Qualitative Research Journal

A qualitative analysis of the impact of government schemes on chronic kidney disease patients in Uddanam, India

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Abstract

Purpose – This paper presents an analytic report, with precise scientific rigor, the positive impact of the government's welfare schemes and the areas that need urgent public policy intervention.

Design/methodology/approach – Uddanam, Srikakulam in Andhra Pradesh, a conglomeration of an apportioned group of villages, grapples with a severe and mysterious kidney disease epidemic since the 1980s, affecting agricultural communities. The region, which was once fondly called "Udyanam," translated as "Garden," for its richness in greenery and cashew and coconut trees, has now become "Uddanam," the land of death and despair. The residents of the region suffer with high rates of kidney failure and associated health complications for factors including environmental toxins and poor water quality. Despite several efforts by governments, the impact of governmental policy on improving the conditions has been non-significant. The problem has been taken into sincere and serious consideration by the present Government of Andhra Pradesh which introduced ground-breaking welfare initiatives to impede the prevalence of the disease and the deaths among patients. This paper presents an analytic report, with precise scientific rigor, the positive impact of the government's welfare schemes, and the areas that need urgent public policy intervention.

Findings – This paper is the first to identify that out of the total of 942 CKD patients interviewed uniformly at random from the Uddanam mandals, a majority of 86.06%, who belong to advanced stages, receive advanced governmental (free) medical care, and soon succumb to the disease, and a minority of 13.94%, who belong to early stages of the disease, do not benefit directly from government welfare schemes, and hence perpetually proceed to advanced stages.

Research limitations/implications – The qualitative study conducted in this paper is not fully exhaustive; however, the samples are taken uniformly at random from the entire region of influence, which renders the results credible.

Practical implications – The key findings of this paper will provide a scientific basis for governmental and private health institutions to focus for providing sophisticated medical care for early state CKD patients to further mitigate the mortality rate due to the disease in Uddanam.

Social implications – This paper shall create a positive social impact of the CKD handling measures taken by governmental and private agencies, and will bring to light the most impending issues that need immediate address, which are of great concern to the international community and media.

Originality/value – This paper is original and the contributions and findings presented herein have not been presented by anyone elsewhere. This paper is also the first to cojoin the impact of medical treatment for CKD at Uddanam and the use of digital technology, e.g. online consultation, online reports, etc.

Keywords Chronic kidney disease, Uddanam, Government welfare schemes, Free dialysis, Public health policy, Society

Paper type Research paper

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Data availability: Survey data are made available in raw format in Appendix

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1. Introduction

The Uddanam region in the Srikakulam district of Andhra Pradesh, India, has gained significant attention in recent years due to the high prevalence of chronic kidney disease (CKD) among its residents. The region has been identified as one of the global hot spots for CKD of unknown origin (CKDu), characterized by its disproportionate impact on agricultural communities. The multi-factorial etiology of CKD in Uddanam, including environmental, occupational and socio-economic factors, presents complex challenges for disease management and prevention. Understanding the epidemiology and risk factors associated with CKD in Uddanam is crucial for designing targeted interventions and healthcare policies to mitigate its impact on affected communities. Furthermore, investigating the genetic, environmental and lifestyle factors contributing to the high prevalence of CKD in Uddanam can provide valuable insights into the broader implications of kidney disease on a global scale. Efforts to address the CKD epidemic in Uddanam require a multidisciplinary approach, involving collaboration between healthcare professionals, researchers, policymakers and community stakeholders. By elucidating the significance of Uddanam Srikakulam in the context of CKD research, this paper underscores the ambivalent impact of the Andhra Pradesh Government schemes in mitigating its prevalence in the region and the public health interventions and research initiatives aimed at addressing the underlying determinants of kidney disease in affected populations. The rest of the paper is organized as follows. Section 2 presents the historical perspective of CKD, its prevalence in Uddanam villages, relevant research and the government initiatives to counter the same. Section 3 sets the motivation for the survey and discusses the preliminaries and the methods thereof. Section 4 presents the ambivalent impact of the current government schemes on the CKD patients of Uddanam. This is followed by the proposal of public policy measures to counter the identified snags in section 5 and the concluding remarks in section 6.

2. Historical perspective and related work

The historical aspect of the CKD in Uddanam, Srikakulam, dates back several decades, with reports of kidney-related health issues emerging as early as the 1980s (Geladari *et al*., 2023; Kakitapalli *et al*., 2020). However, the prevalence of CKD gained significant attention in the early 2000s when it was recognized as a widespread health crisis affecting a large portion of the population, particularly in the agricultural communities of Uddanam. The condition was characterized by a high incidence of kidney failure and related complications among residents (Bharati and Jha, 2021), leading to a substantial burden on healthcare resources and significant socio-economic impacts on affected families. The historical aspect of CKD in Uddanam is marked by the gradual recognition of its scale and severity over time. Several factors have been proposed as potential contributors to the development of CKD in Uddanam, including environmental toxins, poor water quality, agricultural chemicals, and socio-economic factors such as poverty and lack of access to healthcare (Subramanian and Javaid, 2017). The historical context of CKD in Uddanam underscores the complexity of the disease and the challenges associated with identifying its underlying causes. Over the years, various governmental and non-governmental organizations have initiated efforts to address the CKD crisis in Uddanam (Babu, 2017). The first fruits of these initiatives along with the most rigorous government schemes proposed in the past three years are now bearing in the leadership of Hon. Chief Minister, Government of Andhra Pradesh, for initiatives including health screening programs, research studies, infrastructure development, subsidies and public awareness campaigns. This paper aims to bring to light the two-sided impact of these initiatives in the past three years. The Uddanam, Srikakulam, is so plagued by the disease that nearly 30% of the total population suffers from the disease (Tatapudi *et al*., 2019; Kumar *et al*., 2019). The majority of the research outcome on the CKD problem of Uddanam, Srikakulam, is focused on testing the quality of ground water and establishing the cause for the disease (Kumar *et al*., 2021; Lal *et al*., 2020; Satyanarayana *et al*., 2017; Reddy and Gunasekar, 2013).

There has been strong experimental evidence that concludes that the presence of high levels of heavy metals including cadmium in the ground water and the extensive use of pesticides is a general cause for the prevalence of CKD (Keesari *et al*., 2020). Other work includes detecting specific gene variants that cause a high risk of prevalence of CKD (Chambers *et al*., 2010). Despite the extensive research, the disease continues to plague the region. Although the research into the cause and effect of the CKD in Uddanam is extensive and exhaustive, there is less work on the relevant public health and policy measures. For example, several governmental health and welfare schemes have been proposed for CKD patients in Uddanam in the context of their socio-economic standards, including free dialysis, health awareness camps, free medication, etc. in Ganguli (2016) and Smyth *et al*. (2023). There have been propositions to include community engagement and public inclusion policy for effective tackling of the situation by the governments (Oommen *et al.*, 2021). Based on the fact that research into the etiology of CKD is still underway, there is an increased need for more public policy initiatives to impede its effect on the residents (Trivedi and Kumar, 2023). The uncontrolled prevalence of the diseased called for development of sophisticated research cum health centres (hospitals) that co-jointly conduct research and also provide quality treatment to the patients. To this effect, the Government of Andhra Pradesh instituted the YSR Sujaladhara Uddanam Drinking Water Project (Srinivasa Rao, 2023) in collaboration with Megha Engineering to promote the use of purified mineral water over ground water. The water is supplied at subsidized prices and residents are strongly encouraged to stop drinking ground water.

Several research agencies and institutions have been involved in studying CKD in Uddanam, Srikakulam. Some of these include (1) the Indian Council of Medical Research (ICMR) for conducting epidemiological studies and research projects to understand the prevalence, etiology and risk factors associated with CKD, (2) the National Institute of Nutrition (NIN) (Gupta *et al*., 2022) for conducting research on the nutritional aspects and dietary factors related to CKD in Uddanam, (3) Achutha Menon Centre for Health Science Studies (AMCHSS) for studies focusing on the epidemiology and public health aspects of CKD in Uddanam and (d) the Andhra University (Rao, 2022) for conducting collaborative studies on genetic predisposition and public policy. The prevalence of Uddanam was instrumental in evolving "hospitals" into "research hospitals", research hospitals including the KIMS-ICON kidney research foundation, the Apollo hospitals, Government hospitals and diagnostic centers and the recently established Dr YSR Kidney Research Centre and Super Specialty Hospital, Palasa, actively collaborate with local healthcare providers, government bodies, and international organizations to conduct multidisciplinary research and provide quality medical care to CKD patients (Subramanian and Javaid, 2023). The government has initiated several welfare schemes, in addition to the research medical facilities, including Arogyasri, free dialysis, free medication and monetary benefit of INR 10,000 (Rupees Ten Thousand) per month, to intersect the benefits of medical care and governmental assistance. A precise ambivalent analytic conclusion of the impact of the said initiatives in the past three years is not available to date. The next section presents the details of the survey.

3. Survey details

This section first presents the motivation for the survey and then the data preliminaries.

3.1 Motivation for the survey

The promulgation of research hospitals and welfare schemes in Uddanam in the current government's regime had positively impacted the lives of many CKD affected families in Uddanam. All hospitals and diagnostic centers have been upgraded with state-of- the-art facilities for dialysis. The Hon. Chief Minister of Andhra Pradesh recently opened the Dr YSR Kidney Research Centre and Super Specialty Hospital, Palasa, for specialized care of CKD

patients. Moreover, the government also initiated a water supply plant, the YSR Sujaladhara Uddanam Drinking Water Project, in collaboration with Megha Engineering and Infrastructure

Defn. 3.1. Objective of the Government of Andhra Pradesh

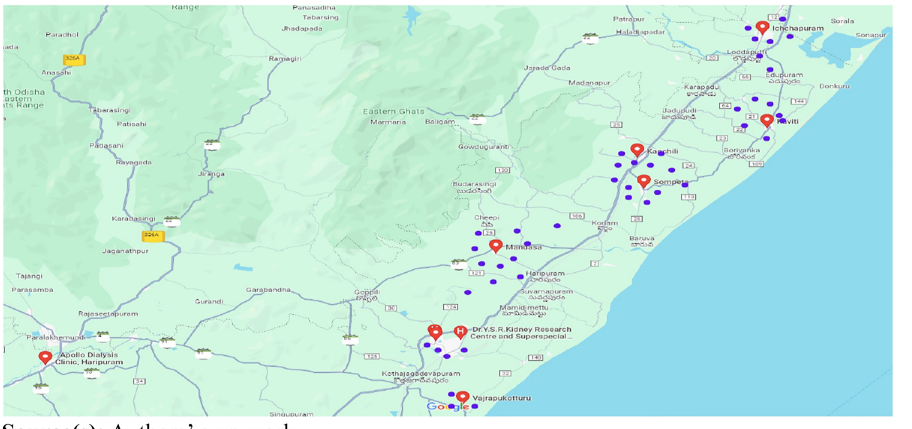
In his inaugural speech of the opening of Dr YSR Kidney Research Centre and Super Specialty Hospital, Hon. Chief Minister, Government of Andhra Pradesh said that the motto of the government is to ensure that no eligible soul in Uddanam should lose on the benefits of the government schemes.

Limited (MEIL) for a total budget of 700 crore rupees. The government topped the medical facilities with liberal welfare schemes in way of free dialysis and medication.

In light of the sincere and serious efforts of the government in the past five years, a detailed statistical analysis of the positive, negative and missing aspects of governmental assistance in eradicating the prevalence of CKD and treating its victims is not available as a public article to date. This survey aims to fill the gap by statistically measuring the aforementioned objective of the Government of Andhra Pradesh and present the ambivalent impact of government schemes in terms of both medical and welfare assistance.

3.2 Survey preliminaries

The survey was conducted in 72 villages of the Srikakulam District, spanning several mandalas, namely, Palasa, Ichapuram, Kanchili, Sompeta, Kaviti, Mandasa and Vajrapu Kotturu, which have been seriously affected by the CKD. The data presented herein correspond to our survey conducted over three months and culminated on 14-02-2024. During the survey, we have personally visited several medical facilities including the Government Hospital, Palasa, Dialysis Centre, Haripuram and the highly acclaimed Dr YSR Kidney Research Centre and Super Specialty Hospital, Palasa recently inaugurated on 15-12-2023 by, Hon. Chief Minister, Government of Andhra Pradesh. The total number of CKD patients surveyed, i.e. the sample size, is 942, selected at absolute value [1] but randomly and uniformly from the aforementioned mandalas. Figure 1 shows the spatial distribution of the villages and



Source(s): Authors' own work

Figure 1. The geographical distribution of the sample candidates surveyed at random but uniformly from the aforementioned mandalas of Uddanam, Srikakulam

medical centres visited to interview the CKD patients. The shown Uddanam region spans nearly 300 kilometers. The questionnaire and the raw statistical report are shown in Appendix. In the sequel, we discuss the manifestation of CKD within the patients as a statistical characterization of their gender and the stage of the disease. We also discuss the statistical impact of the governmental schemes.

4. The impact of government schemes

In this section, we present the key statistical features of the survey. Of the 942 individuals, 71% (669) are male and 29% (273) are female, shown in Figure 2. Nearly 81.8% of the total number of CKD patients surveyed are aged 45 years and more. Of the total sample size, 9.7% are in stage one, 35.15% in stage two, 41.21% in stage three, 2.42% in stage four and 11.52% in stage five. This is shown in Figure 3.

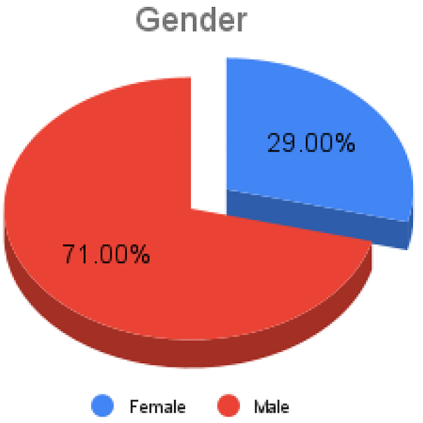


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Figure 2. The gender distribution of the total number of CKD patients interviewed in Uddanam, Srikakulam

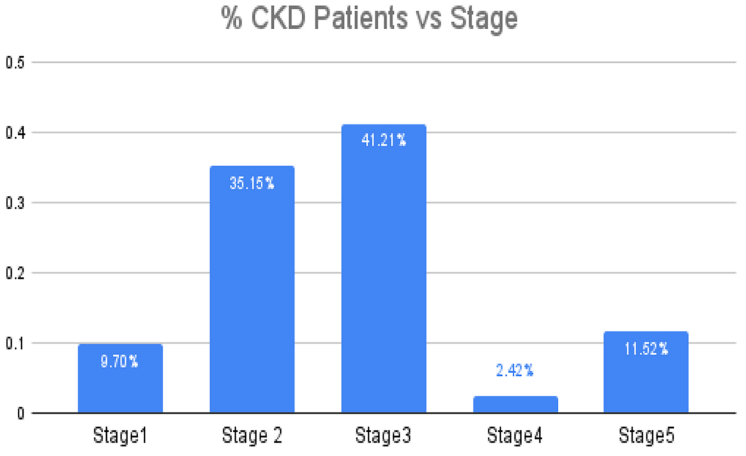

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Figure 3. The stage-wise distribution of the total number of CKD patients

The creatinine levels of CKD patients interviewed ranged from 0.9 to 10.0 which is indicative of the fact that a controlled value of the creatinine does not necessarily ensure perpetual good health to the person. It has also been found that the progression of the severity of the CKD in both genders is synonymous with respect to both the sample size and the gender size. This trend can be observed in Figure 4. It can be observed that the proportion of people who advance to the final stages of the disease is higher in men than women. Women, on the other hand, who are a 1/3rd proportion of the total number of CKD infections, advance through stages one, two and three of the disease rapidly, but may not advance as much thereafter. This trend is in concurrence to the findings that the chances of the CKD advancing towards kidney failure are higher in men than women. A possible reason for this could be the presence of high testosterone and less estrogen (Amiri *et al*., 2020). Additionally, 67.8% of the people expressed their satisfaction about government reach to them through Asha workers, Village Volunteers and Gram Sachivalayam in aiding with respect to disease awareness and governmental assistance.

Based on the above findings, we infer that the number of people under 45 years of age who have been contracted with the CKD are only about 18% of the total sample size. This indicates that the number of CKD patients has seen a decreasing trend in the past 3 years as the Government of Andhra Pradesh has rigorously encouraged the use of purified mineral water over ground water. People are now being supplied with mineral water for a subsidized price of

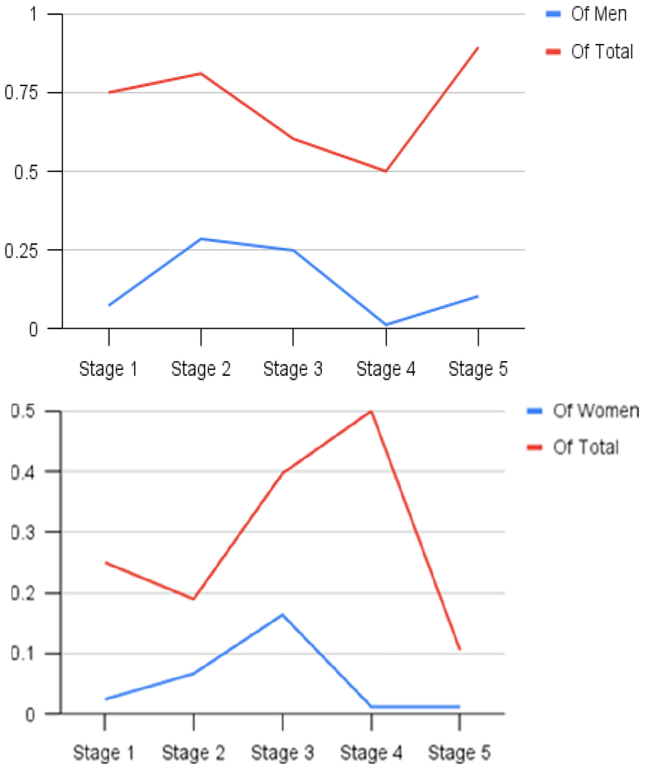

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Figure 4. The top panel shows the ratio of men affected with CKD with respect to the total sample size (red) and the total number of men (blue) as a function of the stage of the disease. The bottom panel shows the ratio of the women affected with CKD with respect to the total sample size (red) and the total number of women (blue) as a function of the stage of the disease

nearly INR 5.00 (Rupees Five Only) or less for 40 liters can. The YSR Sujaladhara Uddanam Drinking Water Project has been instrumental in supplying fresh mineral water round the year irrespective of the weather conditions to all the villages affected by CKD. While supplying mineral water has reduced the proportion of CKD detection in the past three years, the government welfare schemes such as free dialysis, free medication for CKD affected patients has prolonged their lives. There are people who undergo free dialysis nearly thrice every week with a hope they shall live another day.

4.1 Challenges

Despite the tremendous contribution of the government in providing medical care to current patients, there are certain aspects brought to light from our research survey that could create an impact in saving more lives than now. In this section, we present the data for the same. From our research survey, it has been surprisingly found that of the total sample size of 942 interviewed CKD patients, only 13.27% (125 Nos.) have recorded that they have benefited directly from government welfare schemes while the remaining 86.73% (817 Nos.) recorded in the negative, as shown in Figure 5.

Of the 125 people who have benefited, 13.6% belong to stage four and the remaining 86.4% to stage five. There are no patients in stages one, two and three who have answered in the positive for having benefited from the government schemes. Of the 817 people who reportedly have not benefited, 11.18% belong to stage one, 40.55% to stage two, 47.55% to stage three and 0.06% to stage four. There are no patients in stage five. The said data are shown in Figure 6.

This data have caused much surprise, to the extent that we did a second level survey by interviewing candidates randomly from among the both categories, which seconded the findings. As a concurrence for the above findings, when asked how the government could assist the CKD patients, 51.75% requested for advanced medication in early stages, 45.61% requested for more CKD awareness programs and the remaining requested for financial assistance for long travel. Moreover, almost all patients suggested that the medicines prescribed by the doctors are unavailable in the list of medicines provided for free by the government, and they are burdened by around INR 5,000 (Rupees Five Thousand) to INR 10,000 (Rupees Ten Thousand). This infers that CKD patients in stages four and five are the ones benefiting from government welfare schemes while those in stages one, two and three are reportedly not benefiting to their satisfaction from government schemes. As an indication of more concurrence to the finding, only 14.85% indicated that they have been personally benefited from

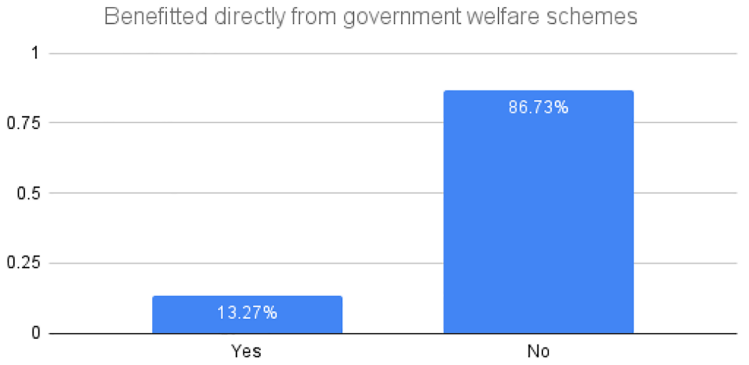

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Figure 5. The % of CKD patients who voted in positive and in negative for receiving benefit from the government as welfare schemes

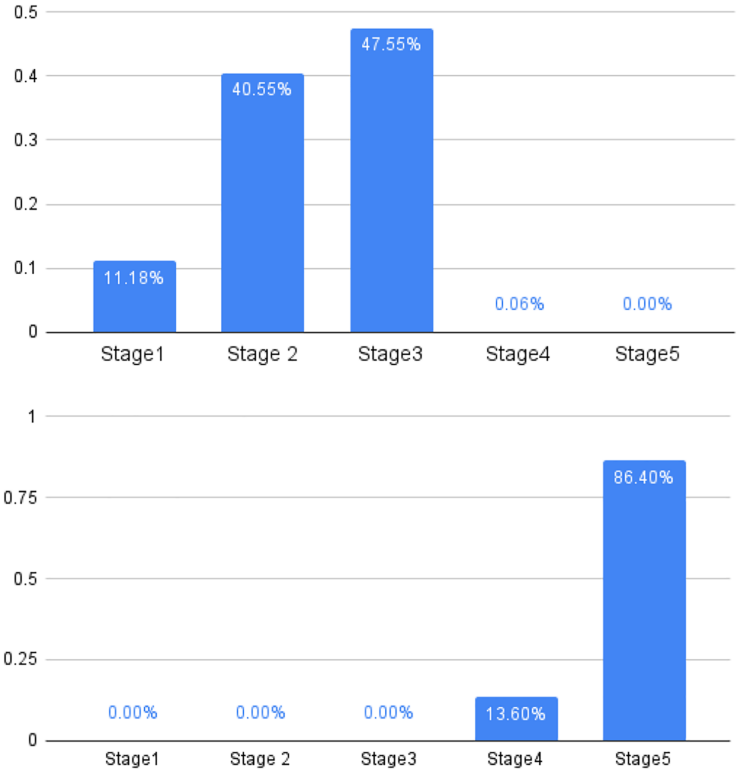

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Figure 6. The top panel shows the % of CKD patients who did not receive any government benefit versus the stage of the disease. The bottom panel shows the % of CKD patients who received any government benefit versus the stage of the disease

government schemes, meaning that nearly 84% of the people, especially those belonging to stages one, two and three, have not received any perceivable government assistance. Moreover, as mentioned in section 4, nearly 67% of the people have received support directly through government health support staff, it is indeed a surprise that only 11% of the total candidates interviewed are benefiting from the use of digital technology for purposes including remote consultation, online verification of medical records, online reception of medical test results, online payments, etc.

It has been found that the people are used to receiving help in terms of governmental schemes, awareness, etc. through only governmental health workers who themselves are incapacitated to travel long distances and reach out stage 4 patients who should be isolated. The penetration of technology to rural population requires a deeper and stronger push from government and non-government agencies. This is in line with our discovery that only 2.27% of the people interviewed have good access to technology. The route to achieve higher digital penetration is through more physical awareness camps that reach the doorsteps of the people. When the final stage patients have been asked what best can be done at that stage, we have observed that most of them have made peace with themselves (which was an emotional ordeal for us) and 11% of them requested for financial assistance to their spouses or children and most of them for financial aid to early-stage patients.

5. Key inferences and proposed policies

Based on the above findings, it could be inferred that the patients suffering from CKD stage three and four, for whom the creatinine levels would be in the range 5.0–10.0 and for whom the chances for survival are minuscule, are being provided the expensive dialysis cum medication treatment for free by the government. While this is commendable, the proportion of people benefited from this is only 13.94% of the total sample size. This perfectly corroborates that only 13.3% reported of having benefited directly from government welfare schemes. It is also the case that most of the people who benefit from free dialysis in their advanced stages of CKD eventually succumb to the disease. On the other hand, a large proportion of people, i.e. nearly 86.06% suffering from stage one, two and three of the CKD but not requiring any dialysis, are not benefiting in a major sense. This perfectly corroborates that a whopping 89.6% reported of having not benefited directly from government welfare schemes. That is to say, there is a great scope for the government to provide advanced medical facility for free to CKD patients in their early stages to increase their chances of survival. The key inferences of this paper are outlined as follows,

(1) The increased use of mineral water over ground water has caused a decreased record of the number of CKD cases in the past three years.

(2) The government reach to CKD patients through health workers and Sachivalayam have found much reach to the patients with respect to creating awareness about government welfare schemes.

(3) The free dialysis provided by the government to advanced stage CKD patients has been a boon by increasing their lifespan.

(4) The government welfare schemes are majorly benefiting patients who are in advanced stages of the disease. Despite the expensive dialysis and medication provided for free by the government, these patients, in most cases, eventually succumb to the disease.

(5) There is an immediate need for government intervention and allocation of fund for welfare schemes for patients in their early stage of CKD so their progression towards advanced stage is decelerated or prohibited.

Our research, as summarized above, has identified the positive impact and hope instilled by the Government of Andhra Pradesh in (1) deterring the prevalence of the disease by providing mineral water and (2) providing advanced medical treatment to patients in advanced stages of the disease. First, this paper identifies the void in providing advanced medical care to patients in early stages of CKD as a statistical measure of their age, gender and stage of the disease. Therefore, there is an immediate need for providing advanced medical care to patients in early stages of their disease. From the survey, we observe the following: (1) it is critical to start advanced medication to patients in their early stages of the disease in order to impede the progression towards advanced stages, (2) it is also critical to ensure that the advanced medication prescribed by the doctors is available within the free medication list, (3) most importantly, the government should regulate the prescriptions of doctors to within the free medicines list and ensure private parties are not profited as the expense of a poor man's disease, (4) the number of super specialty hospitals is few for the wide range of Uddanam region and so the government should focus on providing free transport to patients or increasing the number of medical health outlets, (5) it is undoubtedly a surprise that fruit of digital technology has not reached the far corners of Uddanam, hence the government should take measures to increase the promulgation of the use of smart mobile phones by the patients for medical issues, and (f) the government should regularly organize awareness camps on the severity of the disease so even the slightest symptom of CKD will not go unnoticed. To summarize, this paper suggests the following public policy measures to be initiated by the government to overcome the challenges identified hitherto,

(1) Provide free medication and diagnostic facilities for continuous monitoring of creatinine for early-stage patients.

(2) Provide fully free public and private transport to CKD patients to visit the hospital regularly.

(3) Conduct regular awareness camps at the village level for patients and their families to understand the implications of CKD and the available governmental assistance.

(4) To promulgate the use of technology by giving free smartphones for receiving medical reports, consulting the doctor using web apps, etc.

6. Conclusion

This paper is the first to statistically measure the impact of medical and welfare schemes of the Government of Andhra Pradesh in prohibiting the prevalence of CKD in Uddanam villages and the treatment provided to its patients in the past three years. This paper primarily identified that the majority of the current government schemes are targeted towards free dialysis to patients who are in advanced stages of the disease while a minor proportion is allocated to those in their early stages. Public policy and health measures to address the problem are herein proposed in concurrence with the opportunities and challenges of the region. Additionally, this paper presented the reach of both the government and technology in reaching the people directly for medical benefit.

Notes

1. Absolute value means that all the 942 sample candidates are CKD patients.

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(The Appendix follows overleaf)

Appendix
Survey report

Personal details

(1) Gender
- Male – 71%
- Female – 29%

(2) Age
- < 18 years – 0.61%
- 18–30 years – 3.64%
- 31–45 years – 13.94%
- 46–60 years – 47.88%
- > 60 years – 33.94%

(3) Occupation
- Farmer – 40.13%
- Agricultural laborer – 32.24%
- Non-agricultural laborer – 23.68%
- Others – 3.95%

(4) Education level
- No formal education – 49.70%
- Primary school – 40.06%
- Secondary school – 7.82%
- College/University – 2.42%

Health profile

(1) Do you have any known kidney-related health issues?
- Yes – 100%
- No – 0%

(2) Have you been diagnosed with CKD?
- Yes – 100%
- No – 0%

(3) If yes, what stage of CKD have you been diagnosed with?
- Stage 1 – 9.7%
- Stage 2 – 35.15%
- Stage 3 – 41.21%
- Stage 4 – 2.42%
- Stage 5 – 11.52%

(4) Do you have a family history of kidney disease?
- Yes – 3.13%
- No – 96.88%

(5) What are the early symptoms of your disease?
- Swelling in your hands or feet – 55.56%
- Urinary tract infections – 32.10%
- Blood in urine – 0.61%
- Kidney damage shown in scans – 11.73%

Lifestyle and habits

(1) Do you consume well water for drinking purposes?
- Yes – 14.2%
- No – 85.8%

(2) How many liters of water do you consume per day on average?
- < 1 – 49.08%
- 1–2 – 41.11%
- 2–3 – 7.36%
- > 3–2.45%

(3) Do you consume alcohol?
- Yes – 93.94%
- No – 6.06%

(4) Do you smoke tobacco or use any other forms of tobacco?
- Yes – 93.33%
- No – 6.67%

(5) How often do you exercise per week?
- None – 83.64% (but they all work hard)
- 1–2 times – 16.4%
- 3–4 times – 0%
- 5 or more times – 0%

(6) How often do you consume processed or fast food per week?
- Never – 29.7%
- Rarely – 62.42%
- Occasionally – 7.27%
- Frequently – 0.61%

Treatment, health care and awareness

(1) Are you aware of CKD and its symptoms?
- Yes – 64.42%

- No – 35.58%

(2) Are you aware of any government health initiatives specifically aimed at addressing CKD in your region, especially the Uddanam Kidney Hospital and Research Center?

- Yes – 62.96%
- No – 37.08%

(3) If yes, please specify the initiatives you are aware of:

- Free dialysis – 91.18%
- Free medication – 2.50%
- INR 10,000 monetary benefit – 0.44%
- Government health worker support – 5.88%

(4) How would you rate the effectiveness of government health programs in addressing CKD in your community?

- Very effective – 24.6%
- Not effective at all – 76.4%

(5) Have you personally benefited from any government-sponsored healthcare services or programs related to CKD?

- Yes – 13.27%
- No – 86.73%

(6) In your opinion, what further steps or measures should the state government take to address the issue of CKD effectively in your community?

- Free medication – 51.75%
- Awareness programs – 45.61%
- Travel assistance – 2.64%

(7) Have you received any awareness or information on preventing kidney disease from government healthcare professionals?

- Yes – 54.09%
- No – 45.91%

Financial impact

(1) How would you describe the financial impact of managing CKD on your household in Uddanam?

- Significant burden – 84.57%
- Moderate burden – 6.17%
- Minor burden – 9.26%

(2) Which of the following expenses related to CKD have you or your family incurred in the past year in the Uddanam region?

- Medications – 90.06%
- Dialysis – 3.11%
- Transportation to hospital – 6.83%

(3) On average, how much do you spend on managing your CKD related expenses?

- Less than INR 5,000 – 4.26%

- 5,000–10,000 INR – 6.71%
- 10,000–20,000 INR – 82.32%
- More than 20,000 INR – 6.70%

(4) Are you aware of any government subsidies or benefits available specifically for people affected by CKD in Uddanam?

- Yes – 67.88%
- No – 32.12%

(5) If yes, which government subsidies are you aware of?

- Financial Assistance to medical treatment – 4.2%
- Free dialysis – 95.80%
- Others – 0%

(6) Have you or any of your family members benefited from any government subsidies related to CKD in Uddanam?

- Yes – 85.98%
- No – 14.02%

(7) How would you rate the effectiveness of the state government in proactively treating the CKD affected people and helping manage related expenses?

- Excellent – 0.61%
- Good – 20.12%
- Somewhat good – 58.54%
- Poor – 20.73%

Technology

(1) Do you use smartphone technology for matters related to CKD treatment including payment, health trackers, online medical reports, remote doctor consultation?

- Yes – 6.67%
- No – 93.33%

(2) Do you support the use of recent technology in diagnosis and prognosis of CKD?

- Yes – 45.15%
- No – 54.85%

(3) Have you been provided adequate training in use of technology for your medical needs?

- Yes – 2.27%
- No – 60.28%
- Health worker does the job – 37.45%

(4) Have you attended awareness camps on CKD?

- Yes – 10.21%
- No – 89.79%

(5) What do you appreciate about the recent governmental attempts to provide superior medical care?

- More medical health centers – 85.71%

- Awareness camps – 12.21%
- Technology penetration – 2.08%

(6) What is the best help government can provide you, at this stage in your life?

- Financial support to family members after I pass away – 10.92%
- Financial support to early-stage patients – 60.95%
- More medical centers and easy access facilities – 28.13%

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