AWARENESS REGARDING CHRONIC KIDNEY DISEASE AMONG ADULTS IN A HOSPITAL OF SIDDHARTHANAGAR MUNICIPALITY

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ABSTRACT

INTRODUCTION

Chronic kidney disease (CKD) has been recognized as a leading public health problem worldwide. Early detection and management of the risk factors of CKD is helpful for its prevention and reduction of burden caused by it. This study aimed to find out the awareness regarding chronic kidney disease among adults in a hospital of Siddharthanagar Municipality.

MATERIAL AND METHODS

Hospital based descriptive cross-sectional study was used to find out the awareness regarding chronic kidney disease among 165 adults attending Medical out patient department of Universal College of Medical Sciences, Bhairahawa, Rupandehi, Nepal from July 11 to July 25, 2021. Descriptive and inferential statistics were used to assess the awareness level and its association with different socio-demographic variables.

RESULTS

The findings of the study showed that 57.6% of respondents had low level of awareness regarding chronic kidney disease. Respondents have high awareness on risk factors of chronic kidney disease whereas respondents have relatively low awareness on meaning and clinical features of chronic kidney disease.

CONCLUSION

On the basis of findings, it is concluded that more than half of the respondents have low awareness level regarding chronic kidney disease so an effort should be made to improve the awareness regarding chronic kidney disease for early identification and management of chronic kidney disease.

KEYWORDS

Adults, Awareness, Chronic kidney disease.

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DOI: https://doi.org/10.3126/jucms.v9i02.42013

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INTRODUCTION

The definition and classification of chronic kidney disease (CKD) have evolved over time, but current international guidelines define this condition as decreased kidney function shown by glomerular filtration rate (GFR) of less than 60 mL/min per 1.73 m^2, or markers of kidney damage, or both, of at least three months duration, regardless of the underlying cause.[1] Chronic kidney disease has been recognized as a leading public health concern worldwide including Asian Coutries.[2] Diabetes and hypertension are the leading causes of CKD[1]. In 2017, the global prevalence of CKD was 9.1% (697.5 million) and was 12th leading cause of death worldwide.[3] In a study conducted in 2016 to 2018 the overall prevalence of chronic kidney diseases was 6.0% (95%, CI: 5.5-6.6). The prevalence was higher 6.8% in province no. 2 and lower 4.7% in Karnali province.[4] Chronic Kidney Disease (CKD) has become a serious health issue which affects 10-16% of adults around the world and could lead to end stage renal disease. Various factors such as smoking, unhealthy diet, obesity, hypertension, excessive alcohol consumption, use of analgesics medication, diabetes mellitus, family history of CKD are the risk factors for CKD. Early intervention is the significant way to reduce the economic burden of CKD.[5]

In a study conducted in Bangladesh 60% of the respondents had low knowledge and only 11% of the respondents had good knowledge regarding CKD.[6] Likewise in a study conducted in Saudi Arabia, the findings revealed a lack of awareness among Saudi population regarding CKD.[7] Awareness regarding CKD is helpful for its early detection and also provides an opportunity for early therapeutic interventions to prevent or delay the onset of disease or complications and to improve outcome.[8] Previously conducted research in different parts of world showed that people had low knowledge regarding chronic kidney diseases.

It is a major global health concern and emerging non communicable diseases. Information and awareness can help people to change or modify their health habits and other behaviour in order to achieve and maintain optimal health as well to make necessary lifestyle changes. Hence this study aimed to find out the awareness regarding chronic kidney disease among adults in a hospital of Siddharthanagar, Municipality.

MATERIAL AND METHODS

Hospital based descriptive cross-sectional study was conducted in medical OPD of Universal College of Medical Sciences-Teaching Hospital (UCMS-TH), Bhairahawa, Rupandehi, Nepal from 11 to July 25, 2021. The adult patients from age 20 years to 80 years attending medical OPD of UCMS-TH, Bhairahawa, Rupandehi, Nepal, who were willing to participate and can speak and understand Nepali language were included in the study. Sample size was calculated by using formula $N=Z^2pq/L^{2,9}$ with 95% level of confidence interval, 5% marginal error and 11% prevalence of good knowledge.[6] Initial sample size was 150. Considering 10% non-response rate, the final sample size was 165. A non-probability purposive sampling technique was used to select the adults of 20 to 80 years attending medical OPD of UCMS-TH at Bhairahawa, Rupandehi, Nepal. Face to face interview was done using semi-structured questionnaire for collecting required data. Questionnaire was translated into Nepali language and back translated to English language to find out misinterpretation if any. In a day 3-4 patients were interviewed by each researcher with a total of 12-13 patients in a day. Data were entered into Microsoft excel and exported to Statistical Package for Social Sciences (SPSS) software version 16 for analysis.

Data were analysed by using descriptive statistics such as frequency, percentage, mean and standard deviation and inferential statistics such as chi square test was used to find out the association between level of awareness regarding chronic kidney disease and selected variables. There was total 21 questions related to knowledge regarding chronic kidney disease. Level of awareness was classified on the basis of mean score i.e., 13.65. Those patients scoring <13.65 were categorized as low awareness level and those patients scoring ≥ 13.65 were categorized as high awareness level.

Administrative and ethical approval was obtained from Institutional Review Committee of UCMS-TH (UCMS/IRC /044/21). Researcher approached each respondent and took informed written consent by clarifying the purpose of the study prior to the data collection. Those patients who were willing to participate were included in the study. The privacy of the patients was maintained by interviewing the respondents in a quiet and separate place of the OPD.

RESULTS

A total of 165 respondents were included in the study, among them 42.5 % were in between the age of 51 to 60 years of age. Table 1 shows the socio-demographic variables of respondents. Regarding medical illness, 41.7% of respondents had hypertension, 25% had diabetes mellitus and 33.3% had thyroid problem. Similarly, 2.4% of respondents had problem of chronic kidney disease. Likewise, 7.9% of respondents had family history of chronic kidney disease.

Table 2. Respondents' socio-demographic variables

Variables	Frequency	Percentage
Age in years (n=165)		
20-30	24	14.5
31-40	34	20.6
41-50	37	22.4
51-60	70	42.5
Sex (n=165)		
Male	70	42.4
Female	95	57.6
Educational status (n=165)		
Can read and write	144	87.3
Cannot read and write	21	12.7
Educational level (n=144)		
Informal	6	3.6
Primary	65	39.4
Secondary	48	29.1
Bachelor or above	25	15.2
Occupation (n=165)		
Unemployed	42	25.5
Employed	123	74.5

Thirty percentage of the respondents answered reduction in kidney function over long time as meaning of chronic kidney. Regarding risk factors of the chronic kidney disease majority (88.5%) answered excessive alcohol consumption followed by smoking (81.8%), frequent use of analgesics (77.6%), obesity (67.3%), hypertension (65.5%), diabetes mellitus (64.2%), urinary tract infection (63.0%). Highest (82.4) percentage of the respondents answered fatigue and weakness, 81.2% of respondents answered changes in urine output, 78.2% answered swelling of feet and ankle, 61.2% of respondents answered haematuria and 59.4% of respondents answered chest pain and shortness of breath as clinical features of chronic kidney disease. Likewise, 87.3% and 38.2% of respondents answered chronic kidney disease is non-communicable and non-curable disease respectively. Awareness regarding clinical features of chronic kidney is shown in Table 2.

Table 2. Respondents' awareness regarding clinical features of chronic kidney disease (n=165)

Clinical Features*	Frequency	Percentage
Changes in urine output	62	37.5
Fatigue and weakness	42	25.4
Chest pain and shortness of breath	31	18.7
Swelling of feet and ankle	129	78.2
Hematuria	25	15.1

*Multiple responses

Almost half of the respondents (47.3%) answered blood test, 54.5% of respondents answered urine test and 40% answered video x-ray as investigation of chronic kidney disease. Ninety-two percentage of the respondents answered regular exercise, 90.9% of respondents answered cessation of smoking and alcohol, 80% of respondents answered regular health checkup, 73.3% of respondents answered control blood pressure and blood sugar, and 69.7% of respondents answered weight control as preventive measures of chronic kidney disease. Table 3 shows the respondents awareness regarding treatment of chronic kidney disease.

Table 3. Respondents' awareness regarding treatment of chronic kidney disease (n=165)

Treatment*	Frequency	Percentage
Only medicines cannot cure chronic kidney disease	100	60.6
Dialysis is treatment option for chronic kidney diseases that filters blood through machine	37	22.4
Kidney transplant is best treatment for chronic kidney disease	141	85.5

*Multiple responses

More than half (57.6%) of the respondents had low awareness level as shown in Table 4. The finding of the study showed 78.2% of respondents were aware that chronic kidney diseases as leading cause of death. Regarding complication, 79.4% of respondents answered chronic kidney disease can progress to kidney failure. The findings of the study showed that 15.8%, 20%, 20% and 44.2% of respondents' sources of information were friends, family members, media and health personnel respectively.

Table 4. Respondents' overall awareness level regarding chronic kidney diseases

Level of awareness	Frequency	Variables
High (≥13.59)	70	42.4
Low (<13.59)	95	57.6
Total	**165**	**100.0**

Mean score =13.59 Total score=20

There is statistically significant association between respondents' level of awareness and respondents' education status (p=0.026) as shown in Table 5.

Table 5. Association between respondents' level of awareness regarding chronic kidney diseases and socio demographic variables

Variables	Level of awareness		Test of association	*p*-value
	High No. (%)	Low No. (%)		
Age in years				
20-40	28(48.3)	30 (51.7)	1.116*	0.291
51-80	36 (33.3)	71 (66.7)		
Sex				
Male	23 (33.3)	47 (66.7)	1.116*	0.291
Female	46 (48.3)	49 (51.7)		
Educational Status				
Can read and write	52 (36.4)	92 (63.6)	4.940#	**0.026**
Cannot read and write	17 (83.3)	4 (16.7)		
Occupation				
Employed	50 (40.5)	73 (59.5)	0.124*	0.724
Unemployed	19 (46.2)	23 (53.8)		

Significant value p<0.05 #Likelihood ratio *Chi-square test

DISCUSSION

The study was conducted to identify awareness regarding chronic kidney diseases among adults in a hospital of Siddharthanagar Municipality, Rupandehi. The findings of the study showed that 67.3% of the respondents answered that obesity as a risk factor of chronic kidney disease. The finding is not consistent with the study[10] conducted in Saudi Arabia which shows that about 90% of the participants believed that obesity is one of the main risk factors for chronic kidney disease. The reason of this difference might be due to difference in educational level of the respondents. In the study[10] 49.1% of the respondents have received secondary education whereas in present study only 29.1% of the respondents have received secondary education. The findings of the study showed that 63% of respondents were aware that urinary tract infection as a risk factor of chronic kidney diseases. The finding is consistent with the study[11] conducted in Jimma, Ethiopia which shows that 59.3% were aware that urinary tract infection as risk factor of chronic kidney disease.

The finding of the study showed 78.2% of respondents were aware that swelling of feet and ankle as clinical features of the chronic kidney diseases. The finding is consistent with the study[12] conducted in Jordan which shows that 75% of respondents were aware that swollen feet and ankles as clinical features of chronic kidney diseases. The findings of the study showed 80% of respondents were aware that regular health checkup as the prevention of chronic kidney diseases. The finding is supported by the study[13] conducted in Gondar, Ethiopia which shows 85.7% of respondents were aware that regular health checkup as prevention of chronic kidney diseases.

The findings of the study showed 60.6% of respondents were aware that only medicine cannot cure chronic kidney diseases. The finding of the study is not consistent with the study[14] conducted in New Delhi, India which shows that 4.95% of respondents were aware that only medicine cannot cure chronic kidney diseases. This difference in the findings might be due to difference in the inclusion criteria of the respondents. The findings of the study showed that 22.4% of respondents were aware that dialysis as a treatment option for chronic kidney diseases which filters the blood through machine. The finding of the study is consistent with the study[6] conducted in Dhaka, Bangladesh which shows that 22% of respondents were aware that dialysis as a treatment option for chronic kidney diseases. The findings of the study showed that 85.5% of the respondents were aware that kidney transplantation as best treatment for chronic kidney diseases. The finding of the study is consistent with the study[6] conducted in Dhaka, Bangladesh which shows that 82% of respondents were aware that kidney transplantation as best treatment of chronic kidney diseases.

The findings of the study showed 79.4% of respondents were aware that chronic kidney diseases progress to kidney failure. The finding of the study is not consistent with the study[15] conducted in South West region in Ethiopia which shows 19% of the respondents are aware that chronic kidney diseases progress to chronic kidney failure. The finding of the study showed that 57.6% of respondents had overall low awareness level regarding chronic kidney diseases. The finding of the study is consistent with the study[6] conducted in Dhaka, Bangladesh which shows that 60% of the respondents had low awareness level regarding chronic kidney disease.

The findings of the study showed that 20% and 44.2% of respondents' sources of information were media and health personnel respectively. The finding of the study is not supported by the study[16] conducted in south-west Nigeria which shows that 59.3% and 35.3% of the respondents had heard of kidney disease from media and health workers respectively. The reason of this difference might be due to difference in educational level of the respondents. In the study[16] 30.3% of the respondents have received higher education whereas in present study only 15.2% of the respondents have received bachelor and above education.

CONCLUSION

It is concluded that more than half of the respondents have overall low level of awareness regarding chronic kidney diseases. Education level influences the awareness regarding chronic kidney diseases among adults. Regular health education program is beneficial to improve the awareness regarding chronic kidney disease which will help for early identification of the disease condition and will definitely help to reduce morbidity and mortality related to chronic kidney disease in future. Therefore, coordinated effort should be made by health care team to improve the awareness regarding the chronic kidney disease.

ACKNOWLEDGEMENTS

Researchers acknowledge all the participants of the study for providing their valuable time. Researchers are thankful to all those experts for providing their valuable judgment, constructive feedback and enlightening suggestions throughout the study.

CONFLICT OF INTEREST

None

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