



ORIGINAL RESEARCH PAPER

Medicine

EFFECT OF AGE ON RFT AMONG RURAL PEOPLE ATTENDING RURAL TERTIARY CARE HOSPITAL

KEY WORDS: RFT, Chronic Kidney Disease (CKD), Rural.

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ABSTRACT

Health-care for co-morbid chronic kidney disease (CKD) is often sub-optimal. To improve health-care, we explored the perspectives of general practitioners (GPs) and tertiary health-care professionals concerning key factors influencing health-care of CKD. The present study is carried out at Rural Tertiary Health Care Centre, over a period of six months from January 201 to June 2018. Hospital based study of 2295 cases were included for the RFT at Rural Tertiary Health Care Centre during the study period carried out in January 2018 to June 2018. Among 2295 subjects, there were 1390 (60.57%) male patients and 905 (39.43%) female patients. In this study, it was seen that Males were more affected than females. Also, the study shows that, out of 2295 subjects, 561 (24.4%) subjects has abnormal high serum urea level, 506 (22.04%) subjects has abnormal high serum Creatinine level and 311 (13.55%) subjects has high serum uric acid level.

Introduction

Kidney is essential to maintain healthy body, because it filters blood, body fluids, and excretes waste products and maintains the body's state of homeostasis. Due to sedentary life style, stress from daily living, lack of healthy activities and food habits etc, are fast contributing risk factors to develop some life threatening diseases, one among them is chronic kidney disease (CKD) involves progressive, irreversible loss of kidney function in which there is a kidney damage.¹

CKD kidney is rapidly assuming epidemic proportions globally.^{2,3,4} In India too, there is a significant burden of CKD although exact figures vary.⁵ The awareness level among the people is poor. At least 70% of the people live in rural areas with limited access to health care services with the result that CKD is often diagnosed in advanced stages. Less than 10% of end stage renal disease patients have access to any kind of renal replacement therapy.^{6,7} In a country with limited resources, it is only appropriate that efforts are directed toward prevention of CKD rather than the treatment. Studies on the prevalence of diseases help in focusing attention to the magnitude of the burden and planning preventive measures. High-risk characteristics that are associated with such prevalence can be modified.⁸

Chronic disease has become a major cause of Global morbidity and mortality. 4 out of 5 chronic disease deaths now occur in low and middle- income countries. In India the projected number of deaths due to chronic disease will rise from 3.78 million in 1990(40.4% of all deaths) to an expected 7.63 million in 2020(66.7%of all deaths).The CKD burden is increasing rapidly worldwide, at the end of 2004, 1,783,000 patients worldwide were receiving treatment for CKD of which 77% were on dialysis and 23% had a functioning renal transplantation (RT), and this number is increasing at a rate of 7% every year. The average incidence of ESRD in developing countries is 150 per million populations.⁹

The average age of the ESRD (End Stage Renal Damage) population in India is 47 years, much younger than the data from the United State Renal Data System (USRDS). There is also evidence that, because of lack of medical facilities ,poor control of risk factors, and delayed referral to the nephrologists ,there is much more rapid progression of CKD in the Indian population than in developed countries.¹⁰

Materials and Methods

The present study is carried out at Rural Tertiary Health Care Centre at Adesh Medical College and Hospital, Mohri, Shahbad (M) over a period of six months from January 2016 to June 2018. This study was conducted in the Department of Community Medicine at Adesh Medical College and Hospital, Mohri, Shahbad

(M) in collaboration of with Department of Biochemistry, Adesh Medical College and Hospital, Mohra, Shahbad (m) amongst patients attending OPD and admitted in the hospital.

Source of Data:

In-patients of the various departments of the Hospital constituted the major source of data for the present study. A 'Daily Investigations Record Register' was maintained in the Department to record the results.

Data Abstraction:

The common investigations being performed by the lab for RFT (Urea, Creatinine and Uric Acid) were identified and enlisted. The possible reason for ordering the test were also identified from the information available from the case-sheet and the treating physicians comments (Table 1).

Table 1: Biochemical Investigations for RFT, their reference ranges and type of investigation along with common indications.

INVESTIGATION	REFERENCE RANGE	TYPE OF INVESTIGATION AND COMMON INDICATIONS
Blood Urea	15 – 40 mg /dL	Screening, Diagnosis and Monitoring (Renal failure, Sepsis, Uraemia, Shock)
Serum Creatinine	0.6 – 1.4 mg /dL	Screening, Diagnosis and Monitoring (Sepsis, Metabolic cause, Renal failure, Poisoning, Hematemesis)
Serum Uric Acid	2.5 – 7.2 mg/dl	Screening, Diagnosis and Monitoring (Cardiac Patients, Gouts, Arthritis)

Inclusion criteria:

- Either Sex
- Age in between 15-50 years.

Exclusion criteria

- Age below 15 years and above 60 years.

Result and Discussion

A descriptive statistical analysis of the collected data was done and the abnormal findings were then found and the diagnostic yield of each parameter was also calculated according to the given formula (Table 2).

Diagnostic Yield = Number of abnormal findings / Total number of individuals x 100

Table 2: Yield % of individual investigations.

Investigation	Total No of Investigation	Abnormal Results	Diagnostic Yield (%)
Blood Urea	2295	561 (24.4%)	24.4
Serum Creatinine	2295	506 (22.04%)	22.1
Serum Uric acid	2295	311 (13.55%)	13.5

Based on the yield of the test (Table 2), investigations were classified as low yield (0 to 33%), intermediate yield (34 to 64%), and high yield (67% and above)¹¹ and the diagnostic yield was found to be ranging from 13.5 to 24.4 %.

Table 3: Distribution of cases according to age and sex

Age group (Years)	Males		Females	
	No of cases	Percentage	No of cases	Percentage
<20	116	8.3	41	4.5
21-30	395	28.4	245	27.1
31-40	411	29.5	286	31.6
41-50	468	33.6	333	36.7

Among 2295 cases of RFT, there were 1390 (60.57%) male patients and 905 (39.43%) female patients. The ratio of male to female was 1.5 i.e. males are 1.5 times more susceptible to CKD when compared to females.

This study was designed as a hospital based study, carried out at a Rural Tertiary Health Care Centre, during period of January 2018 to June 2018. Study population included 2295 cases, attending OPD and admitted to the intensive care unit or general ward during the study period.

In this study 60.57% patients were male and 39.43% were female. Male to female ratio in this study was 1.5 showing male predominance in this study. This correlates with the study done by Rajapurkar MM, John TJ and Kirpani A *et al*/who observed Male to Female ratio as 70:30 i.e. M:F = 2.33¹². Similarly Singh AK, Yousell MK, Mittal BV *et al* found that male to female ratio was 1.22¹³. In the same way Modi G K and Jha V *et al* found out male to female ratio of 1.31 in their study¹⁴. Manwad *et al* (1988) also observed male predominance in this study of chronic renal failure with male to female ratio being 1.43:114. Wing *et al* (1989) also observed male predominance in this study done In Europe where ratio was 1.4:1.¹

In this study the age limit for the included subjects is in between 15 to 50 years old, we found the maximum number of cases in the age group of 41-50 years. Many studies have shown that maximum number of cases of chronic kidney disease occurred in 5th and 6th decade of life. In this study the mean age of patient was 35.71 years.

Also, the study shows that, out of 2295 subjects, 561 (24.4%) subjects has abnormal high serum urea level, 506 (22.04%) subjects has abnormal high serum Creatinine level and 311 (13.55%) subjects has high serum uric acid level.

Conclusion and future perspective:

Chronic kidney disease is the irreversible condition which progresses relentlessly leading sooner or later to the end stage renal failure. Once the stage of ESRD is reached, the etiology and underlying disease is difficult to determine. The diagnosis of this stage can be achieved by eliciting the history carefully, discovering co-morbid factors, utilizing imaging techniques, interpreting histological material and placing this in the context of probability derived from epidemiological data.

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