



**ORIGINAL RESEARCH PAPER**

**Community Medicine**

**Situational Analysis of Chone Kindney Diseases among Women - A Study in Uddanam Region**

**KEY WORDS:** Chronic Kidney Disease, Morbidity, Mortality, Hypertension, Diabetic

**K. Mokshanand**

Lecturer cum Statistician, Department of Community Medicine, RIMS; Srikakulam-532 001

**Dr. D. Sai Sujatha**

Professor, Department of Population Studies & Social Work, Sri Venkateswara University; Tirupati-517 502

**ABSTRACT**

Chronic Kidney Diseases have become a major public health problem. Chronic diseases are a leading cause of morbidity and mortality in India and other low- and middle-income countries. The prime objective of the study is to know the food pattern, disease history of diabetes, Kidney Diseases among the women patients having CKD. In the present study, two fifths of the (39.62 percent) women were in the age between 31-40 years, more than half of the women (52.83 percent) were illiterates. Majority of the respondents (73.59 percent) have mixed food both vegetarian and non-vegetarian. Majority (78.30 percent) of the women have the history of diabetes. More than three fifths (61.32 percent) of the women were not having knowledge on the primary functions of kidneys, Major reasons for dialysis were observed to be hypertension and diabetes.

**INTRODUCTION**

Chronic diseases have become a major public health problem. The chronic diseases account for 60% of all deaths worldwide. Eighty percentages of chronic disease deaths worldwide occur in low- and middle income countries (WHO 2005).Chronic diseases are a leading cause of morbidity and mortality in India and other low- and middle-income countries. With increasing life expectancy and prevalence of life style diseases, US has seen a 30% increase in prevalence of chronic kidney disease (CKD) in the last decade (Coresh J. Et al.,2007) . Chronic kidney disease (CKD) is a worldwide public health problem, both for the number of patients and cost of treatment involved. Globally, CKD is the 12th cause of death and the 17th cause of disability, respectively. This is an underestimate as patients with CKD are more likely to die of cardiovascular disease (CVD) than to reach end-stage renal disease (ESRD). Approximately 30% of patients with diabetes mellitus (DM) have diabetic nephropathy and with the growing number of DM patients and aging population there is likely a parallel increase in CKD incidence. With increasing prevalence of CKD, CKD related excess CVD, ESRD and the consequent financial burden of renal replacement therapy (RRT), the importance of CKD and its risk factors has to be realized. The prevalence of ESRD and patients on RRT has increased over last two decades (Grassmann A et al., 2005).

In India, the projected number of deaths due to chronic disease was around 5.21 million in 2008 and is expected to rise to 7.63 million in 2020 (66.7% of all deaths) (Global Status Report On communicable Diseases 2010).Unfortunately, from India there is no longitudinal study and limited data on the prevalence of CKD. As per the Diabetes Atlas 2006, the number of patients with DM in India (currently around 40.9 million) is expected to rise to 69.9 million by 2025 unless urgent preventive measures are taken (Sicree R et al., 2006). In India, Andhra Pradesh has one of the states with more prevalence of CKD.

Hundreds of kidney patients have been leading a pathetic existence in Uddanam region of Srikakulam district in Andhra Pradesh, with poor medical infrastructure in their vicinity. Medical teams, including those from the Harvard Medical School and the Indian Council of Medical Research (ICMR), have conducted studies in vain over the concentration of chronic kidney diseases (CKD) in Itchapuram, Kaviti, Sompeta, Palasa, Mandasa and Vajrapukotturu mandals. The WHO has also identified Uddanam as one of the three places where kidney diseases are prevalent. It is estimated 4,500 patients died in last 10 years and around 34,000 people are currently suffering from kidney diseases. One can find at least one patient in each family in places like Uddanam Ramakrishnapuram, Sinooru, Lohalibanda villages in Vajrapu Kotturu (M), Lohalibanda, Limbugam, Gollapalem villeges in Mandasa(M) Gollamakannapalli and Mamidipalli villages in Palasa (M).

The prime objective of the study to know the food pattern, disease history of diabetes, source of referral and type of treatment and awareness on knowledge and cause of Chronic Kidney Diseases among the women patients having CKD. The study has been carried out with 106 females attending Dialysis unit in RIMS Medical college, Srikakulam district of Andhra Pradesh through purposive sampling method.

**RESULTS & DISCUSSION**

**1. SOCIO-DEMOGRAPHIC PROFILE**

In the present study, two fifths of the (39.62 percent) women were in the age between 31-40 years, followed by one fourths (24.53 percent) with in 21-30 years and less than one fifth (16.04 percent) were in age of less than 20 years. Very minor proportions (10.38 percent) of the women were in the age group of 51 and above (10.38 percent) and 41-50 years (9.43 percent). More than half of the women (52.83 percent) were illiterates, followed by more than one quarter (29.24 percent) were with primary education and a minor proportion with secondary education (12.26 percent). A very minor proportion (5.66 percent) of them were with intermediate and above level of education. G. Vishal Rao et al., (2016) in their study revealed that most of the patients belonging to 43 mandals of Prakasam district have been utilizing the dialysis services, among these maximum numbers of cases were from Ongole and Kandukuru divisions. Out of the total cases interviewed 78 were males and 22 were females. Most of the patients (62%) were illiterate, 17% completed up to 10th standard. Before getting dialysis 51% of the patients were involved in the agriculture labour work, 14% of them were involved in non-agriculture daily wage labour work. Among the females 50% were going for the labour work.

Table.1 Socio-demographic profile of the Women

AGE	Number of respondents	Percentage
<=20	17	16.04
21-30	26	24.53
31-40	42	39.62
41-50	10	9.43
51 & Above	11	10.38
<b>EDUCATION</b>		
Illiterate	56	52.83
Primary	31	29.24
Secondary	13	12.26
Inter & above	6	5.66
<b>OCCUPATION</b>		
Employee	11	10.38
House wife	16	15.09
Agricultural labours	79	74.53

**METHODOLOGY**

INCOME		
<4000	11	10.38
4000-8000	62	58.49
8000-12000	18	16.98
12000 & above	15	14.15
Total	106	100.00

Occupation of the respondents revealed that three fourths (74.53 percent) of them worked as agricultural labours for their survival, as against less than one fifth (15.09 percent) as house wives and a lesser proportion were employees (10.38 percent). Family income of the women with CKD problems shows that around three fifths (58.49 percent) of them were with an income of Rs. 4000-8000/- per month, followed by less than one fifths (16.98 percent) with an income of Rs. 8000-12000/- and slightly lesser number with an income of Rs. 12000/- and above per month. Minor proportions (10.38 percent) of the women were with an income of Rs. 4000/- per month.

**2. DIET PATTERN**

Majority of the respondents (73.59 percent) have mixed food both vegetarian and non-vegetarian, as against more than a quarter (26.41 percent) with only vegetarian food. Among those having mixed food it has been observed that more than half (53.85 percent) of the women consume salty fish/pickles/non-vegetarian food more than three times a week, as against around one fourth (23.08 percent) consume occasionally and less than three times (14.10 percent) in the present study.

Table No.2 Diet Pattern and Frequency of intake by the Respondents

Diet	Number of respondents	Percentage
Veg	28	26.41
Mixed	78	73.59
Total	106	100.00
Consumption of Salt Fish / Pickles/ Non-veg		
< 3times per week	11	14.10
> 3times per week	49	62.82
occasionally	18	23.08
Total	78	100.00

**3. HISTORY OF DIABETES AND HYPERTENSION**

Majority (78.30 percent) of the women have the history of diabetes as against one fifths (21.70 percent) were not having any family history of diabetes. Disease history of hypertension revealed that around three fifths (58.49 percent) of the women have the problem of hypertension and remaining two fifths (41.51 percent) of them were not having. G. Vishal Rao et al., (2016) in this study identified the reasons of the patients admitted for the dialysis. The common causes were hypertension only- 39%, diabetes and hypertension-20% and due to diabetes only-8% and pain killers were also contributed to 8% of the cases.

Table No.3 History of Diabetes and Hypertension of the Respondents

Disease history Diabetes	Number of Respondents	Percentage
Yes	83	78.30
No	23	21.70
Total	106	100.00
Disease History Hypertension		
Yes	62	58.49
No	44	41.51
Total	106	100.00

**4. KNOWLEDGE ON CAUSE OF CKD**

Around two thirds (66.03 percent) of the women were not having any knowledge about the cause for chronic kidney diseases, as against only one third (33.96 percent) were aware of the causes/influencing factors for kidney diseases. Reasons of the CKD among the women not having awareness revealed that more than half of the women (55.71 percent) stated illiteracy as the major reason, followed by less than one third (30.00 percent) lack of awareness as their reason and (14.29 percent) uncertain about the reasons for not having knowledge.

Table.4 Knowledge on Cause and Reason for not aware

Knowledge	No of Respondents	Percentage
Yes	36	33.96
No	70	66.03
Total	106	100.00
Reason for not having knowledge		
Illiteracy	39	55.71
Lack of awareness	21	30.00
Uncertain	10	14.29
Total	70	100.00

**5. KNOWLEDGE ABOUT PRIMARY FUNCTIONS OF KIDNEYS**

More than three fifths (61.32 percent) of the women were not having knowledge on the primary functions of kidneys, as against the remaining two fifths (38.67 percent) of the respondents were having knowledge about the primary functions of kidney. The knowledge of the respondents on functions of kidney stated that, two fifths (39.02 percent) of them states kidneys regulate water value, followed by more than a quarter (26.82 percent) stated waste removal in urine and only one fifth (19.51 percent) stated removal of waste from the blood. A minor proportion of the sample (14.64 percent) stated that regulating the blood pressure as the function of kidneys. Knowledge of three basic functions of the kidneys was sought for and responses were as shown the study conducted by C. G. Okwuonu et al (2015) among Nigerians revealed that 26.6% of respondents were able to identify at least two of these functions. Only 7.1% of respondents correctly identified all three basic renal functions. There was a significant but weak positive correlation between educational level of respondents and their knowledge of basic renal functions.

Table. 5 Knowledge on Primary Functions of Kidneys by the Respondents

Knowledge Primary Functions of Kidneys	Number of Respondents	Percentage
Yes	41	38.67
No	65	61.32
Total	106	100.00
Knowledge about Functions of Kidney		
Waste removal in urine	11	26.82
Removal of waste from blood	8	19.51
Regulate water value	16	39.02
Regulation of BP	6	14.64
Total	41	100.00

**CONCLUSION AND IMPLICATIONS**

Most of the women attending the renal dialysis centre of RIMS medical college and hospital Srikakulam were illiterates and involved in agriculture and labour work. Major reasons for dialysis were observed to be hypertension and diabetes. Early diagnosis and treatment of the underlying reasons for chronic kidney disease will be helpful for planning of primary and secondary preventive measures is essential in patients with CKD. Health care staff and doctors working in renal dialysis units need to create more awareness to the patients about recommended consumable and non-consumable food items and also renal dietary practices. The need to educate patients in order to enable them to participate in making appropriate choices for all therapeutic options in end stage

renal disease would seem obvious yet there are many barriers to providing such information.

Particular emphasis need to be placed on developing educational programs for those patients who are not able to benefit from existing programs. Thus, the barriers to providing effective education programs to CKD patients deserves more detailed study and investigation, with particular emphasis on developing educational programs. Future studies may well want to address the impact of patient education programs on actual rather than perceived knowledge on CKD patients.

- Ensure patient awareness of CKD diagnosis with local languages through the IEC sessions.
- "Know your numbers"- make patients aware of their kidney function (eGFR and creatinine) and blood pressure goals
- Provide familiarity with the need for screening and treatment of diabetes, hypertension
- Encourage patients to talk with their primary care physician, nephrologist or pharmacist before starting new medications to ensure safety and appropriate renal dosing
- Promote lifestyle modifications of Diet, with special attention to sodium, potassium and phosphorus intake
  - Regular exercise
  - Maintain a healthy body weight
  - Immunizations
  - Tobacco cessation

#### REFERENCES:

1. Chow WL, Joshi VD, Tin AS, van der Erf S, Lim JF, Swah TS. et al. Limited knowledge of chronic kidney disease among primary care patients--a cross-sectional survey. *BMC Nephrol.* 2012;13:54. doi: 10.1186/1471-2369-13-54.
2. Coresh J, Selvin E, Stevens LA, Manzi J, Kusek JW, Eggers P, et al. Prevalence of chronic kidney disease in the United States. *JAMA.* 2007;298:2038-47. [PubMed]
3. Global status report on noncommunicable diseases (2010). [online] Available from [www.who.int/nmh/publications/ncd\\_report\\_full\\_en.pdf](http://www.who.int/nmh/publications/ncd_report_full_en.pdf). [Accessed September, 2012].
4. Grassmann A, Gioberge S, Moeller S, et al. ESRD patients in 2004: global overview of patient numbers, treatment modalities and associated trends. *Nephrol Dial Transplant.* 2005;20(12):2587-93.
5. Okwuonu C. G., I. I. Chukwuonye, S. O. Ogah, C. Abali, O. A. Adejumo, and E. Oviasu (2015) Awareness level of kidney functions and diseases among adults in a Nigerian population.
6. Sicree R, Shaw J, Zimmet P. Diabetes and impaired glucose tolerance. In: Gan D (Ed). *Diabetes Atlas*, 3rd edition. Brussels: International Diabetes Federation; 2006. pp. 15-109.
7. G. Vishal Rao et al (2016) Reason analysis for the causes of chronic kidney disease cases admitted in dialysis unit, satisfaction and their awareness and practices about restrictions in their dietary intake; *International Journal of Community Medicine and Public Health* Rao GV et al. *Int J Community Med Public Health.* 2016 May;3(5):1020-1026; pISSN 2394-6032 | eISSN 2394-6040.
8. World Health Organization: *Preventing Chronic Disease: A Vital Investment.* Geneva, WHO, 2005.