it was single center study. Similarly another study was conducted by S Yaqoub et al [(12)] who assessed knowledge amongst family physicians. But up till now multicentric study of residents covering all the main teaching hospitals of second largest city of Pakistan was not conducted. In Pakistan Nephrology as specialty is ignored and there is very slow progress in this needy specialty. Due to under recognition of this speciality, doctors don't have adequate knowledge. So this study [(KAP) survey] was conducted to determine the level of awareness about CKD clinical practice guidelines and identify deficiencies in knowledge among medical officers (MO's) post graduate (PG's) doctors of difference teaching hospitals of Lahore.

OBJECTIVE:

This study was conducted to determine the knowledge, attitude and practice about kidney diseases in doctors working in medical wards of different tertiary care teaching hospitals of Lahore.

SUBJECTS AND METHODS:

Doctors working on the medical floors of different tertiary care teaching hospitals [Mayo Hospital (MH), Sir Ganga Ram Hospital (SGRH), Service Institute of Medical Sciences (SIMS), Fatima Memoral Hospitals (FMH), Lahore General Hospitals (LGH), Shalamar Hospital (SH), Jinnah hospital (JH)] of Lahore were included in the study. Doctors working in other speciality except medicine and nephrology were excluded from the study. Each doctor was giving a questionnaire comparison of 28 questions. The questionnaire was validated by three consultant nephrologists. The questionnaire was having three components covering knowledge, attitude and practice

regarding chronic kidney diseases according to The National Kidney Foundation Kidney Disease Outcomes Quality Initiative (NKF KDOQI) guidelines [13]. Identification of the doctors was kept secret. Categorization of doctors according to the KAP score was done as poor (<50%), average (51-70%) and good (>70%).

STATISTICAL ANALYSIS:

The data was entered and analyzed by using standard SPSS software version-17 (SPSS Inc, Chicago) for statistical analysis. Continuous variable were expressed in the form of Mean + SD. To signify the gap among three variables like knowledge, attitude and practice, one way ANOVA was used. P value of <0.05 was considered significant crude knowledge score (0-9), attitude (0-5) and Practice 0-14) was standardized in terms of 100. Correlation was used to determine the relation between different variables.

RESULTS:

One hundred eighty five doctors participated in the study who fulfilled the criteria. There were 131(70.8%) male and 54(29.2%) female in the study. Doctors participated in the study were from different teaching of Lahore i.e Mayo Hospital 45(24.3%), LGH 13(7%), SGRH 21(11.4%), FMH 17(9.2%), SH 21(11.4%), JHL 30(17.2%), SIMS 30(16.2%). Mean working experience of the doctors was 29 weeks. Most of the doctors did their graduation in 2009-2010 34(18.4%) and 56(30.3%)). Most of the doctors got poor and average score in KAP survey as shown in Table No1. Important questions and the response of doctors is shown in Table Number 2, with statistically significant value. In this study majority 134 (62.6%) of the doctors were not taught about nephrology during their graduation which was statistically significant. Most of the doctors either somewhat know or don't know about procedure done in nephrology. Almost all the doctors know that nephrology deals with medical 208(97.2%) and not surgical 157(73.4%) diseases of the kidney which was statistically significant. Most of the doctors 138(64.5) feel that nephrology services are insufficient in there hospital. More than 90% doctors want that kidney diseases should be taught during MBBS curriculum and separate nephrology department should be established which was statistically significant. Most of the doctors haven't seen renal biopsy uptil now and they don't know the management of hyperkalemia very well. About 90% of the doctors know that there are five stages of CKD and Diabetic Nephropathy. Majority of the doctors use ACE inhibitors in hypertension and diabetic nephropathy and they know that urine complete examination help in early detection of diabetic nephropathy which was statistically significant.

Table No.1. Number of the doctors showing poor, average and good score in KAP survey

Sr #	Parameter	Number(%)	P Value
1.	Knowledge		0.000*
	Poor	22 (11.9%)	
	Average	129(69.7%)	
	Good	34(18.4%)	
2.	Attitude		0.000*
	Poor	3(1.6%)	
	Average	10(5.4%)	
	Good	17(92.4%)	
3.	Practice		0.000*
	Poor	29(15.7%)	
	Average	94(50.8%)	
	Good	62(33.5%)	

* Statically significant value

Table No.2.Important questions and the response of doctors,

Sr #	Question	Response	P-Value
1.	Have you taught about Nephrology in your curriculum?	a. Taught very well 3(1.4%) b. Somewhat taught 63(29.4%) c. Donot taught 134 (62.6%)	0.000*
2.	Do you know about procedures done in Nephrology?	a. Know very well 5 (2.3%) b. Somewhat know 47 (5%) c. Donot know 143 (66.8%)	0.000*
3.	Does Nephrology deals with Medical aspects of Kidney?	a. Yes 208 (97.2%) b. No 3 (1.4%)	0.000*
4.	Do you know about Hemodialysis?	a. Know very well 8 (3.7%) b. Somewhat know 63 (29.4%) c. Donot know 136 (63.6%)	0.000*
5.	Does Nephrology deal with surgical diseases of the kidney?	a. Yes 54 (25.2%) b. No 157 (73.4%)	0.000*
6.	Do you think Nephrology services are sufficient in your hospital?	a. Yes 73 (34.1%) b. No 138 (64.5%)	0.000*
7.	Should Nephrology be taught during MBBS curriculum?	a. Yes 202 (94.4%) b. No 9 (4.2%)	0.000*
8.	Should Nephrology rotation be done in House job?	a. Yes 167(75.2%) b. No 50 (23.4%)	0.000*
9.	Should separate Nephrology ward be established?	a. Yes 207(98.6%) b. No 6 (2.8%)	0.000*
10.	Have you seen renal biopsy uptil now?	a. Yes 73(34.1%) b. No 138 (64.5%)	0.000*
11.	Do you know the management of hyperkalemia?	a. Know very well 17 (21 %) b. Somewhat know 150 (71.1%) c. Donot know 42 (19.1%)	0.000*
12.	How many stages of CKD are there?	a. 3 21(10%) b. 5 188(89.1%)	0.000*
13.	How many stages of Diabetic Nephropathy?	a. 3 53(25.1%) b. 5 158(74.9%)	0.000*
14.	Is ACE inhibitors a first choice of drug for Hypertension?	a. Yes 133(63.0%) b. No 78 (37%)	0.000*
15.	Does Urine complete examination help in early detection of CKD?	a. Yes 185(87.7%) b. No 26(12.3%)	0.000*
16.	Creatinine Clearance is more important than Serum Creatinine?	a. Yes 191(90.3%) b. No 20 (90.5%)	0.000*
17.	Is ACE inhibitors a first choice of drug in Diabetes Mellitus?	a. Yes 198(93.8%) b. No 12(5.7%)	0.000*

* Statically significant value

DISCUSSION:

The Knowledge possessed by a community refers to their understanding of that topic. Attitude is usually used to refer to a person's general feelings about an issue, object, or person. Practice refers to the ways in which they demonstrate their knowledge and attitudes through their actions[14]. KAP surveys help us in assessment of knowledge and practice of MO's and PG's regarding clinical practice guidelines and their attitudes regarding patients care and treatment. These survey help to find out gaps between knowledge & practice and guide health agencies for making curriculum at undergraduate and postgraduate level. In this study most of the doctors have poor to average knowledge and practice about kidney diseases. Similar observation was made by Laura C et al[15] and other studies[2]. This is very alarming situation for health authorities especially when there is explosion of kidney diseases in Pakistan in the last couple of years. According to local data approximately 15 to 20 percent of persons who are 40 years of age or older have a reduced estimated GFR[16]. Approximately in Pakistan, there are 150 ESRD patients / annum / million and each year we will have 16,000 ESRD patients[17]. So with such a high prevalence of CKD and very expensive treatment modalities, government will have to make policies for creating awareness about this lethal disease.

Most of the doctors have expressed that nephrology services are insufficient in their hospitals and separate nephrology department must be established. In Pakistan there are few institutes for training of postgraduate doctors in nephrology. In Punjab province Sheikh Zayed Hospital Lahore and Pakistan Institute of Medical Sciences, Islamabad were the only two institutes who served for accreditation in nephrology for more than twenty five years. Couple of years back from Lahore to Hyderabad there used to no department of Nephrology and Nephrologist, due to which patients care has been suffered very badly. Due to the non availability of kidney disease services nearby their residences, patients have to travel a long distance increases the cost of treatment. MO's and PG's doctors feel that nephrology should be taught in their curriculum. By doing this thing in established nephrology departments, we can train all the doctors and postgraduate trainees for early detection and recognition of kidney diseases. Even the management of CKD patients can be done by hands on training and managing these patients in workshops. This will partially compensate the deficiency of kidney physicians - Nephrologist. In this study almost all of the doctors knew that nephrology deals with medical diseases and not surgical diseases of the kidney. This is very important concept that doctors know the domains of both specialties as separate entity. This is different from our previous understandings which we observed that most of the doctors don't know the difference between the specialties and the referral of the kidney patients to which doctor (either nephrologist or urologist). This is very important change and is brought due to the recognition and accreditation of the nephrology department in most of teaching hospitals of Lahore in the last few years. College of Physicians and Surgeon played a vital role in dong this great job by recognizing the institutes in this needy speciality. Although these departments are in phase of development but in future these institutions will bring a tremendous improvement in preventing kidney diseases by training more and more nephrologists .

On the nephrology floor different procedure are done like temporary catheter insertion, renal biopsies, peritoneal dialysis and hemodialysis. In this study most of the doctors haven't seen procedures done in nephrology and only eight doctors know about hemodialysis very well and renal biopsy is seen by one third of doctors. It is observed that when these postgraduate doctors become consultant after fellowship programs, they feel difficulty in handling CKD and dialysis patients. So by exposing these doctors to dialysis during fellowship programs, management of these patients will improve at District and Tehsil headquarters hospitals. Government is providing dialysis services at peripheries but there are no trained personals to take care of these patients. Government should start training courses for the doctors working at periphery regarding kidney diseases.

CKD is associated with a number of electrolytic disturbances [18] and in nephrology there are few life threating emergencies like pulmonary edema hyperkalemia, uremia and pericarditis. Hyperkalemia is very important in patients with CKD due to its cardiac events[19,20]. In this study, most of the doctor either don't know or somewhat know about treatment modalities of Hyperkalemia and only 17(21%) doctors know its management very well. It has been observed that ACE I and ARBS are being prescribed by many doctors without explaining the patients about its complications like acute rise in creatinine and hyperkalemia. According to international guidelines follow up of these patients must be done at least after the first week and the first and second month after initiating treatment with ACEI and ARBs [21]. Even the doctors don't know about the diets containing high potassium level. These patients present in medical emergencies with ECG changes and complete heart block. So there is need to train doctors about this life threatening emergency so it can be diagnosed and managed by each and every doctor very well.

Chronic Kidney disease is divided into five stages according to international guidelines[13] on the basis of GFR. In this study most of the doctors know about the stages of Chronic Kidney disease and diabetic nephropathy. Similar observation was reported by Shaista Tamizzudin[11]. According to her, most of the subjects (73.68%) were aware of the five stages of Chronic Kidney disease. The division of CKD into five stages is very important because management of kidney diseases patients varies with stage. According to these guidelines patients with GFR< 30 ml/min should be referred to nephrologist[22] and AV fistula should be made when GFR is <20ml/min.

Early recognition of kidney diseases is very important. Urine Complete examination is said to be the poor man renal biopsy. It helps a lot in early detection of kidney disease. In this study, most of the doctors know that urine complete examination helps in early detection of kidney diseases. ACE Inihibitors are the drug of choice for hypertension and diabetic mellitus[23,24]. In this study most of the doctors (93.8%) control HTN with ACEI. Similar observation was made by Hermann R et al[25]. According to him 80.1% of the doctors prescribe ACEI followed by ARB antagainst (12.1%) in hypertension patients with diabetic nephropathy. S Taqub et al [12] have different observation in his study of GP's, Only 107 (46.1%) GPs chose ACE I and ARB's as the first-line therapy to control both BP and proteinuria in order to slow down the progression of CKD. According to K/DOQI guideline estimated GFR (e GFR) is the recommended screening tool than serum creatinine[26]. Estimated GFR is more accurate parameter of kidney function than serum creatinine and can be used for both diagnosis and staging of severity of CKD[27]. In this study most of doctor don't know that creatinine clearance (ie. GFR) is more important than serum creatinine. But it is different from the study conducted by Varum Agrawal[28]. According to him 87% of the residents were aware of the eGFR.

Limitation of the study is that this data represents the knowledge of doctors working only in Lahore, thus, it is not representative of MO's and GPs working in other cities of the country.

CONCLUSION:

Levels of knowledge among doctors must be improved to prevent CKD and its complications which affects morbidity and mortality of the patients. For improving the knowledge of doctors, more departments of the nephrology should be established. KAP survey can be planned on regular basis to assess the improvement and further guidelines can be made for curriculum.

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