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Factors promoting or preventing patient’s choice of home dialysis

A scoping review

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Abstract

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Chronic kidney disease is a growing health challenge and has many implications for the patient's health as well as at the societal level. Home dialysis has been found to have many benefits for patients' health, and it is the most cost-effective and autonomy-enhancing treatment option for patients. Although home dialysis has been found to have several advantages over other treatments for chronic kidney disease, its use remains remarkably low. The aim of this scoping review was to explore factors that promote or prevent the uptake of home dialysis modalities from the patient's point of view.

The scoping review was chosen as the research method. The literature search was made using PubMed, Sage Journals, CINAHL Complete (Ebsco), and ProQuest Central databases. Fifteen studies were identified and included into this scoping review. Studies selected in this review met the predefined inclusion criteria and were relevant to the research question. The quality of the selected studies was evaluated by using The Critical Appraisal Tool proposed by Hawker et al. and the data was analyzed using inductive content analysis.

The results indicated three different themes that influence the patient's choice of dialysis modality: patient-related, support-related, and educational factors. The factors that contributed to the choice of home dialysis were defined as patients' appreciation for the freedom and positive health effects of home dialysis, the support of family and friends, the opportunity to continue working or studying, as well as shared decision-making and adequate education. Factors that prevented the choice of home dialysis were defined as lack of motivation, loneliness and various fears towards dialysis, fear of exhaustion of loved ones or lack of a care partner, increased operating costs, housing arrangements unsuitable for dialysis treatment, and inadequate or difficult-to-understand information.

This scoping review identified key factors that are influencing patients' decisions to choose home dialysis. Enhancing patient-centred education, fostering shared decision-making, and addressing socioeconomic barriers are essential to improving the uptake of home dialysis. These findings can guide healthcare professionals in better supporting patients during modality selection.

Keywords: home dialysis, treatment modality, choice, promoting, preventing

Tiivistelmä

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Krooninen munuaissairaus on kasvava terveyshaaste, jolla on monia vaikutuksia sekä potilaalle, että yhteiskunnalle. Kotidialyysillä on todettu olevan monia etuja potilaiden terveydelle, mutta se on myös kustannustehokkain ja eniten autonomiaa lisäävä hoitovaihtoehto potilaille. Vaikka kotidialyysillä on todettu olevan useita etuja muihin kroonisen munuaissairauden hoitoihin verrattuna, sen käyttö on edelleen huomattavan vähäistä. Tämän scoping katsauksen tavoitteena oli löytää tekijöitä, jotka edistävät tai estävät kotidialyysin valintaa potilaan näkökulmasta.

Tutkimusmenetelmäksi valikoitui scoping katsaus. Aineistonhaku tehtiin PubMed, Sage Journals, CINAHL Complete (Ebsco), and ProQuest Central tietokannoista. Katsaukseen valittiin vuonna 2015 ja sen jälkeen julkaistu aineisto, jonka sisältö vastasi tutkimuskysymyksiin. Aineisto koostui viidestätoista julkaisusta. Valittujen tutkimusten laatu arvioitiin käyttämällä Hawkerin, Paynen, Kerrin, Hardeyn ja Powellin ehdottamaa kriittistä arviointityökalua. Aineisto analysoitiin induktiivista sisällönanalyysia hyödyntäen.

Kotidialyysin valintaa edistäviksi tekijöiksi määriteltiin potilaiden arvostus kotidialyysin tuomaa vapautta ja positiivisia terveysvaikutuksia kohtaan, perheen ja ystävien tuki, mahdollisuutta jatkaa työskentelyä tai opiskelua sekä jaettu päätöksenteko ja riittävä koulutus. Kotidialyysin valintaa estäviksi tekijöiksi määriteltiin motivaation puute, yksinäisyys ja erilaiset pelot dialyysia kohtaan, pelko läheisten uupumisesta tai hoitokumppanin puute, nousseet käyttökustannukset, dialyysihoitoon epäsopivat asumisjärjestelyt, puutteellinen tai vaikeasti ymmärrettävä tieto.

Tässä scoping katsauksessa tunnistettiin keskeiset tekijät, jotka vaikuttavat potilaiden päätöksentekoon dialyysimuodon valinnassa. Potilaskeskeisen koulutuksen parantaminen, yhteisen päätöksentekoprosessin edistäminen ja sosiaalisten esteiden käsittely ovat olennaisia kotidialyysin käytön lisäämiseksi. Nämä havainnot voivat ohjata terveydenhuollon ammattilaisia tukemaan potilaita paremmin menetelmän valinnassa.

Avainsanat: kotidialyysi, hoitomuoto, valinta, edistävä, estävä

Contents

1 Introduction

Chronic kidney disease is a growing health challenge, affecting up to one in three people in Europe. As well as being a major drain on healthcare resources and costly, chronic kidney disease is a significant burden for patients themselves. (European Kidney Health Association 2015: 1-2.) According to the European Kidney Health Association recommendations (2015: 4), home dialysis is the most cost-effective and autonomy-enhancing treatment option for patients, and this treatment pathway should be promoted as much as possible.

The Finnish Society of Nephrology has set a national goal of increasing the number of home dialysis patients to 40% of all dialysis patients by the end of 2025. At the end of 2022, 23% of all approximately 2,000 dialysis patients in Finland were on home dialysis, and e.g., health care resources and an aging population cause challenges to achieve the goal according to the new strategy. (Honkanen et al 2022: Munuaistauti-rekisteri 2022: 22.)

Nephrology professionals would choose home dialysis modality for their own treatment if necessary: more than 90% of professionals chose home care as their first treatment option, with an almost equal split between peritoneal dialysis and home hemodialysis. Nephrology professionals believe that up to 50% of dialysis patients would be capable of undergoing home dialysis, but the uptake is remarkably lower. The comprehensive information and education offered to patients about their options before choosing treatment modalities was seen as promoting home dialysis. (Schiller & Neitzer & Doss 2010: 40-42.)

Although the advantages and benefits of home dialysis have been widely recognized, its adoption has not grown as expected. Previous studies have looked for extensively the reasons why the use of home dialysis is so low, and different perspectives have been found (Ahmad & Wallace, Eric & Jain 2020: 572-577; Genevieve et al 2019: 49-51; Perl et al 2023:844). One point of view is system-level barriers, such as a shortage of healthcare professionals and insufficient education of medical doctors and nurses about the benefits and practical factors of different treatment modalities. Regionally, economic, and local policies can play a significant role in the distribution of different dialysis methods: the low use of home dialysis can be affected by the uneven distribution of reimbursements between home dialysis patients and in-center dialysis

patients, from which in-center dialysis patients often benefit more. (Ahmad & Wallace, Eric & Jain 2020: 572-577; Genevieve et al 2019: 49-51; Perl et al 2023:844.)

The aim of this scoping review was to identify from the patient point of view the factors that promote or prevent the uptake of home dialysis, in order that it would be easier for the healthcare personnel to meet these challenges at the stage when chronic kidney disease patients are facing with the treatment modality choice.

2 Theoretical background

Chronic kidney disease is a very common disease worldwide and up to one third of the adult population may develop it in their lifetime (European Kidney Health Association 2015: 1-2). The disease can cause a wide range of health challenges and is a significant burden on the health care system (KDIGO 2012: 8). Different types of treatment have been developed for the treatment of chronic kidney disease. (Pasternack 2012; Saha 2024). For this review, the theoretical background of chronic kidney disease in general and its treatment methods, the current goals and identified benefits of home dialysis at the international and national level have been clarified in next chapters.

2.1 Chronic kidney disease

The kidneys have an important role in eliminating waste products from the body and regulating fluid, salt, and acid-base balance. Chronic kidney disease can lead to a wide range of dysfunctions and active management of the disease is essential. (KDIGO 2012: 8). According to the international KDIGO (Kidney Disease: Improving Global Outcomes) recommendation, chronic kidney disease is defined as kidney damage that has lasted for at least three months and is associated with a reduced glomerular filtration rate (GFR < 60) or other signs of kidney damage (KDIGO 2012: 19). The most common cause of chronic kidney disease is diabetes, but it can also be caused by normal ageing, vascular disease, or glomerulonephritis. In addition, chronic kidney disease has been linked to an increased risk of cardiovascular events and premature death (Mäkelä & Saha 2020).

Symptoms of chronic kidney disease can include anemia and high blood pressure, as well as acidosis, i.e. acidity of the body. Pigmentation changes in the skin and pruritus may occur. Kidney failure has progressed to the final stage when the patient develops uremia. Then urea accumulates in the body because of the end of urine secretion. When kidneys start to fail, patient may experience one or more of the following symptoms due to the accumulation of water and waste products: fatigue, shortness of breath, nausea, vomiting or loss of appetite. Chronic kidney failure can be acutely complicated by infection, poor diabetes management, dehydration, or medications. (Pasternack & Saha 2012; Chen, Knicely & Grams: 3.)

2.2 Treatment options for chronic kidney disease

Chronic kidney disease can be actively treated with either a kidney transplant from a dead or living donor, or with dialysis treatment, which can be used to partially replace the kidneys' own function. The majority of dialysis is performed with an artificial kidney, which is called hemodialysis. Patients usually must visit a treatment center three times a week, where they are connected to a dialysis machine for 4–5 hours, but it is also possible to perform hemodialysis at home. Another form of dialysis is peritoneal dialysis, where the peritoneum is used as the dialysis membrane. Dialysis is used to take care of the kidneys' most important functions: fluid, electrolyte, and acid-base balance, and to remove harmful waste products from the body. Since dialysis treatment cannot completely replace the kidneys, dialysis patients need a regular diet and medication. In addition to dialysis therapy, patients usually take antihypertensive drugs, blood phosphate lowering drugs, vitamins, and red blood cell production boosting drugs to prevent anemia. (Pasternack 2012; Saha 2024.)

2.2.1 Kidney transplant

A successful kidney transplant will have a function close to the natural kidney and is considered the most effective treatment of chronic kidney disease. A transplant may help the patient to return to a state of good health without dialysis. A transplantation is performed by a surgical operation, and after transplantation, the patient's condition is usually much better than during dialysis treatment. To maintain the function of the transplanted kidney it is important that the patient commits to taking anti-rejection medication daily and to having regular follow-up. A successful transplantation may last

for many years, but if the transplant fails, dialysis or a new transplantation are still options. (Ahopelto & Lempinen 2024.)

2.2.2 Hemodialysis

Dialysis aims to change the composition of uremic blood closer to normal. To achieve this, the most of chronic kidney disease patients are having hemodialysis treatment where blood is cleaned extracorporeally using a dialysis machine. In hemodialysis treatment, blood is passed through a synthetic filter, i.e. a dialyzer. Patients' blood is purified in a dialyzer before it is returned back to the patient. The role of a dialyzer is to simulate the function of a healthy kidney, so it is called an "artificial kidney". The transfer of molecules through the dialysis membrane from blood to dialysis fluid or vice versa is based on two different events. In diffusion, the transfer is caused by the difference in the concentration of molecules on different sides of the membrane. In convection the movement of molecules is based on the pressure difference on different sides of the membrane. (Pasternack & Honkanen & Metsärinne 2012 I.)

In hemodialysis, excess fluid is removed from the blood flowing through the fiber because the pressure inside the hollow fiber is higher than outside. This process is called ultrafiltration. Hemodiafiltration (HDF) combines the benefits of diffusion and convection into one therapy to improve the removal of higher molecular weight uremic toxins. During the treatment, sterile substitution fluid is infused into the patient through the dialysis machine and an equivalent amount of fluid is removed out of the patient's circulation through the dialyzer: this helps to maintain stable hemodynamics but increases convection and thus clearance during treatment. (Garlich & Goldfarb 2011: 173.) Blankestijn et al (2023: 9) showed in their large, randomized CONVINCE -study that patients with chronic kidney disease who received high volume hemodiafiltration had a reduced risk of death and cardiac arrest than patients receiving conventional hemodialysis.

2.2.3 In-center hemodialysis

Hemodialysis treatment is usually given for at least 3-4 hours three times a week, often in a dialysis unit. In-center care has limited patient treatment time, which is more likely to result in high ultrafiltration levels. A retrospective study of 118 000 patients by Assimon et al (2016: 9) showed that higher levels of ultrafiltration were connected with an increased risk of death. Higher levels are also associated with acute symptoms such as seizures, nausea, and lower blood pressure. (Assimon et al. 2016: 7-9.)

However, if patients receive high volume hemodiafiltration during the treatment, that is proven to be the most favorable treatment mode to lower the risk of death, they have better balance in their care (Blankestijn et al 2023: 9).

2.2.4 Home hemodialysis

Hemodialysis can also be performed at home, which allows for shorter treatment times and more frequent sessions (Saha 2021). More frequent treatment is more physiological than conventional dialysis, as it more closely resembles normal kidney function. Thus, there is less variation in body water volume, waste accumulation and electrolyte levels. When treatments are performed more often, less fluid needs to be removed each time. More frequent hemodialysis causes patients fewer side effects, such as malaise, headache, and muscle cramps, than in-center dialysis. (National Kidney Foundation 2024.)

Hemodialysis can be performed at patients home with conventional hemodialysis machines, just like in dialysis center, but treatment is done at by patient or care assistant. Treatments can be shorter and done as a short daily basis, which means that treatments are carried out 5-7 times a week. (National Kidney Foundation 2024.) There is also a possibility to have smaller size dialysis machines at home which are easy to use and designed for short daily hemodialysis: this treatment mode is also called low volume dialysis. This is a form of hemodialysis where the low flow of dialysate allows more time for diffusion and more complete urea saturation. The treatment requires a smaller amount of dialysate than conventional treatment. (NxStage 2013: 8.) These treatments can be performed on a short daily basis, or nocturnal treatments during nighttime while patient sleeps, usually 5-7 times per week. It is also possible to combine daily and nocturnal home hemodialysis: prescription depends on patient needs, medical condition and used device. (National Kidney Foundation 2024.)

2.2.5 Peritoneal Dialysis

Another form of dialysis is peritoneal dialysis, where the peritoneum is used as the dialysis membrane. Dialysis fluid is drained into the peritoneal cavity, where harmful substances are slowly removed from the blood. When the fluid in the abdominal cavity is drained out, the harmful substances are removed with it. (Saha 2021.) Peritoneal dialysis is a continuous and gentle treatment and can be done at home or other

locations, including when traveling. There is flexibility in the treatment schedule to fit patients' daily activities. (Pasternack & Honkanen & Metsärinne 2012 II.)

To remove excess water from the body during peritoneal dialysis, there is added sugar in the dialysis solution. The sugar acts as an osmotic agent, allowing the excess fluid to move from the body through the peritoneum towards a stronger solution, the dialysis solution. Fluid is removed until the difference in concentration between the fluids is equalized. This fluid is then drained into a drainage bag and replaced by a clean solution. The filling and draining process can be performed manually during the day with 2–3 liters of liquid, which is changed every 4–8 hours.; this process is called continuous ambulatory peritoneal dialysis (CAPD). It can also be done automatically at night using an automated peritoneal dialysis (APD) machine. (Pasternack & Honkanen & Metsärinne 2012 II.)

2.3 Advantages of home dialysis

2.3.1 Clinical advantage of home hemodialysis

The clinical advantages of home dialysis are mainly based on that treatments can be performed at home more frequently than in dialysis unit. More frequent hemodialysis has been connected with better blood pressure control and was found to be beneficial for changes in left ventricular mass. (Chertow et al. 2010: 7.) Home hemodialysis patients the need for medication, like blood pressure medications and erythropoietin, is remarkably lower compared to other hemodialysis patients, when the treatments are performed frequently (Bakris et al 2016: S19-S20; Demirci et al. 2015: 244). These patients were also more likely to get to the transplantation waiting list and they had better 5-year survival rate compared to in-center dialysis patients (Weinhandl et al. 2012: 908-910).

Hemodialysis can cause patients to feel unwell and weak due to rapid fluid removal. Home hemodialysis patients have been found to have better recovery time after dialysis and more energy than in-center hemodialysis patients (Jaber et al 2011: 1052-1053; Jaber et al 2010: 536-538). More frequent dialysis is also associated with better appetite, nutritional status, and body weight. These patients have less restricted diet than in-center hemodialysis patients, so they can eat and drink more freely. (Sikkes & Kooistra & Weijs 2009: 497.)

Restless legs symptoms are quite typical with hemodialysis patients. Most patients with symptoms of restless legs suffer from sleep disorders that can lead to sleep fragmentation and deprivation, and because of this to anxiety and depressive symptoms. Short daily home hemodialysis is connected to an enhancement in the incidence and intensity of restless legs symptoms and sleep disorders. (Jaber et al 2011: 1052-1053.)

Home hemodialysis patients are also more likely to continue or go back to work or school than in-center dialysis patients (Purnell et al. 2013: 7). Up to 20-30% of chronic kidney disease patients suffer from depression. Higher depression rate is associated with higher morbidity and mortality (Lopes at al 2006: 205-206; Cohen et al 2007: 1339.) Jaber et al (2010: 533) found in their FREEDOM (Following Rehabilitation, Economics and Everyday-Dialysis Outcome Measurements) study that patients having home dialysis had fewer depressive symptoms and helped them recover from therapy significantly faster.

2.3.2 Clinical advantage of peritoneal dialysis

Most of the patients with chronic kidney disease are eligible for peritoneal dialysis. Peritoneal dialysis is a technically relatively easy treatment modality to implement independently, and its advantage is the preservation of the patient's residual renal function. Residual renal function is connected with better overall well-being and health of dialysis patients. Peritoneal dialysis is a gentle form of treatment for the body, and it effectively simulates the natural function of the kidney. (François & Bargman 2014: 449-452.)

With chronic kidney disease patients, anemia is a common complication, and it has been found to cause left ventricular hypertrophy. Peritoneal dialysis patients have been found to have a lower need for erythropoietin use, as they usually do not have as severe anemia as other dialysis patients. Peritoneal dialysis patients are also more likely to receive kidney transplant than patients in in-center dialysis care. (Snyder at al. 2004: 175-177.) Peritoneal dialysis patients may have a less restricted diet than in-center hemodialysis patients, as the accumulation of waste and excess fluids between treatments is reduced due to the continuous nature of peritoneal dialysis (NIDDK 2025).

2.3.3 Societal advantage of home dialysis

The morbidity and mortality rate of home dialysis patients is lower than in-center dialysis patients. With less morbidity, home dialysis patients are more vital, spend fewer days in the hospital, and use less medication than other dialysis patients. (Bakris et al 2016: S19-S20; Lopes at al 2006: 205-206; Cohen et al 2007: 1339.)

It has been found that home dialysis patients are more likely to work than other dialysis patients. With this, home dialysis patients earn more salary income and therefore also pay tax income to society, and thus indirectly better able to contribute to the cost of their care. Home dialysis patients often receive care or disability benefits to cover the costs of home-based treatment but need less social security for general life support. (Arponen 2021: 72-73; Krahn et al 2019: 556-558.)

Home dialysis is more cost-effective than treatment in a dialysis unit. In home dialysis, a large part of savings come from remarkably lower salary costs for nursing staff, lower transportation, and medication costs. In hospital dialysis, additional costs arise especially from the maintenance of infrastructure and personnel costs. On a global level, healthcare is burdened by a shortage of nurses. In home dialysis setup, nursing resources are mostly needed during the training phase and later occasional control visits at the hospital. When home dialysis patients have been trained to perform their treatments independently resources are freed up. In-center patients need nursing resources several times a week throughout their whole hemodialysis treatment period, and this significantly increases the cost of treatment. (Arponen 2021: 83-84; Krahn et al 2019: 558-560; Perl et al 844-848.)

Home dialysis also has positive environmental effects. Home dialysis has been found to have a smaller carbon footprint than in-center dialysis although home patients perform treatments more often than in-center patients, and with this, more waste is generated. Devices designed for home dialysis generally consume less electricity and water than devices at the hospital. In-center dialysis patients produce significantly more CO2 emissions than home dialysis patients, as they need to travel to and from the dialysis care unit several times a week. (Yeo, Ooi & Tan 2022: 1-4.)

2.4 Disadvantages of home dialysis

Dialysis performed at home can be perceived as isolating from others, and home dialysis patients suffer more from loneliness than other dialysis patients. Some of home dialysis patients can suffer from that they do not receive adequate supervision and are afraid of the risk of adverse events. (Masterson 2008: 18-20; Sukul et al. 2019: 2.) Infection-related issues are possible disadvantages of home dialysis. In peritoneal dialysis, catheter-related peritoneal infections are possible. In home hemodialysis, infections can occur through vascular connections, but these infections are also possible in hospital setting. (Masterson 2008: 18; National Kidney Foundation 2025; Sukul et al. 2019: 2.)

Patients who undergo nocturnal treatments suffer more from insomnia, as the handling of devices and possible alarms interrupt sleep. Some patients suffer from treatment fatigue, as home dialysis requires a considerable amount of time and planning from the patient to carry out the treatment, and home dialysis may be perceived as binding. Home dialysis can also cause a burden on the family because family members can act as a care partner or experience increased responsibility for assisting in the patient's care. (Masterson 2008: 18; National Kidney Foundation 2025; Sukul et al. 2019: 2.)

Dialysis machines and fluids, as well as supplies, require a significant amount of space, which can make a home resemble a hospital. The patient's home may require renovations, such as electrical or plumbing work, to make it suitable for the use of dialysis machines. Home dialysis may cause additional utility costs for the patient to pay that in-center dialysis patients do not incur. (Masterson 2008: 18-20; Sukul et al. 2019: 2.)

2.5 Goal of increasing home dialysis patients

Chronic kidney disease can be treated at home with hemodialysis or peritoneal dialysis, either almost daily or on a continuous basis. This also generally allows patients to resume a more normal daily life, improving their quality of life. Home dialysis has been shown to improve patients' well-being, as frequent dialysis reduces fluid load and electrolyte imbalances, resulting in fewer sequelae such as cardiovascular events. (Rauta 2019: 2377.)

Although the effects and benefits of home dialysis for patients, healthcare system and society are widely known, and nephrology professionals believe that up to 50% of dialysis patients are capable of performing home dialysis, its use is still relatively limited worldwide (Perl et al 2023:842; Brown & Brivio & Van Biesen 2023: i3 ; Schiller & Neitzer & Doss 2010: 40-42). KDIGO The Finnish Society of Nephrology has set a national goal of increasing home dialysis patients by the end of year 2025 to 40%. According to the latest statistics, where the number of home dialysis patients is shown as such, 23% of Finnish dialysis patients were on home dialysis in 2022. The aim is to achieve a significant increase in referrals to home dialysis treatments in Finland. The small increase in the number of home dialysis patients can be explained by the significant increase in the number of kidney transplants. (Finnish Society of Nephrology 2022: 33.)

The Finnish Society of Nephrology states in its strategy that increasing home dialysis requires more work and resources in treatment planning and at the start of treatments than in-center hemodialysis. The choice of treatment modality has a significant impact on patients' quality of life, as well as costs for patient and health care system; thus, the need for information and education of health care professionals and patients will play a particularly important role in increasing the uptake for home dialysis. (Finnish Society of Nephrology 2022: 31.)

3 Purpose and aim

The aim of this masters' thesis is to explore the factors that promote or prevent home dialysis uptake from the patient's point of view. The purpose is to offer more in-depth knowledge for healthcare professionals on the topic.

The research question of this masters' thesis: What are the factors for the patient that promote and prevent home dialysis uptake?

4 Research method and data collection

The aim of the scoping review is to understand how the topic has been studied and to get an overview of the research topic and its themes. A scoping review helps to identify the key factors and characteristics that relate to the concept and to identify and analyze gaps in existing research knowledge. The aim of scoping review as a research method is to cover a relatively wide range of research subjects, in which case it is justified to include several different study methods and there is usually no need to evaluate the quality of the studies. (Munn et al 2018: 2-3 ; Peters et al 2020.) The method used in this masters' thesis is a scoping review.

Before producing a scoping review, it is necessary to develop a priori protocol that defines for the review the objectives, methods, and reporting. The protocol also enables the review process to be transparent. The protocol can be used to create a plan for conducting a scoping review, and it helps the reviewer to avoid during the process the possibility of reporting bias. The purpose of the protocol is to detail what kind of inclusion and exclusion criteria the reviewer is going to use for the sources of evidence, and to recognize what kind of data is relevant for the review, and how the data will be processed and presented. In order to achieve the best possible result for the scoping review, it is important to form clear research questions, critically evaluate the quality of the selected sources, and to document all steps of the information search carefully. (Peters et al 2020 ; Stolt & Axelin & Suhonen 2016: 111-115.)

For this scoping review has followed Joanna Briggs Institutes scoping review framework from Manual for Evidence Synthesis (2020) that was originally proposed by Arksey and O'Malley year 2005, which was later improved by Levac et al. (2010), and Peters et al. (2015). Identifying the research question is the first stage of the framework. It is the stage that guides the way how search strategies are built, by defining the concept, target population, and outcomes of interest to settle the focus of the scoping review. It is recommended to keep wide approach in order to obtain a broad coverage of the resources. (Arksey & O'Malley 2005: 23-24 ; Peters et al. 2020.)

Next stage is to identify studies and reviews for answering the set research question. Materials can be sourced from research databases, research reference lists of studies that has found through the database searches, by doing a manual search from key journals, using existing information and network form applicable organizations and guidelines, or related conference materials. It is recommended to ensure that decisions around feasibility do not compromise the capacity to answer the research question or

obtain the study purpose. If there is a need for limiting scope, decision should be justified properly and acknowledge the potential limitations of the study. (Arksey & O'Malley 2005: 24-27; Levac & Colquhuon & O'Brien 2010.)

Once all relevant studies have been identified, a screening process is performed on the data, eliminating studies that do not address the central research question and selecting those that are suitable for use. Based on the framework, it is recommended that a larger team participate in reviewing the data in order to ensure that the data is as comprehensive as possible. In this Masters' thesis there is only one data reviewer. The following stages cover data charting, collation, summarization, and reporting of results. (Arksey & O'Malley 2005: 24-28; Levac & Colquhuon & O'Brien 2010.)

4.1 Search strategy

For the development of objectives and research questions it is useful to utilize frameworks like PCC, where P = Population, C = Concept, and C = Context. Using framework, it is easier to create an explicit and relevant title for the scoping review. In PCC framework population refers to a specific group of people or entities that the scope review focuses on. This could include healthcare professionals, patients, or even organizations. The purpose of the concept is to express the topic, phenomenon, or central idea that the review intends to explore. Context aims to point relevant environment, setting, or conditions for the scoping review. The framework can be used to define concepts that are used to form search terms when conducting a literature search. (McLeod 2024: 5-6; Peters et al 2020.)

In this masters' thesis PCC framework has been used to determine the research strategy. The aim was to study factors that promote and prevent (C) home dialysis uptake (C) from the patients' (P) point of view. The PCC framework for this scoping review is presented in Figure 1.

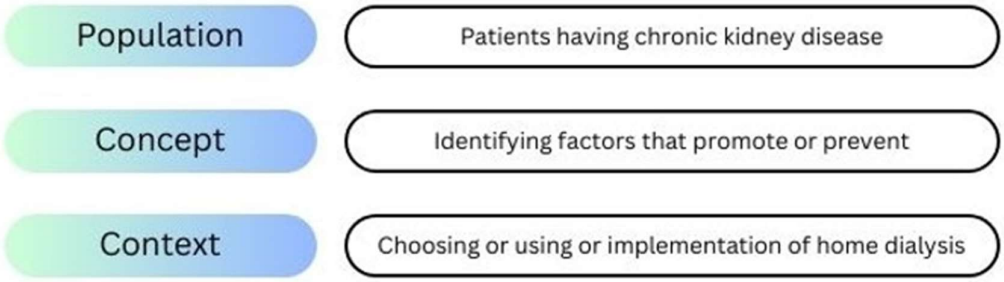

Figure 1. PCC Framework for the scoping review

4.2 Inclusion and exclusion criteria

For scoping review, inclusion and exclusion criteria should be specified before planning a strategy. The criteria do not need to be set very strict at the beginning, but it is a good idea to refine them as the research process progresses. Inclusion and exclusion criteria must be well-founded and disclosed in the scoping review. Specific criteria can be used to create a clear understanding for both the reader and the researcher of what kind of material is included in the review. In addition to research literature, a scoping review may also include non-research sources. In this case, it is important to clarify what types of sources are being reviewed. (Arksey & O'Malley 2005: 23-24; Peters et al. 2020.)

The inclusion criteria for this scoping review for the selected language were limited to studies in English. During the pilot search, studies were also searched in Finnish, but no suitable results were found. For this reason, Finnish-language databases were not utilized in this scoping review. The purpose of the review was to collect the latest possible research data related to the research question, so the publication period was limited to 10 years, because the latest technological developments and digital solutions could have an impact on the results. In inclusion criteria were specified that the studies should be peer reviewed. Studies that dealt with pediatric patients and adult patients in assisted care were excluded from the search, as these studies considered the perspective of the parent or caregiver, which would not answer the research question. Inclusion and exclusion criteria for this scoping review presented in Figure 2.

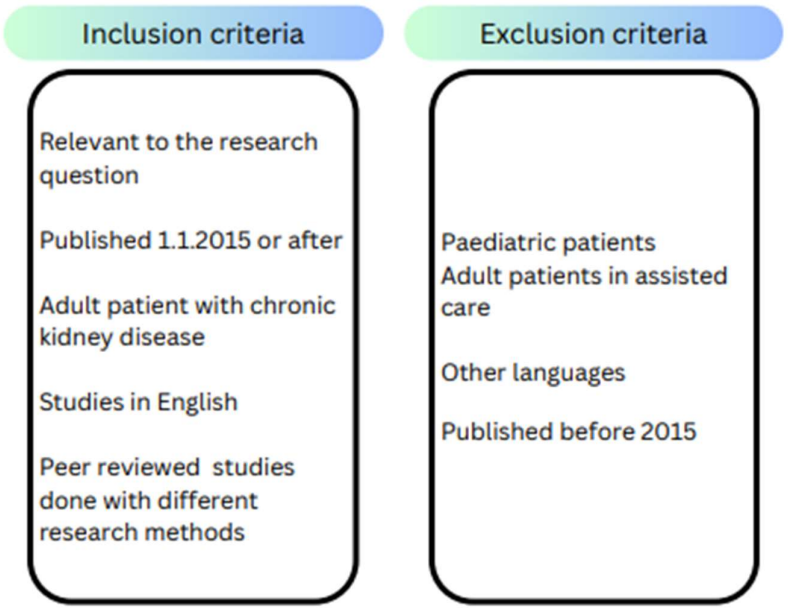

Figure 2. Inclusion and exclusion criteria

4.3 Literature search and data selection

In a scoping review, the search strategy should aim to be as comprehensive as possible within the time and resources available. If there are any limitations to the scope and coverage of the search, these should be meticulous explained and justified. JBI Manual for Evidence Synthesis 2020: search strategy for scoping reviews recommends using a three-step search strategy for all types of reviews. At the first step it is suggested to run an initial search of at least two suitable databases that are relevant to the research question. After initial search should perform an analysis of the keywords contained in the title and abstract of retrieved studies, and of the index terms used for describing the articles. At the second step it is suggested to run a search using found keywords and index terms with all chosen databases. At the third step the reference list of found articles should be explored for additional sources. (Peters et al 2020.)

The pilot search was performed with PubMed, Sage Journals, CINAHL Complete (Ebsco), and ProQuest Central databases in November – December 2024. The purpose of the pilot search was to delve deeper into the chosen topic and identify possible and relevant search words for actual literature search. At this stage, the direction of the scoping review and the desired research question became clearer to

the researcher. The index and keywords that emerged in the materials through the pilot search provided clarity for finding suitable search terms for answering the research question.

The final search was performed in December 2024 with four different databases and yielded the following search results: MEDLINE (n=209), Sage Journals (n=29), CINAHL Complete (Ebsco) (n=61) and ProQuest Central (n=98). In total studies were identified n = 397. Search was conducted by using search words presented in Figure 3, where the search strings were connected with a combination of the keywords with Boolean operator by adding "AND" and "OR" when it was relevant. The data selection process is described in the Prisma diagram by Moher & Liberati & Tetzlaff & Altman (2009).

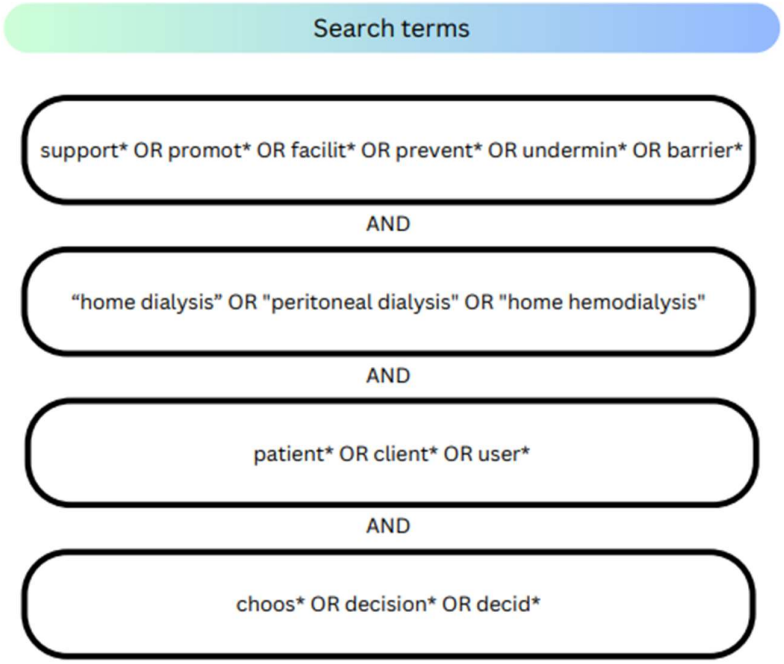

Figure 3. The search terms

After the removal of duplicate studies, there were n = 357 studies left to screen by title and abstract. The screening resulted in 86 studies for review, divided among databases as follows: MEDLINE (n=34), Sage Journal (n=12), CINAHL Complete (Ebsco) (n=19) and ProQuest Central (n=21). This left a total of 81 studies for closer examination, where three additional studies were identified with manual search through other sources during data screening process. The remaining studies were reviewed

and after assessment, a total of fifteen studies were included in the review. Selected studies are presented in APPENDIX 1.

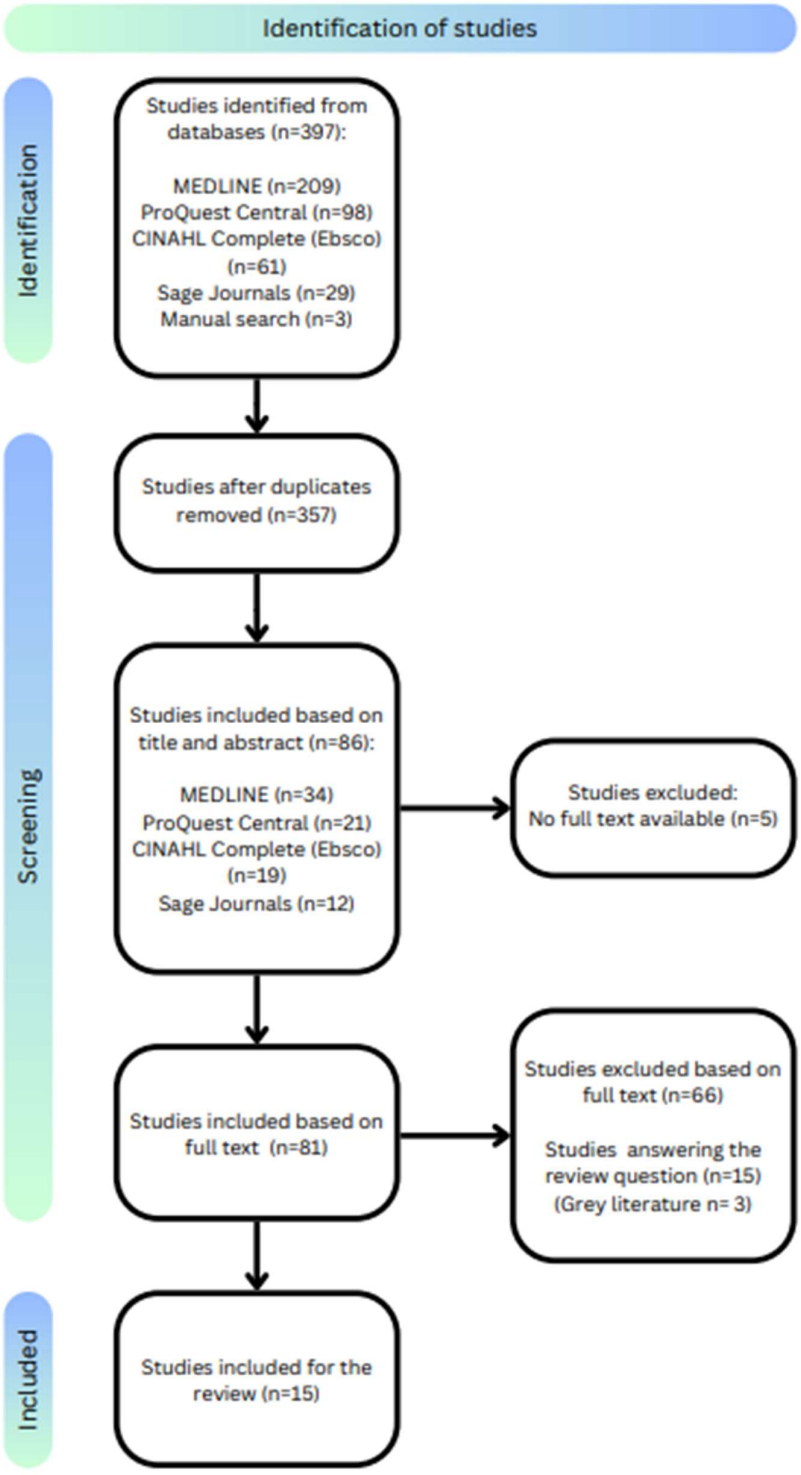

Figure 4. PRISMA diagram (adapted from Moher et al. 2009).

4.4 Quality assessment

The selected studies were evaluated by using The Critical Appraisal Tool proposed by Hawker, Payne, Kerr, Hardey, and Powell (2002). Studies were scored with nine-point checklist, where assessment is converted to numbers: 1=Very poor, 2=Poor, 3=Fair, 4=Good. The checklist covered nine different areas of the research. Abstract and title were evaluated based on the description of the study. Introduction and aims of the study were evaluated by the description of the background and clearness of the aims. Method and data were evaluated based on suitability and clear presentation. Sampling was evaluated based on the appropriateness of the strategy to achieve the aims. Data analysis was evaluated based on if the description of analysis was sufficiently rigorous. Ethics and bias were evaluated based on how ethical issues were addressed, and how the relationship between researchers and participants was considered. Results were evaluated based on how clear the statement of the studies were. Transferability or generalizability was evaluated based on if the findings are applicable for wider context. Implications and usefulness were evaluated based on the importance of findings to policies and practices. (Hawker et al. 2002.)

The fifteen studies included in this review had an average score of 30.3 out of a possible 36 in quality assessment. The total scores of the studies ranged from 25 to 33, so the quality of the included studies is on a scale from poor to good. The highest scores in the quality assessment were achieved by “Abstract and title” (3.7/4), and “Method and data” (3.6/4). The lowest average score in the comparison were “Ethics and bias” (3.1 /4), and “Transferability or generalizability” (3.1 /4). All quality assessment scores are presented in Table 1.

Table 1. Quality assessment of the included studies

Critical Appriasal Tool by Hawker et al. (2002)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	Total
1. Cassidy et al. 2018	4	4	3	3	4	3	3	3	3	30
2. Chess et al. 2024	4	4	4	4	3	2	4	4	3	32
3. Chiang et al. 2016	3	3	3	2	2	3	3	3	3	25
4. Dahlerus et al. 2019	4	3	4	3	4	2	3	3	3	29
5. Diebel et al. 2020	4	4	4	4	4	3	4	3	3	33
6. El Shamy et al. 2020	3	3	2	2	3	3	3	2	3	24
7. Friberg et al. 2018	3	3	4	4	4	3	4	4	4	33
8. Mathew et al. 2018	4	4	3	3	4	3	3	3	4	31
9. Noyes et al. 2021	4	3	4	3	3	3	3	3	4	30
10. Rizzolo et al. 2023	4	3	4	3	3	3	4	3	3	30
11. Robinski et al. 2015	4	4	4	3	3	3	4	3	3	31
12. Schellartz et al. 2021	4	4	3	4	4	3	3	3	2	30
13. Vélez-Bermúdez et al. 2021	3	3	4	4	3	4	3	3	3	30
14. Walker et al. 2016	4	4	4	3	3	4	4	3	4	33
15. Zee et al. 2018	3	4	4	4	4	4	4	3	3	33
Average score	3,7	3,5	3,6	3,3	3,4	3,1	3,5	3,1	3,2	30,3

1. Abstract and title
2. Introduction and aims
3. Method and data
4. Sampling
5. Data analysis
6. Ethics and bias
7. Results
8. Transferability or generalizability
9. Implications and usefulness

4.5 Data analysis

Unlike when conducting a systematic literature review, the purpose of a scoping review is not to synthesize the results of research sources. When conducting a scoping review, results can be selected and mapped out descriptively. The purpose is primarily to find information from the sources included in the review and map them, rather than to evaluate or synthesize the results, as in systematic literature reviews. (Peters et al. 2020.)

When conducting a scoping review, it is important to remember that qualitative content analysis should usually be descriptive, so systematic analysis or synthesis should not be performed. The data in a scoping literature review is analyzed largely according to the purpose of the literature review. The most important thing in terms of scoping review analysis is that researchers operate transparently and clearly report any possible analyses. (Peters et al. 2020.)

When analyzing material with the intention of building knowledge from the material, inductive analysis can be used. The analysis is challenging, when a completely pure inductive analysis is not possible: the researcher should not have any preconceived notions about the subject under study, in order to obtain a completely pure analysis. During the analysis, the material is intended to be reduced, conceptualized, and reassembled into a descriptive phenomenon. (Tuomi - Sarajärvi 2018, 95-99.; Erlingsson & Brysiewicz 2017: 94.)

Inductive analysis reduces the amount of collected data, identifies and groups categories together. By internalizing the material, the reviewer can draw conclusions. Selected studies should be read and re-read to gain a sense of the whole to have and a general understanding of what the chosen studies are fundamentally trying to convey. From the selected studies should identify information that addressed the review question. This information is divided into condensed parts, also known meaning units. Meaning units are further condensed so that the core meaning remains unchanged. (Erlingsson & Brysiewicz 2017: 94-96.) The inductive content analysis was used to analyze the material in this scoping review.

5 Results

Fifteen contextually relevant studies that met the inclusion criteria were chosen for this scoping review. The selected studies included qualitative descriptive studies (n=2), retrospective cohort studies (n=4), cross-sectional studies (n=5), semi-structured interview studies (n=3), and a prospective observational cohort study (n=1). Studies were published in USA (n=5), Canada (n=3), Wales (n=2), Germany (n=2), New Zealand (n=1), Sweden (n=1), and Taiwan (n=1). The studies included in this review have been published in 2016 (n=4), 2018, (n=4), 2020 (n=2), 2021 (n=2), 2022 (n=1), 2023 (n=1), and 2024 (n=1). (APPENDIX 1.)

The selected studies included the patient's perspective on the choice of either peritoneal dialysis (n=5), home hemodialysis (n=1), or both (n=9) (APPENDIX 1). From the studies arose three different themes: patient related, support related, and educational factors. These themes have been divided into promoting and preventing sectns presented in tables 2-7.

5.1 Patient related factors that promote home dialysis

Three different promoting categories were identified around the theme of patient related factors: the patient's current status, the patient's values, and willingness to autonomy. These categories were identified and further divided into thirteen subcategories as presented in Table 2.

Table 2. Patient related factors that promote home dialysis uptake

Higher education	Patient's current status	Patient related factors
Younger age		
Less morbidity		
Employed		
Ethnical factors: white race, non-hispanic		
Fit for lifestyle	Patient's values	
Not feeling washed out		
Physical well-being		
Dietary flexibility		
Health benefits		
Better survival		
Independent	Patient's autonomy	
Possible to plan own treatment schedule		
Willingness to take responsibility of care		

5.1.1 Patient's current status

Factors related to the patient's current status played a significant role in the choice of home dialysis. Studies show that the choice of the home dialysis modalities is supported by the younger age of the patient which had a direct impact on the patient's confidence in their ability to participate in their own care. Preparing and performing dialysis can require dexterity of the fingers, muscle strength to manage fluid bags and adequate vision, for example for handling needles Higher levels of education were related to patients' confidence in dealing with problematic situations and technical issues. (Chess et al. 2024: 7; Chiang et al. 2018: 4; Robinski et al. 2016: 566, Schellartz et al. 2021: 8, Zee et al. 2018: 5.) In addition, the low level of other medical conditions of patients has been found to have an impact on the choice of treatment (Schellartz et al. 2021: 8; Chess et al. 2024: 7; Robinski et al. 2016: 566).

Patient ethnicity had also an impact: white and non-Hispanic patients were more likely to have a home dialysis than patients from other ethnic backgrounds (Robinski et al.

2016: 567; Vélez-Bermúdez et al. 2022: 7; Zee et al. 2018: 4). Chiang et al (2018: 4) found in their study that a patient's current employment or studies, and patients with more activities of daily living have a positive effect on the uptake of home dialysis modalities.

5.1.2 Patient's values

Patients who opted for home dialysis valued that treatment modalities fit well to their lifestyle, and they were better able to continue their normal lives (Cassidy et al. 2018: 3-4; Dahlerus et al. 2016: 908; Noyes et al. 2021: 8; Walker et al. 2016: 136). Home dialysis patients have more dietary flexibilities, as they can eat and drink much more freely than in-centre care patients due to the continuous nature of home dialysis. This was perceived by patients as an important factor in choosing home dialysis. (Rizzolo et al. 2023: 6; Robinski et al. 2016: 568; Zee et al. 2018: 6.)

In-center dialysis can be very burdensome for the body and patients may feel "washed out" after treatment: patients who chose home dialysis modalities perceived physical well-being and balance as a positive factor in their choice (Chiang et al. 2018: 5; Dahlerus et al. 2016: 908; Rizzolo et al. 2023: 6; Robinski et al. 2016: 567). Both peritoneal and home hemodialysis have been shown to have several health benefits, including fewer cardiovascular events, better fluid and electrolyte balance, improved muscle mass and appetite, and better sleep quality, and thus fewer medications compared to in-center dialysis. (Bakris et al 2016: S19-S20; Demirci et al. 2015: 244; François & Bargman 2014: 449-452; Sikkes & Kooistra & Weijs 2009: 497). According to Walker et al. (2016: 137), increased physical well-being and less need for medication have played a significant role in patients' decision to choose home dialysis. Patients' awareness of better survival and a higher likelihood of receiving a transplant are in distinguished role in the choice of home treatment (Friberg et al. 2018: 337; Walker et al. 2016: 137).

5.1.3 Patient's autonomy

Patients who experienced the importance to be able to maintain independence and autonomy in their own care were more likely to choose home dialysis. In in-center dialysis, patients' treatment schedules are predetermined by the hospital and patients themselves have little control over them. Treatments must be given regularly to maintain the balance of the body, most commonly three times a week. With travel times, patients can spend up to 6-7 hours in one session, making it a very binding and

time-consuming treatment. Patients who choose home dialysis modalities appreciated the possibility to plan their own treatment schedules. (Robinski et al. 2016: 568, Walker at al. 2016: 136.) The most frequently cited factor in choosing home dialysis, according to several studies, was patients' willingness to be involved in their own care and rather than leaving it entirely to health care professionals (Cassidy et al. 2018: 3-4; Chiang et al. 2016: 5; Dahlerus et al. 2016: 904; Robinski et al. 2016: 568; Schellartz et al. 2021: 8; Vélez-Bermúdez et al. 2022: 8; Walker et al. 2016: 136).

5.2 Support related factors that promote home dialysis

Two different categories were identified around the theme of Support related factors: Family and friends support and supporting socio-economic factors. These categories were identified and further divided into ten subcategories as presented in Table 3.

Table 3. Support related factors that promote home dialysis uptake.

Help with treatment	Family and friends support	Support related factors
Previous family / friends experiences		
Encouraging to home		
Ability to work	Supporting socio-economic factors	
Ability to study		
Better income		
Possibility to take care of utility bills		
Ability to help family		
Avoid relocation (rural areas especially)		
Stay as a part of a community		

5.2.1 Support from family and friends

Patients' family and friends play a significant role in their choice of home dialysis. Especially, positive past experiences of loved ones encouraged patients to choose home care. These experiences could be from their own dialysis care, or from work experience if they had encountered or treated home dialysis patients. Patients felt empowered by the success of others and wanted to try home dialysis themselves. (Rizzolo et al. 2023: 6; Vélez-Bermúdez et al. 2022: 8.) Encouragement from family and friends to give a try to home dialysis was seen as a significant factor by patients. Patients perceived the promise of loved ones to help with treatment or act as a care

partner motivated to choose home modalities. (Cassidy et al. 2018: 6; Rizzolo et al. 2023: 6; Vélez-Bermúdez et al. 2022: 8.) Friberg et al. (2018: 339) found in their study that male patients who had a female spouse were significantly more likely, up to three times more often, to end up on home dialysis. This was found to be due to the fact that women often take on the role of caregiver and men rely on their spouses for help.

5.2.2 Supporting socio-economic factors

Patients who undergo in-center dialysis are often tied to treatment schedules, forcing them to leave their jobs or move to part-time work. The possibility of continuing to work or study was seen as a particularly crucial factor for choosing home dialysis. In particular, the opportunity to earn a better income by continuing to work was considered important by patients. In this way, patients felt able to cope with the increased utility costs that may result from home dialysis. It was also seen meaningful for patients to be able to contribute more financially to supporting their families. (Dahlerus et al. 2016: 908; Rizzolo et al. 2023: 6; Walker et al. 2016: 136.)

Where patients live also had an impact on dialysis modality decision making. Walker et al (2016: 136-137) stated that patients located in rural areas were more likely than other dialysis patients to choose home dialysis. Through home dialysis modalities, these patients were able to avoid relocation and disconnection from their community if access to dialysis care at the treatment facility would have been impossible from their current place of residence. According to Friberg et al. (2018: 388) study, patients who chose home dialysis and lived far away from the dialysis unit appreciated the fact that they did not have to travel long distances to receive treatment.

5.3 Educational factors that promote home dialysis

Two different categories were identified around the theme of *educational factors*: Support to decision making and educational. These categories were identified and further divided into thirteen subcategories as presented in Table 4.

Table 4. Educational factors that promote home dialysis uptake

Shared decision making	Support to decision making	Educational factors
Meeting other patients valuable		
Peer support valuable		
Peer support reassuring		
Tailored education	Educational support	
Repeated exposure to information		
Appropriate information		
Appropriate time		
Comprehensive education		
Differences of options well explained		
Interest to study independently		
Competence to study independently		
Communication with understandable words / term		

5.3.1 Support to decision making

Shared decision making is a process where healthcare professionals and patients together make choices to manage patient's health. This process requires adequate information for the patients to be able to determine their choices. (Légaré & Thompson-Leduc 2014: 281.) According to the studies, patients felt that shared decision making with a multidisciplinary team played a significant role in their choice of home dialysis (Cassidy et al. 2018: 5; Noyes et al. 2021: 6; Robinski et al. 2016: 566; Zee et al. 2018: 6). In addition, meeting other home dialysis patients and exchanging experiences was seen valued. Peer support was thought to be reassuring and supportive of patients' choice of home dialysis modalities. (Noyes et al. 2021: 6; Walker et al. 2016: 137.)

5.3.2 Educational support

Patients who were given sufficient time and information for education were more likely to choose home dialysis than in-center patients. Repeated exposure to information enhanced patient-oriented decision making as not all patients may be able to give their opinion quickly and need time to weigh up their options. (Cassidy et al. 2018: 4; Robinski et al. 2016: 566.) According to a study by Cassidy et al. (2018: 4), individually designed and tailored education and information for each patient encouraged more patients to choose home dialysis. Clear communication in understandable language in a patient-centered way, and a comprehensive range of different tools for training helped in decision making. Different types of tools may have included written material

(brochures and books), predialysis courses at regular intervals, peer education from other patients with chronic kidney disease, online trainings, or hands-on trainings. (Cassidy et al. 2018: 4; Friberg et al. 2018: 338; Robinski et al. 2016: 566.) In addition, the amount of information was found to be important for the patient's choice: Friberg et al. (2018: 338) found in their study that patients who had three or more sources of information had a remarkably higher likelihood of choosing home dialysis than in-center treatment.

Patients with an immigrant background benefited from the training provided in their native language, as it increased the patients' self-confidence in performing home dialysis. (Rizzolo et al. 2023: 10; Walker et al. 2016: 137.) Patients appreciated comprehensive information about the advantages and disadvantages of all possible treatments and honest communication about their impact on their daily lives (Vélez-Bermúdez et al. 2022: 8). Patients' interest and competence to study options independently positively influenced their choice of home dialysis (Shcellartz et al. 2021: 8; Vélez-Bermúdez et al. 2022: 8.)

5.4 Patient related factors that prevent home dialysis uptake

Three different preventing categories were identified around the theme of patient related factors: Current status, Negative emotions, and Lack of motivation. These categories were identified and further divided into eighteen subcategories as presented in Table 5.

Table 5. Patient related factors that prevent home dialysis uptake

High age	Current status	Patient related factors
High morbidity		
Lower educational level		
Unemployed		
Ethnical factors: African, latino, aboriginal		
Fear for major health event at home	Negative emotions	
Concerns over body image		
Fear of needles		
Fear of infection		
Fear of isolation		
Thinking that HCP should do care	Lack of motivation	
Treatment should be done at clinic		
Lack of confidence		
Like to see other patients		
Satisfied with ICHD, no need to change		
Issues with technology		
Issues with devices		
Lifestyle restrictions		

5.4.1 Patients' current status

Higher age and the frailty that comes with age were found to be a barrier to choosing home dialysis. In addition, patients with multiple other medical conditions were less likely than healthier patients to opt for home dialysis modalities. (Chess et al. 2024: 4; Chiang et al. 2018: 5; Robinski et al. 2016: 563, Schellartz et al. 2021: 8, Zee et al. 2018: 5.) Several studies show that a patient's ethnic background has an impact on lower use of home dialysis: African, Latinx, and Aboriginal were less likely than patients from other backgrounds to end up with home dialysis modalities. Ethnic background was found to influence the choice, e.g. due cultural differences or language barrier. (Diebel et al. 2020: 6; Rizzolo et al. 2023: 7-8; Robinski et al. 2016: 563; Vélez-Bermúdez et al. 2022: 8; Zee et al. 2018: 4.)

Chiang et al. (2018: 5) report in their study that patients who were already unemployed when choosing their treatment option did not perceive the benefits of the freedom offered by home dialysis as meaningful to them as those who were employed. Patient's low education level have a negative impact on the choice of home dialysis modalities,

and these patients feel more insecure about participating in their own care (Diebel et al. 2020: 6; Robinski et al. 2016: 563).

5.4.2 Negative emotions

Patients may suffer from a number of fears that prevent them having a home dialysis. They may fear a major health event at home, such as a seizure during treatment or massive bleeding (Cassidy et al. 2018: 3-4; Diebel et al. 2020: 5). Some patients feared isolation from life outside the home if they were to undergo dialysis independently. This fear was particularly prominent among patients who lived alone or had little or no other daily activities apart from attending dialysis in hospital setting. (Walker et al. 2016: 137.)

Hemodialysis usually requires a vascular access, where needles should be inserted at the beginning of each treatment to transfer blood from the veins to the dialysis machine. Fear of needles or the idea of self-cannulation has been found to be a deterrent to choosing home hemodialysis (Diebel et al. 2020: 5; Walker et al. 2016: 137). To perform peritoneal dialysis, a permanent catheter is placed in the patient's abdomen, allowing the dialysis fluid to drain in and out of the abdominal cavity. In several studies, patients' concerns about negative changes in body image with an abdominal catheter, or abdomen full of dialysis fluid were raised and discouraged them from choosing peritoneal dialysis as a treatment option. These factors related to peritoneal dialysis were thought to have a particularly negative impact on sexuality. Concerns about body image were mostly present among younger patients. (Chess et al. 2024: 7; Chiang et al. 2018: 4; Dahlerus et al. 2016: 908; Friberg et al. 2018: 337; Robinski et al. 2016: 568.) In addition, patients were found to have a fear of infections they might get from vascular access or peritoneal catheter handling (Dahlerus et al. 2016: 908, Rizzolo et al. 2023: 5; Walker et al. 2016: 136).

5.4.3 Lack of motivation

Lack of motivation for patients to participate in their own care was cited as a barrier to choosing home dialysis modalities. These patients often had the perception that dialysis should always be performed in a hospital setting and in surveilled environment, rather than at home (Chess et al. 2024: 3; Diebel et al. 2020: 6; Mathew et al. 2018: 6). For some patients it was important to see other dialysis patients, so they preferred to continue in-center dialysis to support their social life and avoid loneliness (Dahlerus et al. 2016: 905; Friberg et al. 2018: 337; Walker et al. 2016: 136).

Some patients were entirely satisfied with their current treatment at the in-center dialysis that they did not want the situation to change. Patients had the idea that home dialysis could be inconvenient, with all the preparation and monitoring of treatment, so they felt it was better to have the treatment done by trained health care professionals. Patients did not want lifestyle restrictions because of dialysis and hoped that they could simply turn up for treatment on average three times a week and then get on with their lives without any additional worries. (Chess et al. 2024: 3; Diebel et al. 2020: 6; Friberg et al. 2018: 337; Mathew et al. 2018: 6; Rizzolo et al. 2023: 5.)

The studies showed that elderly, migrant and less educated patients in particular were concerned about possible equipment failures or technical challenges during treatment. These patients had a lack confidence towards their own capabilities to learn and lack of motivation to be trained to deal with them. Among these patients, it was felt that the device should only be handled by trained healthcare professionals. (Chess et al. 2024: 5; Dahlerus et al. 2016: 908; Mathew et al. 2018: 6; Rizzolo et al. 2023: 5; Robinski et al. 2016: 568.)

5.5 Support related factors that prevent home dialysis uptake

Two different preventing categories were identified around the theme of Support related factors: Lack of family and friends support, and Socio-economic factors. These categories were identified and further divided into ten subcategories as presented in Table 6.

Table 6. Support related factors that prevent home dialysis uptake

Lack of care partner	Lack of family and friends' support	Support related factors
Lack of family support		
Worry about family burnout		
Partners anxieties about responsibilities		
Worry how dialysis affect others		
Partners changing role into a carer		
Utility costs increase	Socio-economic factors	
No space at home		
No suitable accommodation		
Concerns about landlord disagreement to the home renovations		

5.5.1 Lack of family and friends' support

Patients' concerns were highlighted about potential incidents during treatment, and patients who lived alone or did not have a care partner were more reserved about home care. On the other hand, the lack of support from family and friends have been a barrier to choosing home dialysis. People living in the same household with the patient may have found dialysis at home distressing (e.g., seeing blood, sharp needles, beeping equipment), or may not have wanted to have home a large amount of hospital supplies. (Cassidy et al. 2018: 6; El Shamy et al. 2020: 820.)

Another barrier to home dialysis was found to be the worry and anxiety felt by care partners about new responsibilities if their help was needed to conduct dialysis or observing patient's condition during the treatment. Some spouses or loved ones found the change in their role from partner to carer unwelcome and negatively affected their relationship. (Noyes et al. 2021: 7.) Patients raised concerns about the overall impact of dialysis on the family and in this situation preferred dialysis in a hospital setting. Some patients had concerns about the well-being of family and friends and were found to fear care partner burnout. (Dahlerus et al. 2016: 904; Diebel et al. 2020: 6; Noyes et al. 2021: 7.)

5.5.2 Socio-economic factors

Home dialysis involves increased utility costs and patients often do not receive financial support from society to cover these costs: dialysis machines consume electricity, and some hemodialysis machines need a lot of tap water to conduct treatment and disinfection procedures. Increased utility costs were a barrier for many patients to opt for home dialysis from economical point of view, as in-center patients do not face the same additional costs. (Diebel et al. 2020: 6; Mathew et al. 2018: 5; Walker et al. 2016: 138.)

Patient's living arrangements often became a barrier to choosing home dialysis. Patients may not have had sufficient space to store dialysis equipment and supplies. Another reason was that patients did not want their home to resemble a hospital too much. For some patients, the unsuitability of the home for dialysis use was a barrier, which could be due to factors such as poor-quality water, inadequate electrical systems for dialysis equipment, inadequate hygiene standards in the home or the lack of a permanent residence. In some cases, the property owner may have prohibited

modifications to the home to make it suitable for dialysis treatment. (Diebel et al 2020: 6; El Shamy et al. 2020: 820.)

5.6 Educational factors that prevent home dialysis uptake

Two different preventing categories were identified around the theme of educational factors: Lack of support to decision making, and Lack of educational support. These categories were identified and further divided into ten subcategories as presented in Table 7.

Table 7. Educational factors that prevent home dialysis uptake

Sense of pressure to choose by HCP	Lack of support to decision making	Educational factors
Sense of rushing to choose by HCP		
Never offered home therapies by the medical care team		
Benefits of HHD never explained		
Not enough information about options		
Complexity of information		
Lack of different educational sources	Lack of educational support	
No computer skills		
No time for clinical training at hospital		
Language barrier (immigrants)		

5.6.1 Lack of support to decision making

The lack of knowledge and education of patients was identified as a barrier from the decision-making point of view. Patients reported that they had not been introduced to all treatments or had never been offered the option of home dialysis. The lack of information on the advantages and disadvantages of all treatments was also highlighted. (Diebel et al. 2020: 6; Robinski et al. 2016: 568; Vélez-Bermúdez et al. 2022: 8.) Diebel et al. (2020: 6) showed in their study that in-center patients were more likely to choose home dialysis if they had been told about the positive effects of these modalities on their health.

Walker et al. (2016: 137) found in their study that for some patients, the complexity of the information provided was a barrier. Patients found it difficult to understand different

terms and concepts with which they had no previous exposure and would have preferred clearer communication. A study by Cassidy et al (2018: 6) found that some patients perceived a sense of urgency created in the hospital as a barrier to choosing home dialysis. Patients felt rushed into deciding about treatment modalities, and this confusion often led to the choice of in-center dialysis. Some patients felt that they were pressured to choose home dialysis because of hospital interests, such as a shortage of nursing staff or lack of patient places, and this could lead to a kind of backlash, with the patient refusing to even consider home dialysis as an option.

5.6.2 Lack of educational support

A number of gaps were identified in support for education. In preparation for home dialysis, patients should regularly visit the dialysis unit for training on how to conduct their treatment. Training can take anywhere from a few weeks to months, depending on the type of treatment, the functioning of a fistula or catheter, and the patient's ability to learn. In particular, patients who were in working life or living far from the dialysis unit, the commitment to an intensive training period proved to be a barrier to choosing home dialysis. (Diebel et al. 2020:6.)

Patients felt that educational materials were lacking, and they wanted diverse types of educational tools. For some patients, written materials were not motivating, and they wished for modern, web-based training and educational videos. For some patients, modern, technical education was not suitable if they lacked computer skills, were unfamiliar with technology or did not have access to the internet at home (Cassidy et al. 2018: 4; Diebel et al. 2020: 6.) For patients with a migrant background, the language barrier was an obstacle if they could not be provided with training, peer support, or educational materials in their own language. (Rizzolo et al. 2023: 6; Vélez-Bermúdez et al. 2022: 8.)

6 Discussion

The aim of this scoping review was to obtain factors that promote or prevent the uptake of home dialysis modalities from the patient’s point of view. The choice of treatment for a patient with chronic kidney disease is influenced by many different factors, such as the patient's physical ability, motivation, emotions, consciousness, and other people's

feelings and perspectives. Each person is an individual, but similar themes recur based on the studies discussed in this review. Patient can have a wide range of factors that affect the choice of treatment, and it would be beneficial for health care professionals to be able to respond to these by continuing to support positive factors and focus on tackling barriers and challenging factors. The challenge is compounded by the fact that these factors can be very individual experiences for the patient: a factor that is insignificant from a healthcare perspective may be the decisive factor for the patient. (Dahlerus et al. 2016: 905; Diebel et al. 2020: 7; Friberg et al. 2018: 337; Noyes et al. 2021: 8; Walker et al. 2016: 137.)

6.1 Main findings

The scoping review for answering the set research question produced a comprehensive number of suitable articles that presented in APPENDIX 1. The conditions and challenges of choosing home dialysis that emerged from the content analysis of the data were presented in three different themes: patient-related factors, socio-economic factors, and educational factors. These themes were divided into promoting and preventing sections, and all identified factors are presented in tables 2-7. Several different components appeared in the identified themes, but the findings remained consistent.

Factors related to the patient's current status played a significant role in the choice of home dialysis. The choice was positively influenced by the young age of the patients and their physical ability to care for themselves. A high level of education was also found to have a positive effect, as educated patients had higher confidence in solving problems. (Chess et al. 2024: 7; Chiang et al. 2018: 4; Robinski et al. 2016: 566, Schellartz et al. 2021: 8, Zee et al. 2018: 5.) Patients' values and appreciation for the well-being and health benefits of home dialysis were highlighted. The benefits were seen as less need for medication, lighter dietary restrictions, and better physical well-being between treatments than in in-center patients. (Chiang et al. 2018: 5; Dahlerus et al. 2016: 908; Rizzolo et al. 2023: 6; Robinski et al. 2016: 567.) In addition, patients' awareness of better survival and a higher likelihood of receiving a kidney transplant increased the choice of home dialysis (Friberg et al. 2018: 337; Walker et al. 2016: 137).

Patients' willingness to plan their own treatment schedules promoted the uptake of home dialysis modalities (Robinski et al. 2016: 568, Walker at al. 2016: 136). Patients appreciated the possibility to be involved in their own care, rather than leaving it entirely to health care professionals (Cassidy et al. 2018: 3-4; Chiang et al. 2016: 5; Dahlerus et al. 2016: 904; Robinski et al. 2016: 568; Schellartz et al. 2021: 8; Vélez-Bermúdez et al. 2022: 8; Walker et al. 2016: 136).

Patients' family and friends play a significant role in their choice of home dialysis. Positive past experiences and encouragement from family and friends to give a try to home dialysis was seen as a significant factor by patients. Patients perceived the promise of loved ones to help with treatment or act as a care partner motivated to choose home modalities. (Cassidy et al. 2018: 6; Rizzolo et al. 2023: 6; Vélez-Bermúdez et al. 2022: 8.)

From a socio-economic point of view, the possibility of continuing to work and study better was considered to be factors promoting home dialysis. The patients felt it was important to be able to take care of the increased utility costs and supporting the family financially. (Dahlerus et al. 2016: 908; Rizzolo et al. 2023: 6; Walker et al. 2016: 136.) The possibility to avoid relocation and disconnection from their community if access to dialysis care at the treatment facility would have been impossible from their current place of residence were appreciated by home dialysis patients. The fact that patients did not have to travel long distances to receive treatment was seen as a promoting factor to home dialysis, especially among patients who lived far away from the dialysis unit (Friberg et al. 2018: 388, Walker et al. 2016: 136-137).

Shared decision making with a multidisciplinary team played a significant role in choice of home dialysis from the educational point of view (Cassidy et al. 2018: 5; Noyes et al. 2021: 6; Robinski et al. 2016: 566; Zee et al. 2018: 6). Meeting other home dialysis patients and exchanging experiences was seen valued. Peer support was thought to be reassuring and supportive of patients' choice of home dialysis modalities. (Noyes et al. 2021: 6; Walker et al. 2016: 137.) Patients who were given sufficient time and information and individually designed and tailored education were more likely to choose home dialysis than in-center patients (Cassidy et al. 2018: 4; Robinski et al. 2016: 566). Clear communication in understandable language, and a comprehensive range of different tools for training helped in decision making. Patients who had three or more sources of information had a significantly higher probability of choosing home dialysis than in-center treatment (Cassidy et al. 2018: 4; Friberg et al. 2018: 338; Robinski et al. 2016: 566). Patients from immigrant backgrounds benefited from education provided in

their own language when they were more confident about home dialysis (Rizzolo et al. 2023: 10; Walker et al. 2016: 137.)

Related to the patient related factors, the older age and frailty of the patient and higher morbidity were identified as barriers to choosing home dialysis (Chess et al. 2024: 4; Chiang et al. 2018: 5; Robinski et al. 2016: 563, Schellartz et al. 2021: 8, Zee et al. 2018: 5). The ethnic background of the patient was also found to play a role, and minority patients in particular were found to be the most hesitant to use home dialysis (Diebel et al. 2020: 6; Rizzolo et al. 2023: 7-8; Robinski et al. 2016: 563; Vélez-Bermúdez et al. 2022: 8; Zee et al. 2018: 4).

Some of the patients experienced negative emotions that prevented them from choosing home dialysis as their form of treatment. Particularly among younger patients, issues related to appearance and sexuality were considered to be a barrier to the choice of peritoneal dialysis: an abdominal catheter, or abdomen full of dialysis fluid were raised as an issue and discouraged them from choosing peritoneal dialysis as a treatment option. (Chess et al. 2024: 7; Chiang et al. 2018: 4; Dahlerus et al. 2016: 908; Friberg et al. 2018: 337; Robinski et al. 2016: 568.) For some patients, fear of needles, self-cannulation, or possible infection was seen as an obstacle to choosing home dialysis (Diebel et al. 2020: 5; Walker et al. 2016: 137).

The lack of motivation to participate in their own treatment was considered a barrier to home dialysis. Some patients had the view that it would be better for trained staff to carry out the treatment, or they hoped that the treatment would be as convenient as possible, so that it would be enough for them to show up at the right time (Chess et al. 2024: 3; Diebel et al. 2020: 6; Friberg et al. 2018: 337; Mathew et al. 2018: 6; Rizzolo et al. 2023: 5.). For some patients, in-center dialysis was seen as a social event that they did not want to give up: for lonely patients, the fear of isolation became an obstacle to home dialysis, and going to the hospital for dialysis may be the only social contact that patients have in their everyday lives (Dahlerus et al. 2016: 905; Walker et al. 2016: 136). Elderly and unemployed patients in particular did not find the freedom and flexibility of home dialysis as meaningful as younger patients and patients who have an active daily life (Chiang et al. 2018: 5).

The lack of support from family and friends was considered a significant obstacle to choosing home dialysis. Family members may have resisted the hospital environment that emerged at home with dialysis, or dialysis treatment was perceived as too stressful. (Cassidy et al. 2018: 6; El Shamy et al. 2020: 820.) Another barrier to home

dialysis was found to be the worry and anxiety felt by care partners about new responsibilities. Some patients had concerns about the well-being of family and friends and were found to fear care partner burnout. (Dahlerus et al. 2016: 904; Diebel et al. 2020: 6; Noyes et al. 2021: 7.)

The increased utility costs were a barrier to choosing home dialysis, as in-center patients do not incur similar additional costs to pay (Diebel et al. 2020: 6; Mathew et al. 2018: 5; Walker et al. 2016: 138). Patient's living arrangements often became a barrier to choosing home dialysis. Patients may not have had sufficient space to store dialysis equipment and supplies or did not want their home to feel like a hospital. For some patients, the unsuitability of the home for dialysis use was a barrier. The property owner may have prohibited modifications to the home to make it suitable for dialysis treatment. (Diebel et al 2020: 6; El Shamy et al. 2020: 820.)

The lack of information was considered a barrier to choosing home dialysis. Patients had never been informed of different treatment options or the advantages or disadvantages of treatment modalities (Diebel et al. 2020: 6; Robinski et al. 2016: 568; Vélez-Bermúdez et al. 2022: 8). The information and terms obtained could also be perceived as too difficult to understand (Walker et al. 2016: 137). Some patients felt pressured to choose home dialysis due to the hospital's interests, such as a lack of human resources (Cassidy et al 2018: 6). Patients found it challenging to commit to the intensive training period, as training in home dialysis requires hands-on training and skills to implement the treatment (Diebel et al. 2020: 6). Patients with an immigrant background, in particular, felt that the language barrier prevented choosing home dialysis (Rizzolo et al. 2023: 6; Vélez-Bermúdez et al. 2022: 8).

In the treatment of chronic kidney disease, home dialysis has proven to have a great positive effect on both patient well-being and for society. The uptake for home dialysis still has found to be remarkably low. Home dialysis patients have better physical well-being and fewer medications and dietary restrictions. (Ahmad & Wallace, Eric & Jain 2020: 572-577; Genevieve et al 2019: 49-51; Perl et al 2023:844.) Home dialysis has also been found to have societal benefits. Treatment costs are lower, and home dialysis frees up staffing and facility resources from the hospital. (Arponen 2021: 72-73; Krahn et al 2019: 556-558.)

6.2 Ethical considerations

In this scoping review there has been followed the good research practices, and the basic principles of research integrity by the Finnish National Board on Research Integrity TENK guidelines (2023: 12), which are based on the guidelines ALLEA – All European Academies: The European Code of Conduct for Research Integrity. According to the guidelines, these basic principles are reliability, honesty, appreciation, and responsibility. The research process has been planned, implemented, and evaluated in accordance with the guidelines fairly, impartially and without concealing any details. The work done by other researchers should be respected and appreciated by using appropriate references. (Finnish National Board on Research Integrity TENK 2023.)

Due to the nature of the scoping review as the review examined already published scientific articles, it was not necessary to apply for a research permit for this master's thesis. The master's thesis was evaluated with TurnitIn plagiarism detection program to verify the origin, and AI tools used for analyzing sentence structures. No funding has been collected for this master's thesis.

6.3 Reliability and validity

The studies must be carried out in accordance with good scientific practice, in which case the study and its results are reliable. It is important that the researcher is able to study the selected subject objectively because preconceived ideas and preconceptions about the outcome can distort the true picture of the review. A clear strategy was used in the search process to make the review as reliable as possible. If the search was incomplete, it would directly affect the conclusions of the study in an erroneous way. The inclusion and exclusion criteria were strictly observed in this work. The reliability of a study suffers if there are used excessive or minimal criteria. (Stolt & Axelin & Suhonen, 2016: 23-26.) In this thesis it was closely followed the Arksey & O'Malley (2005) framework to achieve a high-quality result.

The purpose of the scoping review was to find all available studies suitable for the topic within the inclusion criteria. In the studies selected for the review, clear and recurring themes emerged, so the search for the material can be considered successful and comprehensive. When assessing the reliability of this master's thesis, a few possible

uncertainties emerge. The author's native language is Finnish, and the material being worked on is in English. There may be a possibility of misunderstanding here. In scoping reviews, it is recommended that the data should be evaluated by at least two authors, as this increases reliability (Peters et al 2020). In this review the evaluation is made by one author, so peer assessment has not been utilized in this thesis.

7 Conclusions

Chronic kidney disease is a growing global health concern with significant personal and societal impacts. Although home dialysis offers several clinical and quality-of-life advantages over in-center modalities, its uptake remains relatively low. This scoping review set out to examine the factors that influence a patient’s decision to choose or reject home dialysis, with the aim of providing actionable insights for healthcare professionals.

The review identified three overarching themes that shape patient choice: patient-related factors, socio-economic factors, and educational factors. Within each theme, both promoting and preventing elements emerged. Patients were more likely to choose home dialysis if they were younger, physically capable, well-informed, and confident in managing their care. Awareness of the potential benefits, such as improved physical well-being, less reliance on medication, and better transplant outcomes, also played a key role in encouraging uptake.

Conversely, barriers for choosing home dialysis included limited or inconsistent patient education, lack of social or clinical support, and systemic issues such as healthcare provider bias or fragmented information delivery. Importantly, some influencing factors, such as age, sex, or ethnic background, are beyond the control of patients or health care providers, but recognizing their potential influence remains essential in delivering individualized care.

The findings of this scoping review emphasized that decision-making about dialysis modality is multifaceted and deeply personal. They underscore the importance of individualized support that considers not only clinical criteria but also psychological, social, and informational needs. To increase the uptake of home dialysis, healthcare

systems must prioritize tailored patient education, foster shared decision-making, and address structural and economic barriers that patients may face.

While this scoping review gathered comprehensive data, it also revealed gaps in the existing literature, including narrow study scopes and fragmented findings. To get a comprehensive picture of the factors affecting the choice of home dialysis from the patient's point of view, can be challenging. In order to meet future needs for increasing the number of home dialysis, it is good to identify the challenges that influence the choice of treatment modalities, and to proactively address these issues and deficiencies. The findings of this thesis support healthcare professionals in recognizing and addressing the multifaceted influences on home dialysis choice. By doing so, they can better guide patients toward decisions that align with both medical best practices and personal quality-of-life goals.

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Studies included for the scoping review

Reference	Country	Aims and purpose	Design	Data and methods	Main results
Cassidy et al. 2018, "Educational Support Around Dialysis Modality Decision Making in Patients With Chronic Kidney Disease: Qualitative Study", Canadian Journal of Kidney Health & Disease, vol. 5.	Canada	To understand the dialysis modality decision-making process through exploration of the predialysis patient experience to better inform the educational process.	Qualitative descriptive study	The study was conducted by using a semi-structured interview with 12 patients suffering from CKD in Kidney Care Centre of London Health Sciences Centre in London (Ontario, Canada). 4 patients had ICHD, 4 patients PD and 4 patients HHD.	Modality selection is a challenging process that requires a personalized approach for each patient. Patients' choice of modality is influenced by their own preferences and values, the education and knowledge given to them, and their support network. According to the study, there should be training improve by standardizing the chronic disease curriculum and establishing a partnership between patients and HCPs. Each patient's individuality should be taken into account in order to identify the challenges.
Chess et al. 2024, "What are the factors that determine treatment choices in patients with kidney failure: a retrospective cohort study using data linkage of routinely collected data in Wales", BMJ Open, vol. 14, no. 2.	Wales	To identify the factors that determine treatment choices following pre-dialysis education.	Retrospective cohort study	The study included structured clinical data that were collected in a standardised form held in the renal electronic patient record used for patients with progressive kidney disease or requiring kidney replacement therapy. Study cohort were all adults who underwent pre-dialysis education under the care of the adult renal units of NHS Wales between 1 January 2016 and 12 December 2018.	The total number of patients were 1707 who underwent pre-dialysis education. Only 25% of patients chose home therapies at the first pre-dialysis education session: PD (356 of 1707 (21%)), and HHD (68 of 1707 (4%)). 23% of patients were undecided. The main reasons for not chosing home therapy was lack of motivation to self-care (PD=12%, HHD=8%), lack of carer (PD=4%), lack of confidence (PD=%, HHD=4%), and concerns over body image (PD=3%). The study showed that there is still room for improvement in the pre-dialysis treatment path so that more patients choose home dialysis.

Chiang et al. 2016, "Factors Associated with the Choice of Peritoneal Dialysis in Patients with End-Stage Renal Disease", BioMed Research International, vol. 2016.	Taiwan	The aim of the study was to explore factors that effect on choosing peritoneal dialysis	Retrospective cohort study	656 patients chosen for study from multidisciplinary predialysis education program from one kidney center in Southern Taiwan. Small group teaching sessions provided to advanced CKD patients and their family to increase the knowledge of different dialysis modalities. For analysis multivariate logistic regression models to understand relation of patient characteristics with the chosen dialysis modality.	The most important factors for choosing peritoneal dialysis were the patient's young age, high level of education, and an active lifestyle.
Dahlerus et al 2016: "Patient Perspectives on the Choice of Dialysis Modality: Results from the Empowering Patients on Choices for Renal Replacement Therapy (EPOCH-RRT) Study." American Journal of Kidney Diseases vol 68(6).	USA	Study factors that are important to patients with advanced kidney disease and their perspectives at the time they choose a dialysis modality.	Cross-sectional study	Semistructured telephone interviews including open- and closed-ended questions. 180 patients with advanced chronic kidney disease recruited across US through social media and in-person contacts.	Themes most often reported as important were keeping as much independence as possible, quality and quantity of life, and flexibility in daily schedule. Other factors (eg, concern about the way they look) differed across patient subgroups based on age, sex, and NDD-CKD/dialysis modality. Among patients who had initiated dialysis therapy, almost half (47%) the HD patients believed that the decision to be treated by HD had largely not been their choice; this was only reported by 3% of peritoneal dialysis patients.

Diebel et al. 2020: Barriers to Home Hemodialysis Across Saskatchewan, Canada: A Cross-Sectional Survey of In-Center Dialysis Patients. Canadian Journal of Kidney Health and Disease. 2020;7.	Canada	The aim of the study was to evaluate and explore patient perceptions of homehemodialysis (HHD) and to identify the obstacles for adoption of HHD in Saskatchewan, Canada. Secondly the aim was to examine variations in the patients' perceptions and barriers to HHD by center (main dialysis units vs satellite dialysis units).	Cross-sectional observational survey study	All in-center hemodialysis patients in the selected area were asked to participate in the study, and 398 consented. A questionnaire was designed to determine the patients' perceived barriers to HHD. Descriptive statistics was used to present the data. Chi-square and Mann-Whitney U test were used to compare the patients' responses between main and satellite units.	The results of the survey indicate that satisfaction with in-center care, lack of awareness and education specifically in the satellite population, concerns with family burnout, expenses associated with utilities, and training time are the main barriers for the uptake of HHD. Study suggest that some of these issues can be addressed as a program (education and awareness), but others will require policy-level changes (creation of transition units and reimbursement of costs borne by the patient).
El Shamy et al. 2020: "Home Dialysis: A Majority Chooses It, a Minority Gets It." Blood Purification 2021;50(6):818-822.	USA	The aim of the study was to asses outcomes of dialysis modality education in both pre-dialysis and dialysis patients. Examine barriers that preclude patients from choosing home dialysis.	A single-center, retrospective study	A total of 167 patients were referred to the CKD educator.	Only 23% of the total cohort chose in-center HD, while 74% chose a home dialysis modality (59% PD and 15% HHD), and the remaining patients remained undecided. 56% of in-center HD patients chose a home dialysis modality. The most commonly cited barriers to home dialysis were lack of a care partner, lack of home space, and patient preference.

Friberg et al. 2018: "Patients' Perceptions and Factors Affecting Dialysis Modality Decisions." Peritoneal Dialysis International, vol 38(5)	Sweden	What medical factors and background information (socio-demographics, distance to dialysis center, etc.) are associated with the current dialysis modality? (ii) Is there a relationship between perceived range and quality of dialysis information received before dialysis onset and current dialysis modality? (iii) Are there differences in attitudes and perceptions towards home dialysis and in-center dialysis between different patient groups?	Cross-sectional survey study	In total 434 dialysis patients participated in the study. A questionnaire was sent out to all dialysis patients in the western region of Sweden in order to investigate factors affecting choice of dialysis modality.	Patients were more likely to choose home dialysis as their form of treatment if they received information from three or more sources and the information obtained was perceived as comprehensive and of high quality. Elderly patients and patients living near the dialysis unit were less likely to receive home dialysis treatment. Compared to women, men were more likely to receive home dialysis treatment if they lived with a spouse. In-center dialysis patients experienced the social interaction and support provided by HD treatment more often than other patients influenced the choice of dialysis method.
Mathew et al. 2018: "Barriers to Peritoneal Dialysis in Aboriginal Patients", Canadian Journal of Kidney Health & Disease, vol. 5.	Canada	The aim of the study to evaluate the barriers to PD utilization in Aboriginal patients with ens-stage kidney disease	Prospective observational cohort study	In the study there were 99 adult patients (67 non-Aboriginal and 32 Aboriginal) with end-stage kidney disease, and were enrolled in 3 predialysis clinics in Canada. The patient survey was created based on previous literature review of known barriers to PD, repaired based on direct patient feedback, and tested for reliability with the test-retest method.	The study shows that patients with Aboriginal status, anxiety and lack of money were most remarkable barriers to PD. In this study was reported that several factors rised as a barrier to chose PD for non-Aboriginal patients, like lack of motivation, lack of social support, lack of family support, and the belief that dialysis should be done in-hospital. For future there should be targeted interventions to overcome these barriers, study suggest to have standardized predialysis education sessions, that concerns also cultural, socioeconomic, medical, and psychological factors when choosing dialysis modality. There is a need for shared decision making between physicians and patients to weigh all potential benefits and risks and emphasize the Aboriginal patient's values and priorities in key role.

Noyes et al 2021: "Understanding the low take-up of home-based dialysis through a shared decision-making lens: a qualitative study", BMJ Open, vol. 11(11)	Wales	The aim of the study was to explore how people with chronic kidney disease on pre-dialysis, with their family members and healthcare professionals utilize current shared decision-making processes and to assess how this effects on treatment modality choice. Purpose is to create logic models/roadmaps and future recommendations.	Coproductive qualitative study	Semistructured interview in five Welsh kidney services. 95 participants (37 patients, 19 family members and 39 professionals); 44 people supported coproduction (18 patients, 8 family members and 18 professionals)	Shared decision-making process was not individualized and didn't have that much impact on patients for choosing home dialysis. Patients need to have proper education and professionals need to subtly challenge their preconseptions. There needs to be more knowledge of the various treatment options when making decisions about their treatment modalities.
Rizzolo et al. 2023: "Barriers and Facilitators to Home Dialysis Among Latinx Patients with Kidney Disease", JAMA Network Open, vol. 6, no. 8.	USA	Barriers and facilitators experienced by Latinx individuals with CKD who have chosen home dialysis treatment	Qualitative study	Semistructured interviews with Latinx 27 adult patients with kidney failure receiving home dialysis therapy from two different home dialysis clinics. Analysed by using thematic analysis.	Barriers to home dialysis included misinformation and immigration-related challenges to care, lack of dialysis education, and practical issues of home dialysis. Facilitators to home dialysis included better quality of life, and family / health care support.
Robinski et al 2016: "Shared decision-making in chronic kidney disease: A retrospection of recently initiated dialysis patients in Germany". Patient education and counseling, 99(4), pp. 562–570.	Germany	1. What differences in PD vs. HD patients occur when they retrospectively rate the SDM with their nephrologist at the particular point of dialysis modality choice? 2. How satisfied are PD vs. HD patients with their treatment option at present? 3. Is there an association between the SDM rating and the present TS in dialysis patients? 4. What argument is perceived by PD vs. HD patients as the dominant reason for their dialysis modality choice?	Cross-sectional multicentre survey	Surveyed 780 patients from throughout Germany (CORETH-project) regarding shared decision making, the reason for modality choice and tretament satisfactory. Data were compared between two age-, comorbidity-, education-, and employment status-matched groups (n = 482).	PD patients rated all aspects of SDM more positively than did HD patients. PD patients indicated their desire for independence as a motivator for choosing PD (65%), whereas HD patients were subject to medical decisions (23%) or wanted to rely on medical support (20%). Positive correlations found between SDM and TS

Schellartz et al. 2021: "The role of personal attitudes of control and responsibility for the uptake of peritoneal dialysis- a national survey among dialysis patients", BMC Nephrology, vol. 22, pp. 1-8.	Germany	The aim of the study was to find out whether there were differences between patients who were on peritoneal dialysis and hemodialysis in their expectation for the control and responsibility for own their treatment	Cross-sectional study	The most of the Germans are with Statutory Health Insurance Funds: in this study were contacted dialyzing adult patients among two large SHIs (n=2095) with postal survey. 630 patients were included for the study. For analysis there were used two multivariate logistic regression models, where both were adjusted for age. These models were applied to investigate if there were differences between HD and PD patients in the valuation of internal locus of control (ILOC) and importance of taking responsibility (ITR)	The study indicates that there is an impact of personal attitudes on the uptake of PD: Patients who usually want to keep control of their lives and take more responsibility for their dialysis treatment are more likely to choose PD.
Vélez-Bermúdez et al. 2022: "Disparities in dialysis modality decision-making using a social-ecological lens: a qualitative approach", BMC Nephrology, vol. 23, pp. 1-13.	USA	The aim of this research was to study micro- and macrolevel factors related to dialysis modality decisionmaking among patients having in-center or home dialysis. The purpose was to explore what is leading patients to select home dialysis over ICHD.	Semi-structured interview study	Semistructured qualitative interviews for 40 patients (ICHD n=20, PD n=18, HHD n=2) in a dialysis clinic at a large Midwestern research hospital.	Study suggests that healthcare access and engagement before and after entering nephrology care, and following dialysis uptake effected patients' knowledge regarding their kidney disease status, progression toward ESKD, and treatment modality options.

Walker et al. 2016: "Patient and caregiver values, beliefs and experiences when considering home dialysis as a treatment option: a semi-structured interview study." Nephrol Dial Transplant vol 31: 133–41.	New Zealand	The aim of the study was to describe patient and caregiver values, beliefs and experiences when considering home dialysis, to create strategies to adapt policies and practices with patients' needs.	Semi-structured interview study	Semi-structured interviews with adult patients (n=43) with chronic kidney disease and their caregivers (n=9), from three nephrology centres in New Zealand. Thematical analysis.	In the study was identified five themes related to uptake for home dialysis: lack of capacity for decisionmaking, maintaining relationships, reducing lifestyle distraction, having more confidence in modality choice, and increasing survival rate. Pre-dialysis and home dialysis programmes that are related to the ability to understand health literacy, and focus on cultural and social values, may decrease fears and build confidence around decisions to choose home dialysis. Financial barriers can be reduced through provision of reimbursement programmes, employment support and additional assistance for patients, particularly those residing in rural areas
Zee et al. 2018: "Perceptions about the dialysis modality decision process among peritoneal dialysis and in-center hemodialysis patients", BMC Nephrology, vol. 19.	USA	The aim of the study was to asses dialysis patients' perceptions of their dialysis modality decision-making process and the impact of their chosen modality on their lives.	Quantitative study	A 39-question survey was disseminated to participants in the large US cohorts of the Dialysis Outcomes and Practice Patterns Study (DOPPS) and the Peritoneal DOPPS (PDOPPS). The responses to survey were compared between PD (n=614) and in-center HD (n=1346) patients using descriptive statistics, adjusted logistic generalized estimating equation models, and linear mixed regression models.	PD patients were more engaged in the modality decision process compared to in-center HD patients. For both modalities, there is room for improvement in patient education and other support for patients when choosing a dialysis modality.