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**Beneficence in chronic kidney disease patients undergoing haemodialysis therapy:  
A concept analysis**

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**Abstract**

**Background:** Beneficence is a very important ethical principle in the nursing process that relates to compassion, kindness, and charity, especially with regard to actions taken to benefit patients. But there is no consensus about its meaning.

**Purpose:** To analyze the concept of beneficence in patients with chronic kidney disease who undergo hemodialysis.

**Method:** Concept analysis is supported by studies on the benefits of using online databases like Pubmed, Science Direct, and Google Scholar. "Beneficence," "Chronic Kidney Disease" and "Hemodialysis" were the key search terms and the timeframe publications from 1999 to 2023.

**Results:** Identifying concepts and attributes of beneficence with empirical references are professional responsibility, patient welfare and interests, promoting health, engaging medical knowledge and maximizing benefits. From antecedents chronic kidney disease, gradual decline in kidney function, end-stage kidney disease, kidney replacement therapy, haemodialysis, benefits of therapy, side effects of therapy. Then we get consequences including quality of life of hemodialysis patients, optimizing therapy, end of life quality, negative emotions due to therapy.

**Conclusion:** The conclusions of the concept analysis gave a functional definition of the advantages of haemodialysis. To measure beneficence in dialysis patients, the Beneficence Satisfaction Scale can be used, to determine hemodialysis adequacy was URR, Kt/V, and UKM. To determine the quality of life using SF 36, and finally to measure quality end of life using SPELE to assess health workers perception and QODD of patients and families.

**Keywords:** Beneficence; Chronic Kidney Disease; Ethics; Hemodialysis; Nursing.

**INTRODUCTION**

Chronic kidney disease is a general term for a condition in which the kidneys are permanently damaged, with implications for the health of the individual, in a large number of heterogeneous disorders. The initial decline in kidney function is symptomatic and clinical manifestations in children. When a disease occurs, failure may occur at an earlier stage. Definitions As a result, measures related to function are included in kidney disease, e.g. GFR and

measurements of damage, such as proteinuria, anatomic damaged GFR and measure of deterioration, like proteinuria or anatomical abnormalities (Shafi & Coresh, 2018).

When providing care for people with kidney failure, there are several different ethical challenges. For example, many patients with chronic kidney disease have to choose whether to start or stop dialysis treatment. Dialysis may have many advantages, such

as the ability to prolong life, but it also comes with significant drawbacks, such as being extremely time- and activity-restrictive. Complex value judgments are needed to balance these advantages and disadvantages for the various stages of the disease. Additional ethical problems could arise from differences in the referral standards for kidney transplants or from financial conflicts of interest that might impair the effective interprofessional management of patients with chronic kidney disease (Kahrass, Strech, & Mertz, 2016).

Beneficence in chronic kidney disease patients needs to be examined. From Latin 'bene facere', meaning "to do good," the word beneficence is derived (Shetgovekar, 2018). In medicine, beneficence is a fundamental ethical principle (Nandifa, Jena, & Joewana, 2020). Providing benefits to patients means promoting and protecting the welfare of patients, to prioritize the interests of patients (Bester, 2020). The term "beneficence" describes the obligation of professionals to enhance their patients' wellbeing (Singh & Ivory, 2015).

A basic research ethics principle was determined to be gratitude, which is based on the belief that researchers are committed to evaluating whether their research will have any influence and developing strategies for reducing risks and maximizing benefits (Pieper & Thomson, 2016). With a strong implication that it is morally required to treat others kindly. Every professional has a fundamental moral responsibility to act morally (Kinsinger, 2009). Beneficence is one of the fundamental ethics honored in medical practice. To act kindly towards another person is to act in that person's favor (Rogers, 1999). The principle does not just require the prevention of harm, but also patients' benefit and improvement in their quality of life (Varkey, 2020). In the meantime, however, no agreement has been reached to define a beneficence that is unambiguous and specific, not least because there hasn't been any agreement at all on an evaluation tool for assessing health of someone in their present condition.

The concept of Beneficence remains unclear, given the lack of agreement on its definition. Beneficence has been studied extensively, but the precise definition of beneficence that is used in research and practice to treat patients with chronic kidney disease who receive haemodialysis does not yet exist.

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## RESEARCH METHOD

To achieve this goal a systematic approach examines the concept, with a view to improving its understanding. The process of selecting a concept, which is carried out in eight steps: Finding applications, defining the important characteristics of this concept to identify model cases, identifying relevant cases, border cases and opposing cases, determining its origins and implications as well.

as Defining empirical reference. This is an approach to clarify the situation, the meaning of the terms used so that the writer and reader can interact, understand the terms in the context in which they are used. With the help of beneficence literature from the internet databases PubMed, Science Direct, ProQuest and Google Scholar, an analysis of this concept has been carried out. Keywords of interest were "beneficence" and "chronic kidney disease", "Hemodialysis articles" published between 1999 and 2023 were now included in the search time period.

## RESEARCH RESULTS

**Select a concept:** The chronic kidney disease patient was diagnosed with stage 5 CKD by a nephrologist and required routine hemodialysis twice a week according to standard hemodialysis prescription. Hemodialysis prescription is a dialysis dose that includes Dialysis Time, Quick Blood or blood flow velocity, Ultrafiltration goal or fluid withdrawal target and heparinization dose (Daugirdas, Depner, Inrig, Mehrotra, Rocco, Suri, & Brereton, 2015). Quality of life patient with hemodialysis will be improved by a proper hemodialysis prescription, which will lead to an adequate hemodialysis process (Bieber, 2018). Dialysis adequacy should be a focus to be maintained and constantly improved to be effective in improving life quality of patient with hemodialysis. After being on regular hemodialysis for several years patients often become familiar with their hemodialysis care and treatment. Some patients who have undergone routine hemodialysis become familiar with hemodialysis patterns and actions, so that during the hemodialysis process they do not use the nephrologist's prescription but want hemodialysis according to their own wishes. Patients do not want to follow the nephrologist's prescription for several reasons, including not being able to hemodialysis for more than 4 hours, not being able to withstand high QB, and feeling that the fluid withdrawal target is

insufficient because excess fluid is seen from weight gain exceeding the target. The nurse using the ethical concept of beneficence tried to straighten out the patient (Cheraghi, Valizadeh, Zamanzadeh, Hassankhani, & Jafarzadeh, 2023).

**Determine the aims of analysis:** The goal of analyzing beneficence is to clarify a concept that is still vague, to find a practical definition of beneficence for patients with chronic kidney disease who receive haemodialysis treatment, to assess already-existing instruments or to find new and useful instruments for patients with chronic kidney disease.

**Identify the defining attributes:** Beneficence is a professional responsibility in the form of kind and compassionate actions performed by involving medical knowledge, supporting moral rules and assessing potential impacts (minimizing risks and maximizing benefits) aimed at promoting health and improving patient welfare.

**Identify a model case:** Mr. A is male, 55 years old with a diagnosis of chronic Kidney Disease stage 5 and has been undergoing routine hemodialysis for 3 years. The patient undergoes routine hemodialysis twice a week on Wednesdays and Saturdays. On Saturday 2/9/2023 during the routine hemodialysis schedule, Mr. A complained of shortness of breath and swollen feet and hands. Mr. A's weight increased by 4 kg from the last hemodialysis on Wednesday 30/8/2023. Today's weight before hemodialysis is 76kg, yesterday's weight after hemodialysis is 72 kg. The patient has a history of hypertension since 10 years but does not regularly take antihypertensive drugs so that the patient has Chronic Kidney disease. From the physical examination, BP 150/90 mmHg, anemic conjunctiva, distended abdomen, there is edema of the lower extremities, when auscultation is performed there is a ronchi sound which indicates there is pulmonary edema due to excess fluid. Lab tests showed Hb: 7.7 gr/dl, Creatinine: 15.97 mg/dl, Ureum: 242 mg/dl. Patients get a prescription or prescription for hemodialysis from a hemodialysis nephrologist specialist with a Dialysis Time of 5 hours, Quick Blood 200 ml / hour, Ultrafiltration Goal: 2500-3000 ml, Standard Heparin. The nurse set up Mr. A's hemodialysis procedure. Once the machine has been primed, vascular access has been performed, and it is ready to be configured to the nephrologist's prescription, the patient interrupted and requested that the dialysis time be decreased to 4 hours because

hemodialysis takes 5 hours and the patient complains of frequent drops and fatigue. The patient also requested that the QB be reduced to 150 ml/hour only because 200 causes the patient to experience heart palpitations and frequent drops, and that the Ultrafiltration goal be increased to 4500 ml because the patient's weight has increased by 4 kg and tightness. The nurse explained again to the patient that it was better to follow the prescription of the nephrologist, but the patient still wanted hemodialysis according to his request.

**Identify borderline cases:** Border cases contains some basic concept features. The meaning of the attribute concept become clearer due to instability of the case (Abdolrahimi, Ghiyasvandian, Zakerimoghadam, & Ebadi, 2017). Mr. B is male, 45 years old with a diagnosis of chronic kidney disease stage 5 and has been undergoing routine hemodialysis for 5 years. The patient underwent routine hemodialysis twice a week on Tuesday and Friday. The patient has gained 3 kg of weight. Today's weight before hemodialysis is 63 kg, yesterday's weight after hemodialysis is 60 kg. The patient has a history of DM since 10 years but his blood sugar is not controlled so that the patient has Chronic kidney disease. Physical examination showed BP 120/90 mmHg, anemic conjunctiva, convex abdomen, edema in lower extremity. Laboratory examination result showed, Hb: 8.7 g/dl, Creatinine: 15.97 mg/dl, Ureum: 142 mg/dl. Patients get hemodialysis prescriptions or prescriptions from hemodialysis nephrology specialists with Dialysis Time 4.5 hours, Quick Blood 220 ml / hour, Ultrafiltration Goal: 2500-3000 ml, standard heparin. After priming, performing vascular access, and setting the machine in accordance with the nephrologist's prescription, the nurse gets ready to perform hemodialysis on Mr. B. The nurse then confirmed the prescription to Mr. B. Then Mr. B agreed to undergo hemodialysis as prescribed. However, if the patient experiences hemodynamic changes during or in the middle of hemodialysis, one of which is the tension or GDS drop, the patient requests that the hemodialysis time be shortened to 4 hours.

**Identify contrary cases:** Mr. C is male, 43 years old with a diagnosis of chronic kidney disease stage 5 and has been undergoing routine hemodialysis for 10 years. The patient underwent routine hemodialysis twice a week on Monday and Thursday. The patient

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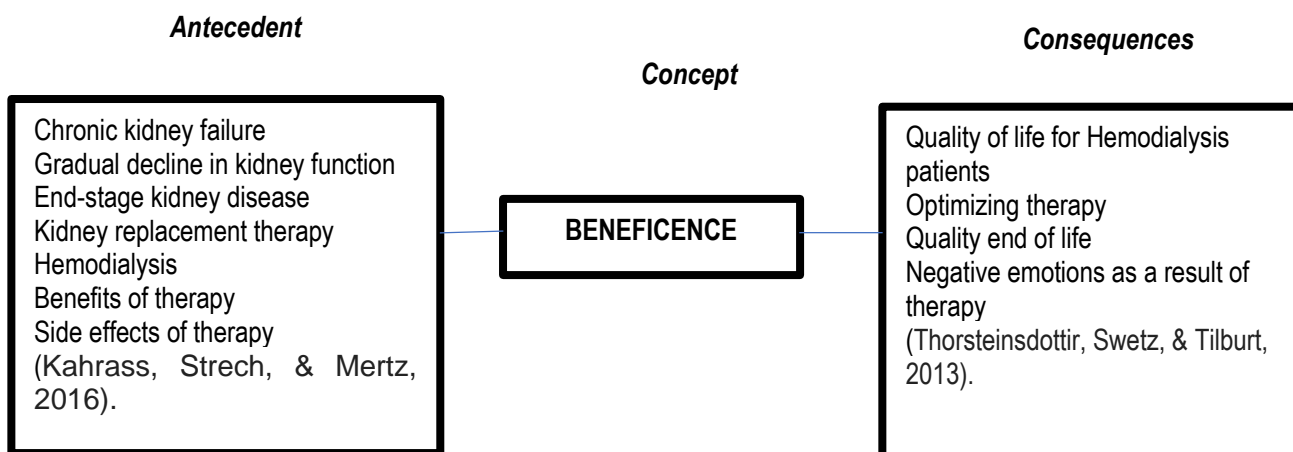
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has gained 2 kg of weight. Today's weight before hemodialysis is 58 kg, yesterday's weight after hemodialysis is 56 kg. The patient has a history of recurrent kidney stones since 10 years so that the patient has chronic kidney disease. Physical examination showed BP 120/80 mmHg, anemic conjunctiva, no lower extremity edema. Lab examination showed, Hb: 10.7 gr/dl, Creatinine: 13.97 mg/dl, Uremum: 122 mg/dl. The patient received a hemodialysis prescription from a hemodialysis nephrologist with a Dialysis Time of 5 hours, Quick Blood 200 ml/hour, Ultrafiltration Goal: 2000-2500 ml, standard heparin.

Mr. C.'s hemodialysis treatment was prepared by the nurse. The nurse confirmed the prescription to Mr.

C after priming, providing vascular access, and configuring the equipment in accordance with the nephrologist's instructions. Then hemodialysis was administered to Mr. C. Mr. C. Then Mr. Mr. C agreed to hemodialysis with the prescription. The patient said that he often goes to the nephrologist and follows all his recommendations. The patient said that he regulates his drinking pattern so that his weight gain is controlled and he does not experience hypervolemia. Additionally, the patient claimed that by following the doctor's rules and instructions for hemodialysis, he felt better physically and was able to continue with his regular activities, such as going to work even when his scheduled hemodialysis sessions weren't in session.

**Identify antecedents and consequences:  
Antecedence Concept Consequences:**



**Figure 1: Overview of antecedents, attributes and consequences of beneficence in chronic kidney disease patient undergoing haemodialysis therapy**

**Define empirical referents:** The outcomes of identifying the concepts and attributes of beneficence, the empirical referents are: professional responsibility, patient welfare and interests, promoting health, engaging medical knowledge and maximizing benefits.

**DISCUSSION**

After gathering reference empirical data, Brief Beneficence Satisfaction Scale (BBSS), is an instrument with four items, will be used to assess the beneficence for patients with chronic kidney disease

receiving haemodialysis therapy. In 2015, Martela and Ryan made it. (Şahin & Uz Baş, 2023). With 1 being the least true and 7 being the most true, the rating scale consist of a 7-point Likert scale. In order to assess convergent validity, the Brief Beneficence Satisfaction Scale (BBSS) and other criteria-related variables were correlated. The fact that it significantly and positively correlated with friendliness, empathy, social purpose, vitality, selfesteem, and sense wellbeing provided evidence for its beneficence (Martela & Ryan, 2016).

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In addition, three additional instruments are used to evaluate empirical reference beneficence in patients with chronic kidney disease. The first is the SF 36, a quality of life measurement tool widely used around the globe (Lins & Carvalho, 2016). This tool evaluates eight health-related criteria: physical functioning, role limitations caused by physical health, physical pain, general perception of health, vitality, social functioning, role limitations caused by emotional problems, and mental health. SF-36 Short form Health Status Questionnaire indicates significant and consistent limitation in self perceived physical activity (Koufaki & Mercer, 2009). The result of this evaluation is a scale score. SF-36 has a score of 0 to 100 with 100 being the highest skor. The eight SF-36 quality of life domains can be further divided into two groups.: physical quality of life, which includes physical functioning, pain, and general health, and emotional quality of life, which includes energy, social function, and limitation of role because of emotions and wellness.

Second, namely adequacy, can be measured using the urea indicator. Urea has been used as a reliable indicator of toxic substances to determine dialysis adequacy (Bieber, 2018). During hemodialysis, factors like membrane porosity, membrane surface area, blood flow, dialysate flow, and countercurrent flow can increase urea clearance (Yeun, & Depner, 2010). Calculating the uremic toxic clearance obtained from blood samples is typically used to determine whether dialysis is adequate. URR, Kt/V, and UKM are the formulas used to determine the uremic toxic clearance. Third, chronic kidney disease patients must undergo HD for the rest of their lives (Kächele, Bettac, Hofmann, Herrmann, Brandt, Schröppel, & Schulte-Kemna, 2023). Fear, pain, suffering and neglect from family may be experienced by patients (White & Fitzpatrick, 2006). Patients become non-compliant with their treatment as a result and decide to stop HD. To ensure that patients have a high-quality end of life, it is crucial for health professionals to be able to explain prognosis and care in communication (Thorsteinsdottir et al., 2013). Before a patient receives end of life care, it is important for patient to get the advice of medical professionals. Further, SPELE (Staff Perception of End of Life Experience) survey can be used to determine how people view medical professionals. The 63 SPELE items are meant to gauge how well-

versed healthcare professionals are in topics like environment, symptoms, end of life communication, and dying quality (Kupeli, Candy, Tamura-Rose, Schofield, Webber, Hicks, & Aspden, 2019). Even though it is acknowledged to be challenging, providing excellent end of life service is essential to guaranteeing quality and patient safety. Examining end of life cares from a variety of perspectives may inform clinical practice of staff, patients, or a patient's family. Choosing a plan and resource allocation strategy (Saunders, Glass, Seaman, Gullick, Andrew, Wilkinson, & Davray, 2021). Additionally, the QODD (Quality of Dying and Death) can be used to evaluate the patient's quality of death (Soest-Poortvliet, van der Steen, Zimmerman, Cohen, Reed, Achterberg, Ribbe, & de Vet, 2013). QODD contains 31 items include primary treatment, death, and death preparation (Kupeli et al., 2019). This instrument has been translated into many languages and used in many parts of the world. Assessing QODD in Indonesia may be difficult due to the Indonesian culture of not wanting to discuss death. End-of-life care can still be improved by using SPELE to evaluate health workers' perceptions and increasing their knowledge of end-of-life care. The final factor influencing how EOL is handled, expressed, and interpreted is cultural practices and norms. Knowing the characteristics the difference in EOL services across countries can help identify area of intervention in each country to improve service levels (Gerritsen, Koopmans, Hofhuis, Curtis, Jensen, Zijlstra, & Spronk, 2017).

## CONCLUSION

The conclusion of the concept analysis provides a functional definition of the benefits of hemodialysis for chronic kidney disease patients, namely individual perceptions of professional responsibility, patient welfare and interests, improving health, involving medical knowledge, and maximizing benefits. The BBSS will be used as an appropriate tool to measure the concept of generosity. The four items form the one-factor Brief Benefit Satisfaction Scale (BBSS), which has only one factor. The rating scale consists of a 7-point Likert scale, one of which represents the least correct answer and the remaining seven represent the most accurate answer. The fact that it correlates significantly and positively with agreeableness, empathy, social purpose, vitality, self-esteem, and sensory well-being provides evidence of

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its benefits. Another tool that will be used to measure the concept of benefit for chronic kidney disease patients receiving hemodialysis is SF 36, which measures quality of life. The formula used to calculate uremic toxic clearance to determine the adequacy of hemodialysis is URR, Kt/V, and UKM. The final SPELE to assess the perception of health workers, QODD is aimed at patients and families to prepare for the end of life of quality chronic kidney patients.

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