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Using Dietary Understanding to Manage Chronic Renal Conditions in Swaziland

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Abstract

Purpose: The purpose of this study was to evaluate the dietary understanding and current practices of healthcare Professionals in management of patients with chronic renal conditions in selected hospitals in Swaziland.

Methodology: The study used a desktop literature review methodology (desk study). This required a thorough analysis of research on the dietary understanding and current practices of healthcare Professionals in management of patients with chronic renal conditions. The subject of the study underwent three phases of sorting in order to assess its suitability for further study.

Findings: The study concludes that dietary understanding among study participants was poor; though their attitude was positive, they failed to practice due to poor understanding.

Unique Contribution to Theory, Practice and Policy: This study recommends that dieticians could write short, but regular segments for nursing journals or newsletters. This written material may be most useful if written in lay terms to enable nursing staff to use it directly with their patients, rather than needing to translate the information for the general public.

Keywords: *Dietary Understanding, Chronic Renal Disease, Healthcare Professionals, Dietary Management of Chronic Renal Disease.*

INTRODUCTION

Chronic renal disease (CRD) is a chronic condition that permanently impairs kidney function and progresses to end-stage renal disease (ESRD). The spectrum of CRD comes to an end with ESRD. It is a grave medical, social, and financial issue that affects patients, their families, and the nation as a whole (Olugbenga *et al*, 2020). Chronic non-communicable diseases (NCDs), which have reached pandemic proportions and are the leading cause of morbidity and mortality worldwide, include CRD as a significant component (Thorp, 2016). Recent years have seen an upsurge in the incidence and prevalence of CRD in both industrialized and developing nations, especially sub-Saharan Africa (SSA) (Hosseinpanah, 2019). CRD is a substantial cause of death in SSA and primarily affects young persons who are in their prime years. According to estimates, there are 75 cases of ESRD per million people in Switzerland. Following up on 26 patients, Maro and Ammur (2022) revealed that hypertension (30.8%), chronic glomerulonephritis (23.8%), nephritic syndrome (15.4%), obstructive uropathy (7.7%), ischemic nephrosclerosis (3.9%), polycystic kidney (3.9%), and underdetermined were the main primary causes of ESRD (15.4 percent). Patients with chronic renal illness must receive early diagnosis, treatment of the underlying cause, and secondary preventative measures because doing so may slow or even arrest the disease's course (Sumaili *et al*., 2019).

There are several difficulties in managing the dietary elements. A diet low in fat, sodium, and sugar but high in fiber can reduce the risk factors for atherosclerosis, hypertension, insulin resistance, and dyslipidemia that are usually present in patients with CRD (Merck Manual, 2022). But these patients also frequently have MN, which necessitates a less restrictive food regimen (Shoji and Nishizawa, 2015). End-stage renal failure necessitates adjustments in calorie, protein, and micronutrient consumption, which, according to Bergstrom (2022), may be a factor in the high occurrence of protein-energy malnutrition (PEM). PEM has been demonstrated to be one of the most significant risk factors for increased morbidity and mortality in end-stage renal disease, while consuming too much potassium, phosphorus, sodium, and fluid may negatively impact fluid balance and cause other complications brought on by electrolyte disturbances (Zeier, 2022). Early dietary management is believed to be crucial for maintaining renal function and the general wellbeing of renal patients (Moore et al., 2022). Reducing cardiovascular risk factors and mortality risk can be accomplished through consultation with a renal dietitian to design an optimal diet (Caglar and Ikizler, 2022). A similar diet will aid in preventing MN, metastatic calcification of previously unharmed tissue, and may decrease the progression of renal illness (Albaaj and Hutchison, 2022). (Zarazaga *et al*., 2021).

In the past, doctors were ill-equipped to diagnose and handle food issues in their patients. People grew more conscious of the need for trustworthy sources of dietary information. The public has developed an unfavorable perception of their doctors' knowledge of and experience with diet. This mentality drives people to look for dietary advice from possibly dubious sources (CSA, 2020).

According to survey results, doctors are reluctant to give patients food advice because they lack trust in their knowledge and expertise in this area (US report, 2020). Dietary education has attracted interest, and several medical schools have incorporated it into their case-based and bedside teaching methods. If they offer good dietary counseling and recommendations, primary care doctors have the ability to reduce morbidity and death. New scientific findings alter our understanding of diet. Medical professionals need to be aware of dependable sources for

continuing education and information that is relevant to their work and patient care (Kushner, 2015). Additionally, it has been demonstrated that receiving dietary advice from medical professionals is significantly and favorably associated with changing eating habits and lowering the chance of developing food-related chronic diseases (Fox *et al*., 2016).

Statement of the Problem

There is no doubt about the significance of dietary analysis and food treatment in the overall care of patients with chronic kidney disease because it is believed to be crucial to the preservation of renal function and the general wellbeing of renal patients (Moore *et al*., 2022). Its applicability is constrained by a lack of knowledge on the importance of specific nutrients for health and how chronic disease alters these requirements. Health professionals who deal directly with patients while they are in the hospital are in a strong position to educate people who are at risk of these disorders and offer them advice on nutritional therapies that are both scientific and doable. However, the ability of healthcare professionals to offer patients with nutritional guidance that is accurate, doable, and consistent is limited. There is little information available on how Swiss healthcare professionals handle CRD in terms of food. Unauthorized practitioners have been spreading false information on diet to the public in growing numbers recently. The current investigation was carried out in light of this disagreement.

Objectives of the Study

The general objective of the study is to determine dietary understanding attitudes and practices of healthcare Professionals in the management of patients with CRD in selected hospitals, together with factors influencing them.

Significance of the Study

The findings of the study can be used by Ministry of Health and Social Welfare as well as to hospital managers to improve the overall Dietary management among CRD patients. The study has also added to understanding on Dietary treatment of CRD patients and factors connected to it in chosen hospitals in the region and other regions with similar characteristics. Further, findings have produced new ideas to investigate on the usage of Dietary al supplements among CRD patients and Dietary care for patients with other diet associated non-communicable disorders.

LITERATURE REVIEW

Dietary Management of CRD

Many chronic conditions are treated with diet, but CRD is the only chronic condition for which this is true. Dietary therapy has the same therapeutic value as other types of medical therapies since it effectively controls a number of the disease's side effects (Toigo, 2020). As CRD worsens, the risk of malnutrition (MN) rises, and frequently, many patients are undernourished when they begin dialysis. Even though studies have shown that adhering to the diet restrictions can reduce symptoms and medical issues and improve quality of life, up to 78 percent of dialysis patients do not do so. Additionally, research has revealed that up to 50% of ESRD patients may be malnourished, with MN rates between 2848 percent in pre-dialysis patients or those at CRD stages 1-4. (McKnight *et al*., 2020). Inadequate dietary management of patients during the pre-dialysis

phase may contribute to MN. A diet plan that the patient may accept and follow must be developed in order to achieve the best possible dietary status and to meet treatment goals.

Renal Diet

A renal diet, also referred to as CRD, is one that is designed for those with kidney issues. Dietary rules are used to regulate an adequate diet. A carefully thought-out diet can help to maximize the kidneys' remaining capacity to filter and eliminate pollutants from the blood without overtaxing them. However, therapeutic options become quite precise and the renal diet becomes even more restricted when the kidneys lose above 85% to 90% of their function (Joshi, 2020). As the disease advances through its many stages, a patient with CRD has different dietary needs. This impacts how the patient metabolizes substrates such as protein, water, salt, potassium, phosphorus, and carbohydrates (Thomas et al., 2018).

The diet should have enough calories to sustain a source of energy and appropriate dietary status. The amount of calories consumed will decrease if the protein intake is decreased. As a result, other foods will be required to make up for the proteins. To boost the caloric intake of the diet and prevent the breakdown of body protein, adequate amounts of carbohydrates and fats are utilized. Patients under the age of 60 are advised to consume 35 kcal/kg/day, while patients above the age of 60 or those who are obese are advised to consume 30-35 kcal/kg/day (K/DOQI NKF, 2022).

Empirical Review

McMahon *et al*. (2021), conducted a study on altered dietary salt intake for people with chronic kidney disease. Evidence indicated that reducing dietary salt may reduce the incidence of heart disease and delay decline in kidney function in people with chronic kidney disease (CKD). This is an update of a review first published in 2015. The study aimed to evaluate the benefits and harms of altering dietary salt for adults with CKD. The authors researched the Cochrane Kidney and Transplant Register of Studies up to 6 October 2020 through contact with the Information Specialist using search terms relevant to this review. Studies in the Register are identified through searches of CENTRAL, MEDLINE, and EMBASE, conference proceedings, the International Clinical Trials Register (ICTRP) Search Portal and ClinicalTrials.gov. The study adopted randomized controlled trials comparing two or more levels of salt intake in adults with any stage of CKD. Two authors independently assessed studies for eligibility, conducted risk of bias evaluation and evaluated confidence in the evidence using GRADE. Results were summarized using random effects models as risk ratios (RR) for dichotomous outcomes or mean differences (MD) for continuous outcomes, with 95% confidence intervals (CI). The study included 21 studies (1197 randomized participants), 12 in the earlier stages of CKD (779 randomized participants), seven in dialysis (363 randomized participants) and two in post-transplant (55 randomized participants). Selection bias was low in seven studies, high in one and unclear in 13. Performance and detection biases were low in four studies, high in two, and unclear in 15. Attrition and reporting biases were low in 10 studies, high in three and unclear in eight. Because duration of the included studies was too short (1 to 36 weeks) to test the effect of salt restriction on endpoints such as death, cardiovascular events or CKD progression, changes in salt intake on blood pressure and other secondary risk factors were examined.

Hahn *et al.* (2018), conducted a study on low protein diets from non-diabetic adults with chronic kidney disease. For several decades low protein diets have been proposed for participants with

CKD with the aim of slowing the progression to end-stage kidney disease (ESKD) and delaying the onset of renal replacement therapy. However, the relative benefits and harms of dietary protein restriction for preventing progression of CKD have not been resolved. This is an update of a systematic review first published in 2000 and updated in 2006 and 2009. The aim of the study was to determine the efficacy of low protein diets in preventing the natural progression of CKD towards ESKD and in delaying the need for commencing dialysis treatment in non-diabetic adults. The study searched the Cochrane Kidney and Transplant Register of Studies up to 2 March 2018 through contact with the Information Specialist using search terms relevant to this review. Studies in the Register are identified through searches of CENTRAL, MEDLINE, and EMBASE, conference proceedings, the International Clinical Trials Register (ICTRP) Search Portal and ClinicalTrials.gov. Two authors independently selected studies and extracted data. For dichotomous outcomes (death, all causes), requirement for dialysis, adverse effects) the risk ratios (RR) with 95% confidence intervals (CI) were calculated and summary statistics estimated using the random effects model. Where continuous scales of measurement were used (glomerular filtration rate (GFR), weight), these data were analyzed as the mean difference (MD) or standardized mean difference (SMD) if different scales had been used. The certainty of the evidence was assessed using GRADE. This review found that very low protein diets probably reduce the number of people with CKD 4 or 5, who progress to ESKD. In contrast low protein diets may make little difference to the number of people who progress to ESKD. Low or very low protein diets probably do not influence death. However, there are limited data on adverse effects such as weight differences and protein energy wasting. There are no data on whether quality of life is impacted by difficulties in adhering to protein restriction. Studies evaluating the adverse effects and the impact on quality of life of dietary protein restriction are required before these dietary approaches can be recommended for widespread use.

Hemmelgarm *et al.* (2017), conducted a study on priorities from patients with chronic kidney disease not on dialysis. The importance of engaging key stakeholders, and patients in particular, in determining research priorities has been recognized. The study sought to identify the top 10 research priorities for patients with non-dialysis chronic kidney disease (CKD), their caregivers, and the clinicians and policy-makers involved in their care. It used the four-step James Lind Alliance process to establish the top 10 research priorities. A national survey of patients with non-dialysis CKD (estimated glomerular filtration rate <45 mL/min/1.73 m^2), their caregivers, and the clinicians and policy-makers involved in their care was conducted to identify research uncertainties. A Steering Group of patients, caregivers, clinicians and researchers combined and reduced these uncertainties to 30 through a series of iterations. Finally, a workshop with participants from across Canada (12 patients, 6 caregivers, 3 physicians, 2 nurses, 1 pharmacist and 1 policy-maker) was held to determine the top 10 research priorities, using a nominal group technique. Overall, 439 individuals responded to the survey and identified 1811 uncertainties, from which the steering group determined the top 30 uncertainties to be considered at the workshop. The top 10 research uncertainties prioritized at the workshop included questions about treatments to prevent progression of kidney disease (including diet) and to treat symptoms of CKD, provider- and patient-targeted strategies for managing CKD, the impact of lifestyle on disease progression, harmful effects of medications on disease progression, optimal strategies for treatment of cardiovascular disease in CKD and for early identification of kidney disease, and strategies for equitable access to care for patients with CKD. The study identified the top 10 research priorities

for patients with CKD that can be used to guide researchers, as well as inform funders of health-care research.

Havas *et al*. (2016), conducted a study on self-management support for people with chronic kidney disease. Self-management of chronic kidney disease (CKD) is crucial for health outcomes and people need to be effectively supported by healthcare professionals (HCPs). Some programmes designed to improve self-management have been implemented, but people with the disease are rarely consulted regarding what they desire from these programmes. The aim of the study is to provide a synthesis of the literature on preferences for self-management support of people with CKD. The study design used was an integrative review. The research adopted four databases (MedLine, CINAHL, PsycARTICLES and PsycINFO) were searched using relevant search terms. The search strategy identified 1,913 records, of which 12 studies met inclusion criteria. Ten themes were identified as important areas to be addressed by self-management interventions. In addition, patient suggestions for implementation of such interventions are discussed. The principles of a person-centred approach ought to frame the support provided by HCPs when supporting those with CKD to better self-manage.

METHODOLOGY

The study adopted a desktop methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low cost technique as compared to field research, as the main cost is involved in the executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through online journals and libraries.

FINDINGS

The results were grouped into various research gap categories namely as conceptual and contextual.

The management of CRD in outpatients was not covered in the previous literature evaluation. However, there are no published data on the care of CRD among outpatients in Swaziland. Various studies have been undertaken among inpatients to identify risk factors and management of CRD. In order to produce information that can be utilized in the future to inform public health policies and choices, the study was designed to be conducted.

CONCLUSION AND RECOMMENDATIONS

Conclusion

Healthcare professionals' dietary knowledge was found to be low or poor; despite their good attitudes, they did not practice. A lack of resources, motivation, and proper dietary training during medical school were found as variables affecting the nutritional management of CRD in the research area. Understanding nutrition has a significant impact on how healthcare professionals manage individuals with CRD. Participants with greater levels of education tended to practice more effectively than participants with lower levels of education.

Recommendations

The Ministry of Health and Social Welfare and universities should evaluate the medical curriculum to make sure that clinical dietary becomes a component of training in medical colleges in order to obtain proper Dietary diagnosis, counseling, and safe and sound dietary advices.

Dieticians or other individuals with clinical dietetic training often provide dietary updates (in-services) at the workplace to ensure that health professionals, particularly nurses who are close to patients, have up-to-date and appropriate nutritional knowledge. Additionally, dieticians could contribute brief but frequent pieces to newsletters or nursing publications. Instead of having to interpret the information for the general public, this written material might be most helpful if it is put in simple words so that nursing staff can use it directly with their patients.

The study also made the case for the necessity for additional research on dietary supplement use among CRD patients and its impact on the course of the condition. In order to ensure that patients receive quality dietary therapy in addition to medical therapy, more research on the nutritional management for patients with various diet-related non-communicable disorders, such as diabetes, cardiovascular conditions, and cancer, should be done in hospitals.

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