LEVEL OF KNOWLEDGE AND PRACTICE REGARDING DIETARY INTAKE AMONG PATIENT WITH END STAGE RENAL DISEASE (ESRD) IN HOSPITAL UNIVERSITI SAINS MALAYSIA (HUSM)

By

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CERTIFICATE

This is to certify that the dissertation entitled "Knowledge And Practice Regarding Dietary Intake Among Patient With End Stage Renal Disease in Hospital Universiti Sains Malaysia" is the bona fide record of research work done by Ms. Siti Wajihah Binti Hamzah during the period from September 2019 to June 2020 under my supervision. I have read this dissertation and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation to be submitted in partial fulfilment for the degree of Bachelor of Nursing (Honours).

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DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated and duly acknowledged. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at Universiti Sains Malaysia or other institutions. I grant Universiti Sains Malaysia the right to use the dissertation for teaching, research, and promotional purposes.

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LIST OF ABBREVIATIONS

HD	-	Hemodialysis
CKD	-	Chronic Kidney Disease
ESRD	-	End Stage Renal Disease

TAHAP PENGETAHUAN DAN AMALAN MENGENAI PENGAMBILAN DIET DI KALANGAN PESAKIT BUAH PINGGANG TAHAP AKHIR DI HOSPITAL UNIVERSITI SAINS MALAYSIA

ABSTRAK

Kajian ini adalah berkaitan tahap pengetahuan dan amalan pesakit buah pinggang tahap akhir di HUSM berkaitan pengambilan diet atau pemakanan. Diet memainkan peranan penting untuk melambatkan kerosakan buah pinggang dan dialisis. Matlamat utama kajian ini adalah untuk menentukan tahap pengetahuan dan amalan mengenai pengambilan diet di kalangan pesakit buah pinggang tahap akhir di Hospital Universiti Sains Malaysia. Satu kajian rentas telah dijalankan terhadap 20 orang pesakit dari Wad 7 Utara, 7 Selatan dan Unit Haemodialisis. Majoriti responden 18(90%) menunjukkan tahap pengetahuan sederhana mengenai pengambilan diet. Hasil keputusan yang sama juga didapati terhadap 90% daripada responden mempunyai tahap amalan yang sederhana berkaitan pengambilan diet. Manakala, tiada perbezaan yang signifikan antara tahap pengetahuan dan amalan mengenai pengambilan diet di kalangan pesakit. Kesimpulannya, amatlah penting bagi pesakit ESRD untuk mengetahui kepentingan diet buah pinggang dan faedahnya. Pesakit dapat memperoleh lebih banyak faedah apabila mendapat bimbingan dan pengurusan diet yang betul.

LEVEL OF KNOWLEDGE AND PRACTICE REGARDING DIETARY INTAKE AMONG PATIENT WITH END STAGE RENAL DISEASE IN HOSPITAL UNIVERSITI SAINS MALAYSIA

ABSTRACT

This research is about the knowledge and practice regarding dietary intake among patients with ESRD in HUSM. Diet plays an important role in slowing down kidney problems and dialysis. The main objective of this study was to determine the knowledge and practices regarding dietary intake in HUSM. A cross-sectional study was conducted on 20 patients from ward 7 Utara, 7 Selatan, Haemodialysis Unit. The majority of 18 (90%) respondents indicated an intermediate knowledge level in dietary intake. Similar results also found that almost 90% of respondents had moderate dietary practices. Meanwhile, there was no significant difference between the level of knowledge and practice. In conclusion, it is very important for ESRD patients to know the importance of the renal diet and its benefits. Patients can gain more benefit from proper dietary guidance and management.

CHAPTER 1
INTRODUCTION

1.1 Background of the study

Chronic kidney disease (CKD) is a permanent and progressive loss of kidney function, which results in deterioration of renal function or End-Stage Renal Disease (ESRD) (Munuo, Mugendi, Kisanga, & Otieno, 2016). The kidneys of people with ESRD function below ten percent of their normal ability, which may mean they are barely functioning or not functioning at all (DiMaria, 2019). According to (Jha et al., 2013) where the glomerular filtration rate lower than 15 mL/min per 1·73 m^2 for 3 months or longer and proposed a classification scheme based on glomerular filtration rate.

According to Jawadagi (2014), it is a major health issue in various parts of the world. The number of patients with end stage renal disease (ESRD) is increasing in both developed and developing countries, greatly expanding the need for chronic dialysis and renal transplantation. Three important treatment modalities for patients with end-stage renal disease are peritoneal dialysis, hemodialysis, and kidney transplantation. However, hemodialysis is considered one of the most commonly used dialysis methods worldwide (Rasheed, Aziz, Osman, & Younis, 2018). The overall management of CKD focuses on medication, dialysis, transplant, and nutrition. Munuo et al (2016) claimed that better management of CKD can slower the progression of renal dysfunction, prevent metabolic complications, and reduce cardiovascular- related outcomes.

1.2 Problem statement

ESRD can be caused due to diabetes and it is the most common cause. While hypertension is the second most common. According to American Kidney Fund (2019), other problems that can cause kidney failure include autoimmune diseases, such as lupus and IgA nephropathy, genetic diseases such as polycystic kidney disease nephrotic syndrome and urinary tract problems.

The overall management of ESRD focuses on medication, dialysis, transplant and nutrition(Rasheed et al., 2018)**.** However, hemodialysis (HD) is considered one of the most commonly used dialysis methods worldwide. Patients often requires regular HD to prolong life. However, between HD sessions, patients have to restrict their diets carefully to avoid excess accumulation of potassium, phosphate, sodium, and fluid, which their diseased kidneys can no longer regulate. Failure to adhere to their renal dietary regimes can be fatal; nevertheless, non-adherence is common (Gibson, Held, Khawnekar, & Rutherford, 2016).

There is evidence that HD patients are often not successful in achieving dietary adherence: for example, in the most recent UK Renal Registry report, 30% had levels above the target PO4 range. On the other hand, malnutrition is also observed commonly in HD patients and is also associated with increased mortality (Pifer et al., 2002) and is multifactorial in origin (Chazot, 2009).

An appropriate diet can slow the progression of CKD to ESRD (Zoccali et al., 2011). Patients are also required to obey the correct dietary regimens, such as fluid restriction and decreased phosphate and potassium intake (Kim, Hyerang Lim, Hyunjung, Choue & Ryowon, 2015). Nutritional status is an important factor that

determines the QOL of patients (Yusop, Mun, Shariff, & Huat, 2013). Making dietary modifications a critical part of the management of CKD and ESRD (Mitch, William, Remuzzi & Giuseppe, 2016).

Jawadagi (2014) claimed that the restriction of diet is an important factor for renal failure patients to maintain ideal health because damaged kidneys cannot excrete the accumulated certain harmful substances in the body. Therefore, harmful substances that are present in foods and drinks must be regulated and controlled. The modification of food cannot directly improve the working of the kidney, but it reduces the excess load on functioning of the kidney and improves the quality of the life of CRF patients undergoing hemodialysis. Hence assessment of knowledge and practices of dietary regulation in CRF patients is essential (Jawadagi, 2014).

1.3 Research objective

1.3.1 General objective

i. To assess the level of knowledge, practice and the association between knowledge and practice regarding dietary intake among patient with ESRD.

1.3.2 Specific Objective

i. To assess the level of knowledge regarding dietary intake among patient with ESRD in HUSM.

ii. To assess the level of practice regarding dietary intake among patient with ESRD in HUSM.

iii. To assess the association between the level of knowledge and practice regarding dietary intake among patient with ESRD in HUSM.

1.4 Research questions

i. What is the level of knowledge regarding dietary intake among patient with ESRD in HUSM?

ii. What is the level of practice regarding dietary intake among patient with ESRD in HUSM?

iii. Is there any association between the level of knowledge and practice regarding dietary intake among patient with ESRD in HUSM.

1.5 Hypotheses

H_o : There is no association between level of knowledge and practice regarding dietary intake among patient with ESRD in HUSM.

H_A : There is an association between level of knowledge and practice regarding dietary intake among patient with ESRD in HUSM.

1.6 Conceptual and Operational Definitions

Table 1.1 Definition of terms

Terms	Conceptual definitions	Operational definitions
Knowledge	Understanding of or information about a subject that you get by experience or study, either known by one person or by people generally (Cambridge Dictionary, 2019).	It refers to the response that received from a patient with ESRD related to their knowledge dietary include their daily diet intake.
Practice	Repeated exercise in or performance of an activity or skill to acquire or maintain proficiency in it (Lexico.com, 2019).	It refers to the response from ESRD patient on their practice of daily dietary pattern which they follow in their life after diagnosed with ESRD
Dietary	The kinds and amounts of food available to or eaten by an individual, group, or population (Merriam-Webster Dictionary, 2019).	The food choices or intake preferred by persons in their daily life after diagnosed with ESRD
End stage of renal disease patient	Occur to person when CKD — the gradual loss of kidney function — reaches an advanced state. In end-stage renal disease, the kidneys are no longer able to work as they should to meet your body's needs (Mayo Clinic, 2019).	Patients diagnosed with ESRD in HUSM.

1.7 Significance of the study

The significance of this study to the society, the country, the government, the community, and the institution is that it brings benefits as knowledge of dietary influences the practice on diets. Poor nutritional status is prevalent among HD patients. The prevalence of ESRD patients on dialysis has tripled from 7837 in 2001 to almost 23,000 in 2010. Malaysia continues to see a linear increase in the number of new dialysis patients over the last 10 years – from 3167 in 2005 to 6985 in 2013 and at least 7055 in 2014 (Lim, Ong & Goh, 2015). By conducting this study, researcher can assess their knowledge and practices regarding dietary as people will realize how important this issue and they are practicing a good diet. It is useful to relate whether the high level of knowledge regarding diet will contribute to good practice of diet or not. By assessing the respondent, they will realise their own knowledge's level and practice on their dietary and the finding will help the patient in term of having good knowledge and practice. As for the researcher who is in the healthcare base, they need to be knowledgeable and competent in nutrition and dietary as it applies to health promotion, prevention, and treatment of acute and chronic diseases. They can contribute to the achievement of more effective control of dietary and improvement of the quality of care for ESRD patients.

CHAPTER2
LITERATURE REVIEW

2.1 Introduction

The purpose of this study is to assess the level of knowledge and practice regarding dietary among patient with ESRD in Hospital Universiti Sains Malaysia. In this literature review, it consists of general information of ESRD, general information regarding dietary, knowledge of dietary, practice regarding dietary, risk factor of ESRD, complication of ESRD. This chapter also discussed about conceptual framework. It is necessary for the researcher to know the factors that contribute to dietary, measure the level of knowledge and practice regarding diet and look for any association that related with selected sociodemographic data.

2.2.1 General information of ESRD

CKD is long-standing, progressive deterioration of renal function. It is initially described as diminished renal reserve or renal insufficiency, which may progress to renal failure(end stage). Decreased renal function interferes with the kidneys' ability to maintain fluid and electrolyte homeostasis. The ability to concentrate urine declines early and is followed by decreases in ability to excrete excess phosphate, acid, and potassium with glomerular filtration rate of 15 ml/min or less (Malkina, 2018). Therefore, peritoneal dialysis, hemodialysis, and kidney transplantation are three important treatment modalities for patients with end-stage renal disease (Grassmann, Gioberge, Moeller, & Brown, 2005). Patients with CKD stages 1-3 are generally asymptomatic. Typically, it is not until stages 4-5 (GFR < 30 mL/min/1.73 m^2) that endocrine/metabolic derangements or disturbances in water or electrolyte balance become clinically manifest. Signs of metabolic acidosis in stage 5 CKD (ESRD) include protein-energy malnutrition, loss of lean body

mass, muscle weakness while the signs of alterations in the way the kidneys are handling salt and water in stage 5 includes the peripheral edema, pulmonary edema and hypertension (Arora, 2019).

2.2.2 General information regarding dietary

Dietary habits are defined as the food choices preferred by persons in their daily life. They differ from person to person. A healthy dietary habit helps an individual to stay fit and well throughout his life (Journal of Childhood, 2019). Changes on diet when a person have (CKD) might needed. These changes may include limiting fluids, eating a low-protein diet, limiting salt, potassium, phosphorous, and other electrolytes, and getting enough calories if you are losing weight. People on dialysis need special diet to limit the build-up of waste products in the body. Limiting fluids between dialysis treatments is very important because most people on dialysis urinate very little. Without urination, fluid will build up in the body and cause too much fluid in the heart and lungs (Walead, 2017).

2.2.3 Knowledge of diet

Patients who have CKD are advised to follow dietary recommendations that restrict individual nutrients, such as phosphorus, salt, potassium, and protein, to prevent short- and long-term clinical complications(Kelly et al., 2017). A study conducted by (Dulal, Thakurathi, Dulal, Karki, & Raut, 2018) on ‘ Dietary Practice among the Patients with ESRD undergoing Maintenance Haemodialysis’. It showed that the level of knowledge score found to be medium and practice score was even low. Seventy percent knew about renal diet but only 36 (60%) believed in it. A study conducted by (Jawadagi, 2014) on “A study to assess the knowledge and practices of dietary regulations in chronic renal failure patients undergoing hemodialysis at Karnataka Lingayat Education Hospital (K.L.E’S Hospital) and MRC Belgaum. The aim of the study was to assess the knowledge of dietary regulations in CRF patient undergoing haemodialysis. From the study it was concluded that knowledge of dietary regulations in CRF patients undergoing hemodialysis was average. Hemodialysis patients’ knowledge and practices of dietary regulations were very poor, even though they were on hemodialysis for more than 1 year. Many patients did not follow dietary regime, as they thought, that only HD is sufficient to prolong their life. Few had poor food intake with marked reduction of fat and muscle tone, which was due to poor economic condition (Jawadagi, 2014).

2.2.4 Practice regarding diet

The dietary restriction is also vital to maintain optimal health for the CRF patients because certain substances present in the foods and drinks, when taken in excess, damaged kidney may not be able to remove the waste. A study conducted by (Dulal et al., 2018) on ‘ Dietary Practice among the Patients with ESRD undergoing Maintenance Haemodialysis’. It showed that after having kidney disease 42 (70%) had changed their dietary practice. Surprisingly, 38 (63.3%) said they ate the food what the other member in their family ate. In a study conducted by (Jawadagi, 2014) to find out the practice regarding dietary regulations in chronic renal failure patients undergoing haemodialysis conclude that practices of patients undergoing haemodialysis was average.

2.2.5 Complications of ESRD

The complications contribute to high morbidity and mortality and poor quality of life. Some of these complications can be readily defined and quantified (cardiovascular disease, hypertension, anemia, mineral bone disorder, volume overload, electrolytes, and acid-base abnormalities) and may require a specific management approach. Other less well- defined complications with a less distinct pathogenesis, such as anorexia, fatigue, cachexia, pruritus, nausea, and sexual dysfunction, may manifest as complex symptoms (Bello et al., 2017). Hypertension remains one of the most damaging complications of CKD and is thought to contribute to the acceleration of progressive decline in kidney function (Muntner et al. , 2010). Cardiovascular complications, CVD represents the leading cause of mortality in CKD patients, and the prevalence and burden of this complication increases with declining kidney function (Fox, Matsushita, Woodward, et al. ,

2012). Another complication, there is loss of defense against both sodium excess and sodium depletion. In clinical practice, sodium excess with fluid retention is by far the most common, although the exact prevalence has not been determined (Khan, Floris, Pani & Rosner, 2016)

2.3 Conceptual/Theoretical framework

Theoretical framework in this study will be used is Theory of Planned Behavior(TPB). This theory will be benefiacial to the researcher to understand and recognize patient dietary practice that influence by their knowledge on dietary intake. Ajzen (1988) introduced the construct ‘perceived behavioural control’ into his theory of planned behaviour as a determinant of both behavioural intention and of the behaviour itself. The TPB details how the influences upon an individual determine that individual's decision to follow a particular behaviour. People will usually think about the outcome of their actions before deciding to engage in behaviour(Brannon, Feist & Updegraff, 2014). The PTB will be adapted as diagram below.