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Experiences of Type 2 Diabetes Patients with Nursing Care

A Literature Review

Linge Ayubah, Ndambangha
Peltonen, Johanna

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Hirjaba, Marina; Jalonen, Anu

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Abstract

Nurses are the core caregiver rendering most of the direct care that patients need to improve their wellbeing. Understanding how patients experience nursing care, is essential in providing nursing interventions to meet the needs of the patients. Consequently, gaining inside information about type 2 diabetic patients´ experiences with nursing care can be utilizes in further development of type 2 diabetes (T2D) patients care.

The aim of the study was to explore the experiences of T2D patients with nursing care based on existing literature. The purpose was to provide information to nurses that can be used to develop T2D patients´ care.

Literature review was the research method applied in the study. Data were searched from three databases including random search: Cinahl, Pubmed and Elviser Science Direct. Selected articles were analyzed and synthesized by inductive content analysis and the outcome of the study on T2D was compared to previous results of researches done on other chronic illness.

In results, three main themes emerged, which illustrated the experiences of T2D patients with nursing care. The themes identified were: patient's growth to empowerment, components of diabetes counselling, and nurse's contribution in promoting self-care. Patients with T2D had recently been experiencing the shift from traditional care to self-management. T2D patients need empowerment through counselling and health professionals' communication skills to effectively engage in self-care.

In conclusion, T2D patients demonstrated both positive and negative feelings regarding the care they received from health professionals. In overall, the majority of T2D patients expressed happiness and satisfactions suggesting positive (good) experiences especially regarding own autonomy in self-care and when compassion and empathy were being associated by the nurses in their care. However, resources that have positive impact on T2D patients´ self-management should be emphasized during caring.

Keywords

Type 2 diabetes, experiences, nursing care

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Työn nimi
Tyypin 2 diabetespotilaiden kokemukset hoitotyöstä
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Tiivistelmä
Sairaanhoitajat toteuttavat suurimman osan siitä hoidosta, jota potilaat tarvitsevat parantaakseen hyvinvointiaan. Potilaiden kokemusten ymmärtäminen saamastaan hoitotyöstä on välttämätöntä, jotta potilaiden tarpeet ja hoitotyön menetelmät kohtaisivat. Näin ollen tyypin 2 diabetespotilaiden kokemukset hoitotyöstä lisäävät tietoa, jota voidaan hyödyntää tyypin 2 diabeteshoidon kehittämisessä.

Tutkimuksen tavoitteena oli tutkia tyypin 2 diabetespotilaiden kokemuksia saadusta hoitotyöstä kirjallisuuteen pohjautuen. Tutkimuksen tarkoituksena oli tuottaa tietoa sairaanhoitajille ja tietoa voi hyödyntää tyypin 2 diabeteshoidon kehittämisessä.

Tutkimus toteutettiin kirjallisuuskatsauksena. Aineisto kerättiin kolmesta tietokannasta ja siihen sisältyi myös manuaalinen haku: Cinahl, Pubmed ja Elviser Science Direct. Valitut artikkelit analysointiin ja syntetisoitiin induktiivisen sisällön analyysin avulla ja tutkimuksen tuloksia verrattiin aikaisempiin kroonisista sairauksista tehtyjen tutkimusten tutkimustuloksiin.

Tuloksissa nousi esiin kolme teemaa, jotka kuvasivat tyypin 2 diabetespotilaiden läpikäymiä kokemuksia saamastaan hoitotyöstä. Teemoiksi tunnistettiin potilaiden voimaantuminen, diabetesneuvonnan osat ja sairaanhoitajan panos potilaan omahoidon edistämisessä. Tyypin 2 diabetespotilaat käyvät läpi muutosta, jossa diabeteshoito siirtyy perinteisestä hoitomallista omahoitoon. Tyypin 2 diabetespotilaat tarvitsevat voimaantumista neuvonnan ja terveydenhuollon ammattilaisten kommunikaatiotaitojen kautta, jotta sitoutuisivat tehokkaasti omahoitoon.

Yhteenvetona tyypin 2 diabetespotilaat osoittivat sekä positiivisia ja negatiivisia tunteita vastaanottamastaan terveydenhuollon ammattilaisten hoitotyöstä. Loppujen lopuksi suurin osa tyypin 2 diabetespotilaista osoitti onnellisuutta ja tyytyväisyyttä viittaamalla hyviin kokemuksiin koskien erityisesti omahoidon autonomiaa, ja siihen kun sairaanhoitajien antamassa hoitotyössä oli läsnä myötätunto ja empatia. Kuitenkin niitä voimavaroja, joilla on positiivista vaikutusta tyypin 2 diabeetikoiden omahoitoon, tulisi korostaa hoidon aikana.

Avainsanat
Tyypin 2 diabetes, kokemukset, hoitotyö

Muut tiedot

CONTENT

TABLES

1 INTRODUCTION

Type 2 diabetes (T2D), also referred to as adult onset diabetes, is the most common and accounts for the majority of cases of diabetes worldwide. World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) have reported that type 2 diabetes accounts for more than 90% of all diabetes cases worldwide. Reports of type 2 diabetes in children have increased globally. Type 2 diabetes is increasing prevalent but also largely preventable. In the past three decades, the prevalence of type 2 diabetes has risen dramatically in countries of all income levels. In USA 86 million people are living with prediabetes, a serious health condition that increases the risk of a person to diabetes and other chronic diseases. (WHO 2017; CDC 2017.) The growing statistical rate of type 2 diabetes patients are noticed in hospital centers and diabetes organizations worldwide. This increasing rate in global population has been attributed on one hand to the inability of most people to maintain an ideal body weight due to adopted lifestyle with little or absence of exercise and on the other hand to poor promotion of the so-called prudent diet or Mediterranean dietary pattern rich in olive oil, fruits and vegetables. (Salas-Salvadó et al. 2011a; Salas-Salvadó et al. 2011b; Stiffler, Cullen, & Luna 2014.)

Generally, diabetes mellitus is a metabolic disorder that results in hyperglycemia, an abnormally high level of glucose in blood. Insulin is responsible for glucose uptake from circulating blood into body cells and tissues. In type 2 diabetes, the body does not use insulin properly or there is relative lack of the hormone. (National Institute of Diabetes and Digestive and Kidney Diseases 2014; WHO 2016; ADA 2017a.)

Type 2 diabetes is classified among the leading causes of renal failure, blindness, lower limb amputation and a risk factor for coronary heart disease and stroke (ADA 2008; Salas-Salvadó et al. 2011a; Salas-Salvadó et al. 2011b; Stiffler et al. 2014.). A lot of studies has been published on diabetes in general and perceptions of patients with type 2 diabetes with different context of nursing care. In addition, at current knowledge, there are few reviews that have brought together experiences of nursing care by the patients. Understanding how the patients experience nursing care may lead to care improvement provided by healthcare professionals. The aim of this research was to find out the experiences of type 2 diabetes patients with nursing care, based on existing literature. The purpose of the study was to provide information to nurses that can be used to develop the nursing care for type 2 diabetic patients.

2 TYPE 2 DIABETES AND EXPERIENCES OF PATIENTS WITH OTHER CHRONIC ILLNESSES ABOUT NURSING CARE

2.1 Type 2 Diabetes

Diabetes mellitus is a chronic metabolic disorder characterized by defect in insulin secretion resulting in abnormally high level of blood glucose. The long-term hyperglycemic condition is associated with many complications – long-term damage, dysfunction, and failure of different organs including blood vessels, eyes, heart nerves and kidneys. (ADA 2014.)

Diabetes mellitus is classified into four major categories: type 1 diabetes, type 2 diabetes, gestational diabetes mellitus (GDM) and specific types of diabetes due to other causes (IDF 2015; WHO 2016a; ADA 2017a). T2D also known as non-insulin dependent diabetes or adult-onset diabetes is the most common type of all diabetes (IDF 2015; ADA 2017a). Nowadays, it is increasingly diagnosed in children and adolescence (Rosenbloom et al. 2009), and accounts for about 90-95% of all cases (IDF 2015; ADA 2017a).

The main cause of type 2 diabetes is insulin resistance. Insulin is produced by the β-cells of pancreatic islet of Langerhans, but the target cells do not seem to recognize it anymore. Type 2 diabetes may also be as a result of inadequate (low or no) production of insulin by the pancreas. (ADA 2017a; Craig et al. 2009; IDF 2015.) Common risk factors of non-insulin dependent diabetes are overweight, unhealthy diet, immobility or lack of physical exercise, smoking, age, genetic, racial/ethnic subgroup and women with prior history of GDM. (ADA 2017a.)

Symptoms and diagnosis of T2D

Type 2 diabetes often develops gradually, and many people do not notice the classic symptoms. It is typical for type 2 diabetes that the symptoms are hidden or missing, and this accounts for the reason why type 2 diabetes usually go undiagnosed for several years (Diabetes: Current Care Guidelines, 2016; WHO 2016). The classic symptoms of type 2 diabetes are frequent urination, excessive thirst, weight loss, blurred vision (IDF 2016). Metabolic syndrome is often in the background of T2D. Metabolic syndrome is

a cluster of different metabolic conditions that are increasing the risk of life threatening diseases such as hypertension and cardio-vascular diseases. (Mustajoki 2016.)

Overnight fasting plasma glucose is one sign of metabolic syndrome, but also an early sign of type 2 diabetes (ibid). Impaired fasting glucose (IFG) and impaired glucose tolerance (IGT) are intermediate forms between normal glucose levels and diabetes (WHO 2016). A healthy person fasting plasma glucose value (fP-Gluk) is between 4.0 and 6.0 (Huslab 2017). When fasting glucose level range from 6.1 to 6.9 mmol/l, it is called IFG and impaired glucose tolerance (IGT) is blood glucose level within 7.8 mmol/l–11.0 mmol/l after two hours' plasma glucose test (Diabetes: Current Care Guidelines, 2016). Diabetes is diagnosed when fP-Gluk values is over 7.0 mmol/l (ADA 2017a; Diabetes: Current Care Guidelines, 2016; WHO 2006).

Elevated or two little blood glucose level in circulation are closely connected to different diabetic complications. Hypoglycaemia defines low glucose level in blood. It is rarely seen in type 2 diabetes and presents blood glucose level of far less than 4 mmol/l (Ilanne-Parikka 2015, 378). Hyperglycaemia can lead to diabetic ketoacidosis (DKA), which is a severe and life threatening metabolic complication of not having glucose in cells for energy production. When there is not enough insulin secretion or defect in insulin activity, it results in glucose accumulating in circulating blood and not absorbed into the cells. The cells then resolve to uneven metabolism of fatty acids in the liver producing ketones and creating ketoacidosis. DKA may lead to death if not treated. (Nelimarkka & Arola 2012.) Hyperglycaemic hyperosmolar syndrome (HHS) is opposite for DKA and it is commonly experienced by patients with type 2 diabetes. Highly elevated plasma glucose up till more than 25 mmol/l is characteristic of HHS and it is a common initial sign of type 2 diabetes. (Koivikko 2014.)

T2D care guidance

The aim of diabetes care is to promote the holistic wellbeing, asymptomatic life and quality of life of the patient and prevent or slow down progression of diabetes complications. Long term diabetic complications are due to hyperglycemia developed in blood and nerves cells creating different kind of dysfunction in many organs. Blindness is caused by retinopathy in eyes, nephropathy in kidneys, neuropathy in peripheral blood vessels and nerve cells. People with diabetes has also a greater risk of contracting cardio and vascular diseases compared to other people (Diabetes: Current

Care Guidelines, 2016). T2D has also significant psychosocial impact on individual (Nag et al. 2007; Leontis & Hess-Fischel 2017).

The approach in diabetes care model is holistic where the patient with type 2 diabetes and his or her family are in the center of care and collaborating with health care professionals providing tools to cope with the illness in everyday life (ADA 2017b). The physician or nurse are main responsible professionals for carrying out care guidance encompassing diabetes self-management education (DSME) and diabetes self-management support (DSMS). The optimal diabetes care is best provided through co-operation of a multi-professional team including nutritionist, foot therapist, physiotherapist, social worker and psychologist or mental health nurse and professional in oral mouth health. (Diabetes: Current Care Guidelines, 2016; Diabeetikon hoidonohjauksen järjestäminen, toteutus ja sisältö, Current Care Guidelines, 2016). Being diagnose of a new illness such as T2D can cause confusion and shock, therefore, it is necessary that the approach to care guidance has right timing and is based on need (Diabeetikon hoidonohjauksen järjestäminen, toteutus ja sisältö, Current Care Guidelines, 2016). The individual has right to appropriate and adequate care guidance and information in addition to support (Ilanne-Parikka 2015b, 348).

The core perspective of diabetes care is lifestyle management that contains DSME, DSMS, medical treatment, nutrition therapy, physical activity, smoking cessation counselling and psychosocial care. DSME concentrates on supporting and empowering individuals with type 2 diabetes by providing diabetes knowledge and skills that are required in every day decision making in/when implementing the care. (ADA 2017b). Patients are encouraged to carry out self-management and motivation also has major significance in reaching the care balance, since individuals has the main responsibility of implementing the care (Diabeetikon hoidonohjauksen järjestäminen, toteutus ja sisältö, Current Care Guidelines, 2016). It includes monitoring blood glucose and blood pressure taking care of medication, making decisions supporting and promoting health and care choices, monitoring weight, foot and oral health (Ilanne-Parikka 2015c).

Accepting T2D is like taking it as part of life and as everyday life, it management becomes everyday process, which can inflict distress and care tiredness. Psychosocial distress and socio-economic burden can impact on T2D and hinder self-management performance. T2D as itself causes distress to many diabetic people and their families. Distress can be caused by unreached treatment goals or an onset of diabetes

complications. Imbalanced in blood glucose also has influence on mood and coping. (ADA 2017b; Diabetes: Current Care Guidelines, 2016). Mental health wellbeing is associated with improved self-management compliance with individualized nurse-led education and it prevented new acute myocardial infarctions (Shim & Hwang 2017). Patient-centered and supportive partnership are tools in DSME and DSMS. Allowing patient to express concerns and emotions regarding the illness are coping mechanisms that support psychological and social wellbeing. (Diabetes: Current Care Guidelines, 2016.)

It has been shown that DSME is beneficial in improving diabetes knowledge, self-care behaviors and lower HbA1c and distress. Moreover, when culture, age, psychosocial issues with individualistic needs and preferences were combined into DSME, it created better outcomes (ADA 2017b). Care guidance can be given as group based or individualistic during routine or clinical treatment (Steinsbeck et al. 2012). There is no clear evidence, which shows that one of the two models - Individualistic or Group-based delivery DSME could be better than the other (Lawal & Lawal 2016). Group-based DSME has the advantage of peer support, which facilitates reflection of emotions or evaluation and shared experiences. It is more beneficial in supporting glycemic control and improving the quality of life. (Steinsbekk et al. 2012; Vadstrup et al. 2011.) However, there are greater need for both types of educational approaches in care guidance (Vadstrup et al. 2011).

2.2 Chronic illness Patients' Experiences with Care

Patients' experiences are considerable factors nowadays in health care that it can no longer be undermined (Wolf et al. 2014). The sub-chapter explores a wider view of the experiences of patients with chronic illnesses regarding nursing care. Patients' perceptions of caring and patient-centeredness during caring influence greatly on how patients perceive the quality of nursing care they obtained (Doyle, Lennox & Bell 2013; Edvardsson, Watt & Pearce 2016; Hekkink et al. 2005; Kvåle & Bondevik 2010). Defining patients' perception is not explicit, the concept has many dimensions (Doyle et al. 2013; Wolf et al. 2014). An association between patient experience, clinical effectiveness and patient safety are also being observed (Doyle et al. 2013). Caring means that people, relationships, and things matter. Nursing is regarded as the promotion, protection, and optimization or restoration of health and abilities, preventions of illness and injury, alleviation of suffering through the diagnosis and

treatment of human response and advocacy in the care of individuals, families, communities, and populations. (Hemingway 2013; Kozier & Erb 2008.)

Care of chronic diseases including CVD, T2D, HIV and cancer is complex, and requires substantial input from the individuals involved in the care. It places heavy responsibility on the patient in managing own condition. Perceived 'caring moments' whether through establishing relationships or fleeting in nature are important to the patients as signs of compassionate care. Compassion is fundamental to nursing care and is a process that can be nurtured through attention to patient-centered assessment and planning of care. (Bloomfield & Pegram 2015; Bramley & Matiti 2014.) Shifting toward patient-centered care and self-management necessitates the need for patients´ empowerment in the care of chronic illnesses. This is highly beneficial to outpatients with long term illnesses. Patients reported high perceptions of patient-empowering nurse behaviors and patient activation levels. Patient perceptions of empowering nurse behaviors were positively associated with post discharge patient activation, which was associated with mental functional health status. (Jerofket et al. 2014.) Although the term compassion, empathy, sympathy, and caring have been used interchangeably chronic illness management to have same meaning, empathy and sympathy are included in the definition of compassion (Schantz 2007). Individually, nurses have a duty of care to show compassion, absence of which can lead to individual patients feeling devalued and lacking in emotional support. Compassion was identified as basically a moral virtue, but it can also be acquired by nurses through education and training programs. (Chambers & Ryder 2009; Maben et al. 2009.)

Patient centeredness is not strange in nursing care today, however, adopting this element to care and compassion is quite challenging in healthcare area nowadays, especially when caring for huge number of patients (Goodrich 2012.) Despite the tremendous importance of compassion in care, Johnston (2013), identified a deep-rooted issue in certain health care sectors especially in United Kingdom (UK), that associated with a culture of just 'getting the job done', where values such as compassion are often not seen as important or simply ignored. Nurses providing patient-centered care acknowledged that seeing patients as unique, accompanied with their individual needs was part of compassion. It also meant providing encouragement in misfortune conditions. Being present and having time for patients was part of compassion. Patients have also recognized the hectic atmosphere in the wards, which imposed time pressure on nurses in nursing care. Nurses, who put an effort to give time for patients, were seen

as compassionate regardless of stress and pressure they experienced. Only short moment of being present created a connection of being seen and heard. (Bramley & Matiti 2014.)

Patients see compassion and care as nursing terms that should be strongly combined and not separated especially when caring for patients with chronic diseases. They feel valued and acknowledge the presence of perfect emotional support and relieve. However, participant opinions as to whether compassion in care be included in nurse education and training curriculum or be left as moral virtue was divided. Some patients thought it should remain a moral virtue while others strongly support that it should be taught. (ibid.)

Background definition of experiences includes responsiveness of health care system indicating the need of health care. Responsiveness is defined by autonomy, choice, confidentiality, quick attention and quality of basic services. Patient experiences is identified with the continuum of care that occurs in series of frequent visits, from the first contacts to discharge, over time between patient and health care organization. Continuum of care is a journey that accumulates all the interactions that are formed from clinical care received, clinical settings and expectations of organization's professionals. Patient experience has deeper meaning for a patient, it is much more than customer experience or satisfaction. Patient perception includes both patient centered and individualized care. Patient centered care consists of factors that affect the experiences perceived between care receiver and provider. These are dignity, partnership, information provision, shared decision making and self-care management support. Individualized care is compassion, empathy, responsiveness, communication and education. Holistic aspect is seen also in patient´s experience as an active involvement of patient, friends and family. Patients have often many expectations, how their visit go and care they would like to have. These include practical issues such as convenient and punctual appointments, friendly and skilled health care staff, information about cause of illness, benefits of treatment and its side-effects, reducing and alleviating symptoms, counselling of self-care management and an opportunity to being heard. (Wolf et al. 2014.)

The importance of relationship between patients and nurses in care cannot be over emphasized. It was carefully evoked by patients with chronic illness as crucial in their care procedure. (Bramley & Matiti 2014; Griscti et al. 2016; Kielmann et al. 2010;

Rchaidia et al. 2009.) Formulation of a special relationship starts from the point when patient becomes acquainted with nurses on a personal level. This means that trust is gradually gained and nurses' authoritarian role shift towards equal partnership and human between patient and nurse. (Griscti et al. 2016; Rchaidia et al. 2009.) Report shows that nurses did not categorize patients nor talked to them as if they were children. It is seen that nurses acknowledged the individualism of every patient and treated them respectfully. (Rchaidia et al. 2009.) Equality in relationship facilitated the negotiation of care with nurses. Patients described nurses as their second family due to close nature and warm personal level connections. (Griscti et al. 2016.) Continues visits or appointments built a solid foundation for the relationship over time, and ensured maintenance of continuity of care since nurses are already aware of the patients' medical and social background (Griscti et al. 2016; Kielmann et al. 2010). Positive encounters and interactions with health care professionals illustrated by "working relationship" and "trust both ways" are in relation to satisfaction with independent self-care. In perspective of self-care management, age, and clear signs with lettered directives and self-confident are listed as benefits for negotiation with treatment. (Kielmann et al. 2010.) Care dependence can be associated with suffering and humiliation and is manifested as bodily dependence. This is in relation to care of physical body and the relation seem to be both positive and negative. Nursing care dependence relation is perceived as positive, when such experience leads to the development of the person in finding new balances in life. But when the experience leads to increased patients´ suffering, the relation is perceived as negative. (Piredda 2015.)

In self-care, the relationship seems to be seen differently by health care professionals and by patients. Recently, the policy of health care professionals has been to encourage patients with chronic diseases to engage in self-management and to understand how their body and health co-operates. While healthcare systems globally are promoting self-care, patients' perceptions of the policy shift remain relatively unexplored. The shift to self-care needs to be underpinned by a whole system change. Professionals need communication skills to properly engage with patients as partners in care, working within systems that offer flexible access to supportive care. (Kruse et al. 2013.) In one finding about self-care, Kielmann and others. (2009) reported that while many participants appreciated increased clinical responsibility on the patient´s side, some felt 'abandoned' by professionals coupled with lack of support. To be active partners in care, they explained that they needed flexible access to trusted healthcare professionals

who respected patients' knowledge about their condition and preferences for management. Simplification of systems, clear sign-posting and coordination of individual patient care are mentioned as being essential. (Kielmann et al. 2009.) The impact of illness perceptions on self-management is evolving and indicates that it can influence patients' coping and self-management behavior. As benefits in self-care, patient with chronic pulmonary diseases are confident in managing with their own illness. Living with the disease over years creates adequate knowledge for the patients to manage with symptoms without contacting health professionals. Patients also gain confidence doing experiments with their medication. However, being responsible for their own long-term illness, can make patients with respiratory illnesses feel abandoned with their condition without regular contact with health care professionals, especially in condition where the respondent seems absolutely ignorant about his/her condition. It has been shown that when the care balance of chronic disease is on good level, health care professionals do not want to make appointments. Communication is very important. Patients would appreciate a phone call from health professional. (Kaptein et al. 2010.)

Knowledge about the illness is also significant for patients with chronic illnesses including human immunodeficiency virus (HIV) and cancer. (Kvåle & Bondevik 2010; Rchaidia et al. 2009). Knowledge means for cancer patients that nurse knows a lot about illness and had good technical and clinical skills. This makes patients feel secure and it alleviates suffering. Informing the patient with benefits and disadvantages of treatment is important for the patients. Experienced nurses are able to administer pain therapy and discuss possible side-effects and different medication options. (ibid.)

Patient´s knowledge about his/her chronic condition also promotes patient´s smooth participation in care. Participation is an interactive process between nurses, patients, and family members in the caregiving context. Participation occurred when these caring agents worked together using their capabilities in providing care. (Eldh, Ekman & Ehnfors 2010; Soleimani et al. 2010.) In participation, it is realized that patients who had lived with their illness for a long time and are well informed about their condition, are physically, mentally, and emotionally capable of cooperating with the nurses. (Farahani et al. 2008; Larsson et al. 2007; Soleimani et al. 2010.) The patients who were hopeful about their recovery tried to make use of all their capacities to work together with the nursing staff. Some family members co-operated with nurses and supported the patients physically and emotionally encouraging patients´ self-care and facilitating

nurse-patient relationship. Nurses also provide opportunities for chronic illness patients´ participation. (Soleimani et al. 2010.)

Sometimes patients experience barriers that limit their participation to nursing care. These limitations occur often when patient does not understand his/her own health situation due to lack of or inadequate information provided by nurse or it may be provided in an unclear way making it difficult for the patient to collaborate with nurses in making any decisions related to his/her care plan. Low self-esteem makes patients struggle with challenges, which come with illness. They criticize their abilities to cope with the care and leads to choosing not to participate in nursing care. Little trust and support from nurses can turn the situation other way round. (Larsson et al. 2011.)

A good nurse is interested in patients' conditions, care and wellbeing. Analysis from previous studies have revealed that certain characteristics possessed by a nurse can nurture patient well-being, which manifests as optimism, trust, hope, support, confirmation, safety and comfort. According to the patients, good nurses are characterized by specific, but inter-related attitudes, skills and knowledge; they engage in person-to-person relationships, respect the uniqueness of patients, and provide support. (Kvåle & Bondevik 2010; Rchaidia et al. 2009.) In one study, Kvåle & Bondevik (2010), found out that patients appreciated meeting nurses who had experience and could combine clinical and biology knowledge including nursing skills with a human touch. Perceived caring behaviors of staff and the person-centeredness of wards were significantly associated with nursing care quality. Communication, punctuality in rendering assistance and environmental support stood out as most significantly related to patient perceived nursing care quality. (Edvardsson et al. 2016.) Professional and trained skills as well as broad and specific nursing and non-nursing knowledge are important. (Rchaidia et al. 2009.) A nurse without slightest intension to acknowledge patient wellbeing and needs prevents patients' willingness to collaborate with nurses. If nurse is dominant, as in the so called vertical relationship and uses it against the common agreement and patient's views, it leads to the patient feelings of being powerless and submits his/her will. (Larsson et al. 2011.)

3 AIM, PURPOSE AND RESEARH QUESTION

The aim of the research was to find out the experiences of type 2 diabetes patients with nursing care, based on existing literature. The purpose of the thesis was to provide information to nurses that can be used to develop type 2 diabetes patients´ care.

Research question:

1. How do type 2 diabetes patients experience the nursing care?

4 METHODOLOGY

4.1 Literature Review

Literature review is the research method applied in this study. It is one of the methods often used with no bulk of recruiting research participants. It is important because it allows the reader to understand why the topic was approached the way it was. Moreover, knowing what has been already investigated and developing alternative research projects may update research data. (Leyburn, Washington & Lee 2007.) With the growing recommendation of evidence-based nursing practices, literature review provides one way to synthesize the knowledge base or evidence for such practices (Meadows-Oliver 2009; Rew 2011).

A literature review is a comprehensive summary of the ideas, approaches, issues and research findings that have been published about the topic under study. It is based on research plan and establishes a convincing available knowledge pertaining to the research question(s). (Kiteley & Stogdon 2014; Machi & McEvoy 2009.) Literature review proceed from planning through reporting. By undertaking a literature review it is easy to critically summarise the current knowledge in the area under investigation, identifying any strengths and weaknesses in previous work, thus eliminating the potential weaknesses while focussing on the strengths. Moreover, a good and full literature provides the context within, which to place your study, saving time and avoiding repetition or redundancy. (Gilbert & Stoneman 2016; Parahoo 2014.)

This piece of review proceeded as follows: selecting a topic and formulating a research question, choosing databases and performing searches, reviewing relevant literature and writing the review (Machi & McEvoy 2009; Rew 2011). Many studies have been published on experiences of patients with type 2 diabetes in different contexts. Nursing care in diabetes is diverse, therefore the aim of the literature review is to bring together different experiences of patients received nursing care.

4.2 Scientific Article Selection Process

In the literature review multiple search databases were used. These databases included Cinahl, Pubmed and Elviser Science Direct. The search was carried out separately for each database. Manual search was also carried out. The search terms or key words were identified by using PICOS (Cooke, Smith & Booth 2012). PICOS was used to identify

our inclusion criteria. PICOS is an abbreviation where P define the population or participant included in the research, I represent the phenomena of interest related to the study, CO stand for the Context or certain setting or locations related to the objective of the review and S stands for study type or design included in the work and include type, date and selected language(s) of publication. In meta-analysis, I is sometimes defined as Interventions and C and O as Comparison and Outcomes respectively to suit the type of research. (Baker 2016; Cooke et al. 2012.) The aim of this thesis was to find out the experiences of type 2 diabetes patients with nursing care. The population or participants (P) of this study were the type 2 diabetes patients; the experiences of these patients with nursing care represented the phenomena of interest (I); the literature review was not limited to any particular geographical background, so the context (Co) included all scientific and /or evidenced based data published around the world. The study design (S) was based on peer review of articles published around the world in English or Finnish language from the year 2007 to 2017.

Data searches were conducted in May 2017. Several trials to find the best key words combinations were tested before conducting the actual literature search. The search was performed with the help of Boolean search operators (AND, OR) (Machi & McEvoy 2009, 41). Key words for the literature search included "type 2 diabetes", “experiences” and “nursing care”. In some situations, the study design was used in key words to perform the search. Synonyms of these key words were also used in the search process. The combination of key terms can be seen in Table 1.

Table 1. Search process and combination of key words

Database	Key terms	Results	Filtered results[1]	Title	Abstract	RQ[2] answered[3]
CINAHL	Patient* experience* OR Perception* AND "Type 2 diabetes" AND Nursing	45	30	13	10	5
CINAHL	"Patient satisfaction" AND Care AND "Type 2 diabetes"	127	75	18	10	1
Pubmed	"Type 2 diabetes" AND Patient* experience OR perception* AND "Nursing care"	5	5	5	2	1
Pubmed	Type 2 diabetes patient experience AND Nursing	120	90	17	13	2
Pubmed	Type 2 diabetes AND Experience* OR perspective* AND Nursing care AND Qualitative study	113	95	19	7	0
Pubmed	"Diabetes type 2 AND Patient* experience AND Care AND Qualitative study"	153	125	12	11	1
Elviser Science Direct	"Type 2 diabetes" AND patient* perspective AND "Nursing care"	158	117	0	0	0
Elviser Science Direct	"Patient* experience* AND "Type 2 diabetes" AND "Nursing care"	343	222	3	0	0
Manually searched articles						6
Total						16

[1]Inclusion criteria [2]Research question [3]Duplicants removed

Inclusion criteria was applied after original results (Table 2). Selection process proceeded with the reading of titles of articles that remained after inclusion and exclusion criteria had been applied. Articles were selected according to the title that described or covered the ideas of the research question including patients with type 2 diabetes and experiences. The process continued through reading of the abstract and articles selected were in correspondence to the topic of literature review. The final selection was based on the reading of the whole article. Articles that answered the research question were chosen to the literature review.

Table 2. Inclusion criteria for the article selection

Inclusion criteria
English or Finnish
Publications between 2007–2017
Adults, over 18 years old
Studies answering the research question
Peer reviewed research articles

After duplicates were removed in the final phase, all together ten articles were selected, six from CINALH, four from PUBMED and zero was obtained from Elviser Science Direct. In additional to searches performed in databases, six articles were obtained from manual search. All together 16 articles were selected for the content analysis of the literature reviews. The chosen articles are presented in Appendix 1 with publication information, title, aim, research method, sample and main results.

Reviewed articles were published in 2016 (n=1), 2015 (n=3), 2014 (n=3), 2013 (n=2), 2012 (n=1), 2010 (n=2), 2009 (n=1), 2008 (n=1) and 2007 (n=2). The areas where the researches were conducted included: four in Sweden, three in Australia and United States of America, two in Netherlands, one in Finland, Ireland, Brazil and New Zealand. The study sample in articles were type 2 diabetic patients, although one article carried both type 1 and type 2 diabetic patients´ samples (Delea et al. 2015) and two studied articles also included the perspective of registered nurses in their work (Macdonald et al. 2013; Wellard, Cox & Bhujoharry 2007). Most of the reviewed articles were conducted as qualitative design. One research used mixed design method (van Dijik-de Vries et al. 2015) including both qualitative and quantitative method. (Appendix 1.)

4.3 Data Analysis

The selected articles were analyzed and synthesized by inductive content analysis. Synthesis is also referred to as “bringing together”. In literature reviews it describes the process of drawing together from literature, the data and findings, in order to address or answer the review question. (Kiteley & Stogdom 2014, 17.)

Content analysis is a traditional method of analysis in qualitative research. It has two main approaches; inductive and deductive. Content analysis presents the phenomenon of interest in an intensive way with the key feature being that the many words of the

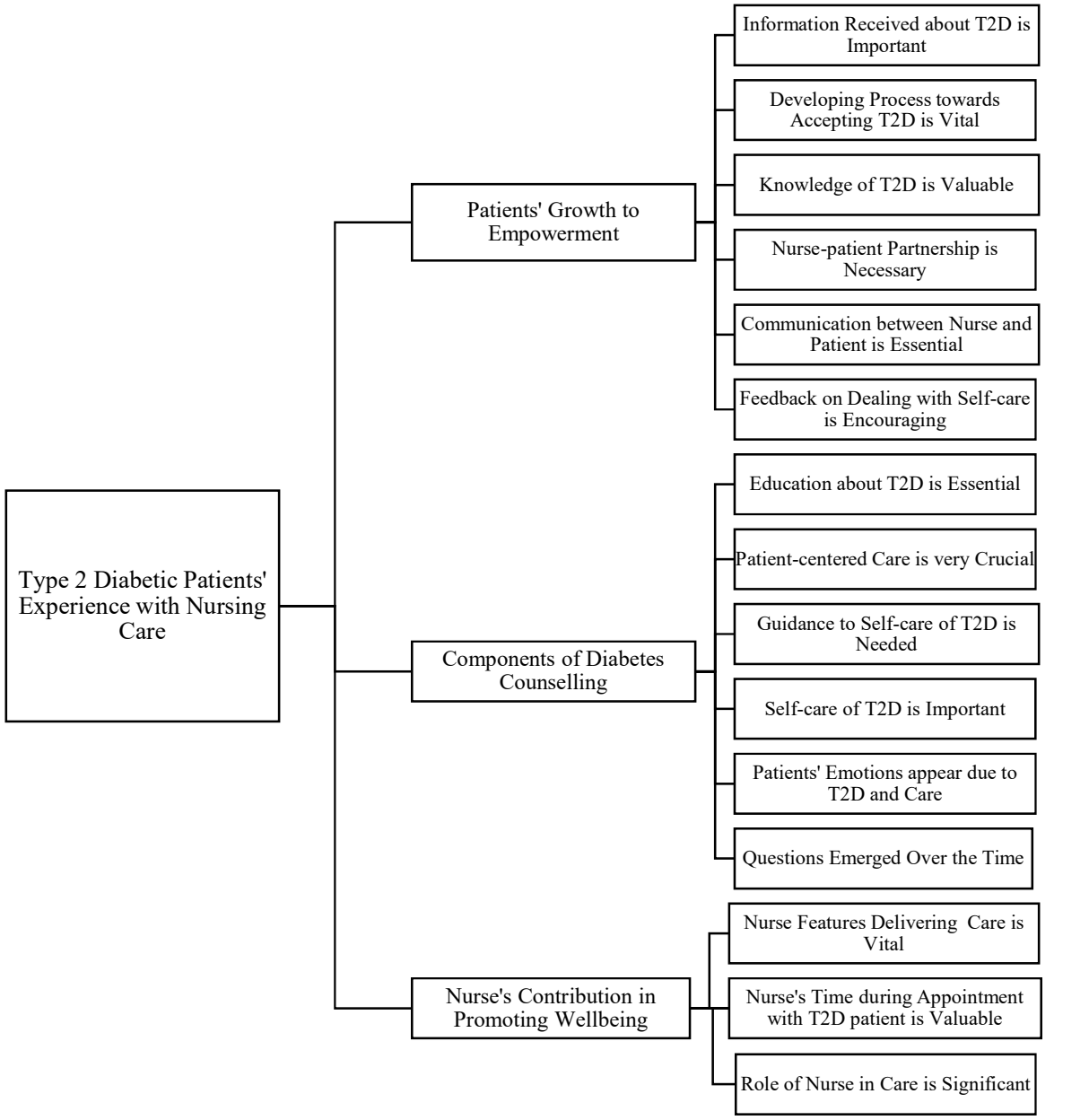
text are classified into much smaller content categories. The results of the content analysis are quite often presented in form of mind map or categories. Content analysis produces very simplified description of the data with it strength being sensitivity and flexibility. Content analysis although quite basic, is more than a simple technique because the simplified description will reach meanings, significances and contents. Inductive content analysis approach is divided into three phases: preparation, organizing and reporting phase. (Elo & Kyngäs 2008; Kylmä & Juvakka 2007.) According to Tuomi and Sarajärvi (2009, 108), inductive content analysis includes three steps. In the first step the data is reduced into smaller units. The second phase consists of clustering the data that is, separating it into groups or categories and sub-group or subcategories. The third step is abstraction in which subcategories with similarities in their contents are connected and general categories are formed.

Inductive content analysis or "bottom up" approach was used in this study in analysing the data. The inductive data moves from the specific to the general, so that particular instances are observed and then combined into a larger whole or general statement. (Elo & Kyngäs 2008.) The selected and appraised articles were read multiple times, relevant data (main ideas) extracted; data coded; the coded data then sorted into groups or themes and sub-groups; the themes were named and patterns (for example patterns in quotes) interpreted. In the application phase, the relevant phrases and/or quotes that seemed to be responding to research questions were highlighted and extracted. Single word or combinations of few words were used as analytical units in the reducing phase. Reduced expressions were gathered into lists according to research queries then clustered and subcategories with similarities in their contents were connected into main categories (Appendix 2).

5 RESULTS

Following the inductive content analysis described previously, three main themes emerged, which illustrated the experiences of type 2 diabetes patients with nursing care. The themes identified were: patient's growth to empowerment, components of diabetes counselling, and nurse's contribution in promoting self-care (Figure 1). These five themes supported by their sub-themes are presented below in Figure 1:

Figure 1. Main categories and subcategories



[1]Type 2 Diabetes

5.1 Patients' Growth to Empowerment

The following sub-themes evolved under this main theme: Information received about T2D is important, developing process towards accepting T2D is vital, knowledge about T2D is valuable, supporting nurse - patient partnership is necessary, nurse – patient communication is essential, and the patients and feedback on dealing with self-care seem encouraging.

Information Received about T2D is Important

Information about diabetes type 2 in particular and its related complications in general was very essential in empowering type 2 diabetes patients in self-care. Patients recognized the greater needs for health care information (Shigaki et al. 2010; Wellard et al. 2007). Gaining access to information helped the patients to better manage the disease. Physicians and nurses delivered information. (Boyle, Saunders & Drury 2016; Edwall, Danielson & Öhrn et al. 2010; Halkoaho et al. 2014.) Patients acknowledged that although nurses provided accurate and problem-solving information (Edwall et al. 2010), they did also receive conflicting information on subject like nutrition from different health care professionals such as general practitioners (GP) and nurses (Kasteleyn et al. 2014; Svenningsson, Gedda & Marklund 2010). Apparently, there were also complains on one hand about overload of information and on the other hand, deficit in information, which led to frustration and inability to adopt knowledge (Svenningsson et al. 2010; Wellard et al. 2007).

Some of the patients did not have sufficient information on diabetes complications (Halkoaho et al. 2014). Diabetes complications are related to diabetes and included acute coronary event (ACE). Information on diabetes type 2 patients´ sexual life and interaction were only available in-home guide and never discussed, whereas, crucial medication subjects were only covered with some of the patients. (Boyle et al. 2016; Kasteleyn et al. 2014; van Dijk-de Vries et al. 2016.) Most patients were eager to receive readily available information from the health care staff (Delea et al. 2015; Modic et al. 2016), which also gave them the opportunity to make own decisions based on information obtained from health care professionals leading to gaining control over situation (Dellasega et al. 2012; Svenningsson et al. 2010; Wellard et al. 2007). It promoted choices of good and bad (Edwall et al. 2008). However most of the patients were contented with information they received during discharge (Kasteleyn et al. 2014).

Developing Process towards Accepting T2D is Vital

Newly diagnosed type 2 diabetes patients found it hard to accept the illness because of thoughts of learning to manage relationship with various healthcare professionals and coping with complexity of the new disease – related work. An accepting and positive attitude was considered as important coping resource. (Halkoaho et al. 2014.) Patients felt strongly that change was unavoidable in the path of empowerment but relied on the interaction and encouragement from health care professionals (Burrige 2014; Dellasega et al. 2012). They expressed readiness to take charge and responsibility (Edwall et al. 2008). After discussing about psychosocial challenges, some patients experienced positive change (van Dijk-de Vries et al. 2016).

Knowledge of T2D is Valuable

Knowledge of how type 2 diabetes acts and medication was vital in managing and keeping the disease under care balance. Patients expressed satisfaction about the education and information they received about the disease and pharmacotherapy, which they described it as adequate and perfect knowledge. (Delea et al. 2015; Halkoaho 2014). Nurses were able to raise patients' awareness and understanding of complex associations and multiple pharmacy (Aldolfsson et al. 2007). Although some type 2 diabetes patients stated their inability to apply the received knowledge, the feelings of being responsible for knowledge was brought up among the patients. (Svenningsson et al. 2010.)

Nurse-patient Partnership is Necessary

Nurse-patient partnership supports nurses in providing nursing care to patients with type 2 diabetes and one of the essential tools in patients´ growth to empowerment. It was described as horinzontal and vertical (Adolfsson et al. 2007; Edwall et al. 2008). In horizontal relationship, patients felt treated equally, being heard, received social support and a degree of confidence in their nurse (Delea et al. 2015; Dellasega et al. 2012; Edwall et al. 2010; Kasteleyn et al. 2014; Shigaki et al. 2010).

Co-operation in partnership emerged to illustrate equality between two parties (Edwall et al. 2008; Halkoaho et al. 2014; Wellard et al. 2007). Co-operation meant for patients shared responsibility and participation in care (Halkoaho et al. 2014; Svenningsson et al. 2010). Besides, co-operation was also seen as a ground for reachability or accessibility (Shigaki et al. 2010). Interaction is also part of partnership and it was stated

to be important (Burrige et al. 2014). Patients saw nurse's commitment and encouraging touch in partnership (Edwall et al. 2008).

Patients preferred equality in relationship (Dellasega et al. 2012; Richardson et al. 2015), but sometimes partnership relation starts with being dependent on nurse until empowered again (Edwall et al. 2010). Sessions and time promote nurse patient interaction (van Dijk-de Vries et al. 2016). Positive interaction (Boyle et al. 2016), appreciation and attention (Shigaki et al. 2010), support companion (Svenningsson et al. 2010) promoted care compliance (Halkoaho et al. 2014). Sense of team or group care was experienced among patients (Shigaki et al. 2010). Vertical interaction in nurse-patient relationship was not well appreciated. Patients saw themselves as subjugates and not respected with some patients being irritated for being unable to participate in check-up. (Burrige et al. 2014; Mcdonald et al. 2013.)

Communication between Nurse and Patient is Essential

Communication and discussion was highly appreciated among patients with type 2 diabetes (Delea et al. 2015). Patients enjoyed casual and honest discussion where one could talk about his/her worries, uncertainty and enthusiasm (Boyle et al. 2016; Edwall et al. 2010). Communication based on dignity was ground for all, especially for discussions (Svenningsson et al. 2010). Sharing certain experiences with opposite sex by some participants seemed very challenging. Most male patients did not want to discuss sexual issues with female nurses. In addition, some patients found it hard discussing mental health problems with nurses especially in hospital settings. Discussions have meaningful echo and effect on diabetes management and daily life. (van Dijk-de Vries et al. 2016.) Discussion and redirecting gave patients sense of well-being and relieve (Edwall et al. 2010). Precious discussions also created faith for patients (Svenningsson et al. 2010). Group discussions was also important where patients shared their coping experiences (Adolfsson et al. 2007).

Feedback on Dealing with Self-care is Encouraging

Patient valued feedbacks that nurses gave to them on self-care (van Dijk-de Vries et al. 2016). Clinical facts were given as feedback on self-management. It gave hope and energy, encouraging them to continue with the good self-management same way as they have been doing previously. Receiving feedbacks and self-care promotion raised positive feelings - that of not being blamed, and also rolled out guilts. (Edwall et al. 2010.)

5.2 Components of Diabetes Counselling

Under the category of component of diabetes counselling, six (6) sub-themes were crystallized including, education about the illness, patient-centred care, guidance to self-care of the illness, self-care of the illness, patients' emotions appearing due to illness and care, and questions emerging over time (talking therapy). Although there were some implications that counselling provided did not give sufficient attention to type 2 diabetes patients´ resources, counselling provided by nurses promoted type 2 diabetes patients to participate in preparing their treatment plans and in improving their care balance. This was aimed at reminding patients about a diabetic life and encouraging participants to actively embrace self-care. (Adolfsson et al. 2007; Halkoaho et al. 2014; Kasteleyn et al. 2014; Modic et al. 2016.)

Education about the illness and questions emerging during discussion focused on the disease were closely related to each other. These were essential parts of counselling in diabetes nursing care, which eventually led to deeper understanding of how type 2 diabetics act in personal guides through self-care. (Adolfsson et al. 2007; Boyle et al. 2016.)

Education about T2D is Essential

Counselling through education about the illness was synthesized in two phases – vertical and/or horizontal and individual and/or group approach. In individualized counselling, education was dominant, but group was involved in discussion and contributed to participatory learning with exchange of experiences among members of the group. (Adolfsson et al. 2007; Halkoaho et al. 2014; Svenningsson et al. 2010.) A need for more education aroused from patients as crucial (Adolfsson et al 2007; Modic et al. 2016). Some patients expressed positive feelings that receiving information from health care was not only vital in teaching them about effective preventive measures but also inform them about available services (Delea et al. 2015; Halkoaho et al. 2014). Tips on diabetes management pharmacotherapy and life style issues were also essential part of education (Delea et al. 2015; van Dijk-de Vries et al. 2016).

Patient-centered Care is very Crucial

Patient-centered care emerged from patients' opinions. Patients and family were at the center of care. Nurses paid attention towards patients, saw them as unique person, demonstrated feeling of acceptance, and complete understanding and toke into account their individual needs (Edwall et al. 2008; Svenningsson et al. 2010). Genuine working

method with support and encouragement in implementing changes given by nurses also described patient centered working method. (Modic et al. 2016; Svenningsson et al. 2010.) Nurses performed clinical routines in individualized way and their real dedication towards each patient/personal care, was part of patient-centered care (Burrige et al 2014; Svenningsson et al. 2010).

Guidance to Self-care of T2D is Needed

Guidance being part of self-care of type 2 diabetes had positive effect on patients. Nurses gave personalized guidance from up to down and it motivated patients to apply it to their everyday life and develop the routines (Edwall et al. 2008; Edwall et al. 2010; Svenningsson et al. 2010; Wellard et al. 2007). Motivational interview helped patients to get encourage (Dellasega et al. 2012; Halkoaho et al. 2014). Guidance meant for patients a shelter to keep oneself safe (Edwall et al. 2010).

Guidance was broad and practical (Halkoaho et al. 2014; Svenningsson et al. 2010) and it motivated patients through advices to take responsibility (Edwall et al. 2008). Regular guidance sessions and repeated recommendations that promoted lifestyle changes were of extreme importance to the patients (Adolfsson et al. 2007; Halkoaho et al. 2014; van Dijk-de Vries et al. 2016). Guidance provided by nurses did not oblige patients to change their behaviour (Dellasega et al. 2012). Feelings of insufficient guidance were reported by some patients (Halkoaho et al. 2014). These included deficits in guidance regarding some difficult tasks and guidance on pharmacotherapy visualized from lack of support about multiple drugs administration (Burrige et al. 2014; Kasteleyn et al. 2014).

Self-care of T2D is Important

Patients´ self-care has a lot of meaning in type 2 diabetes care. Patients portrayed positive attitudes towards home self-management support from the nurses (Kasteleyn et al. 2014). Active nursing was an inspiration to self-care, gave reassurance and confident and resulted in better self-management or own care and good health (Delea et al. 2015; Edwall et al. 2008; Edwall et al. 2010; Shigaki et al. 2010). Patients became passionate and ready to put in all energy to follow recommendations (Burrige et al. 2014). In practice, it was experienced in coherence between nutrition, physical activity and blood glucose values and not choosing unhealthy things (Edwall et al. 2010; Svenningsson et al. 2010). Communication between healthcare providers and T2D patients was observed to be of great significant in self-care (Macdonald et al. 2013).

On the other hand, the challenges in accomplishing self-care reflected why some patients saw self-care regimen as a burden and difficult. For example, some saw glucose control times as harsh imposed schedules. (Burrige et al. 2014; Richardson et al. 2015).

Patients´ Emotions appear due to T2D and Care

Patients with type 2 diabetes experienced different overwhelming emotions when receiving nursing care, which were categorized as patient emotions appearing due to illness and care. Both positive and negative emotions were experienced among patients with type 2 diabetes. (Boyle et al. 2016; Kasteleyn et al. 2014; Modic et al. 2016.)

Patients with type 2 diabetes had positive attitudes towards the health care professionals (Dellasega et al. 2012). Patients were satisfied and spoke positively about nursing care received (Edwall et al. 2008; Edwall et al. 2010; Modic et al. 2016). Nurses inspired self-care and led to joyful life of the patients (Edwall et al. 2008; Svenningsson et al. 2010). Patients were confident discussing sensitive issues with their nurses and felt comfortable around them during visits (Dellasega et al. 2012; van Dijk-de Vries et al. 2016), although some patients exceptional thought that discussing mental health issues with nurses did not have any clear meaning and could be discussed privately at their homes (van Dijk-de Vries et al. 2016). Nursing care received in home environment meant for patients that confidentiality was protected (Kasteleyn et al. 2014). Uppermost, encounters with nurses was an escape from everyday life and disease (Edwall 2010) creating feelings of security and being taken care of and comfort along with sense of well-being and hope to carry on healthy life (Dellasega et al. 2012; Edwall et al. 2008; Edwall et al. 2010; Svenningsson et al. 2010; van Dijk-de Vries et al. 2016). This created empowerment over the condition (Svenningsson et al. 2010).

Patients felt being motivated with guidance, however, emotion of being ashamed appeared when patients had not followed instructions and pieces of advice related to patient´s self-care given by nurses caused patients to feel irresponsible (Adolfsson et al. 2007; Dellasega et al. 2012; Halkoaho et al. 2014). In addition, some patients felt uncertain about following the rules (Burridge 2014).

Sense of being pressured with no support from the nurses was experienced by some patients leading to unappreciative pre-thoughts of learning to survive alone with own illness. These led to lack of trust for diabetes nurses. (Delea et al. 2015; Edwall et al. 2008; Svenningsson et al. 2010.) The feelings of being left alone, confusion, disappointments in compassion, empathy and support created the need for emotional

support (Boyle et al. 2016; Delea et al. 2015; Kasteleyn et al. 2014; Svenningsson et al. 2010; Wellard et al. 2007). These eventually pave ways to different concerns about type 2 diabetes and acute coronary heart event and resultant fear developed by some patients towards insulin injection. It meant patient giving up and the disease taking over their life (Edwall et al. 2008; Edwall et al. 2010; Kasteleyn 2014.)

Questions Emerged Over the Time

Patients acknowledged that questions arose over time and were discussed during counselling in a horizontal forum (Kasteleyn et al. 2014). Straight and explicit questions were required from nurses (van Dijk-de Vries et al. 2016). Some especially newly diagnosed type 2 diabetes patients felt that nurses posed challenging questions and they were left alone to provide answer (Boyle et al. 2016; Svenningsson et al. 2010). In a vertical nursing care situation, patients were scared of asking questions (Adolfsson et al. 2007).

5.3 Nurse's Contribution in Promoting Self-care

This category is formed from the following three sub-groups: the nurse features delivering care, nurse´s time during appointment with T2D and role of the nurse in care.

Nurse Features Delivering Care is Vital

Nurse has a significant meaning in diabetes care even though self-care is performed by the patient. Nurse has influence on patients in many ways, which can lead the self-care, care balance in type 2 diabetes and care compliance of patients or completely the other way around in case of negligence relative to the care of the illness. (Kasteleyn et al. 2014.)

Patient described nurses' features in many different ways. Patients valued professional skills in nurses (Svenningsson et al. 2010; Wellard et al. 2007). Professionalism and patient-centered approach meant every nurses ability to perform same care, for instance clinical measurements (Boyle et al. 2016; Svenningsson et al. 2010). Nurses had also ability to work under constraint and being conscious of conflicts (Edwall et al. 2008; Shigaki et al. 2010). Nurses took issues forward and their quick response meant respect and caring and these created trusts in relationship. Nurses being easily reached out to, were of paramount for patients (Shigaki et al. 2010).

Patients relied on care providers (Adolfsson et al. 2007). Softer features were also valued in nurses and their skills. Nurses' ability to give hope, support and empathy

created authentic commitment for wellbeing of patients and developed confidence in care relationship (Delea et al. 2015; Halkoaho et al. 2014; Svenningsson et al. 2010; van Dijk-de Vries et al. 2016). Being empathic as a nurse meant becoming more receptive towards patients (Dellasega et al. 2012). Nurses were also described as understanding and trustworthy (Delea et al. 2015; Shigaki et al. 2010). Being there and standing by the patient, in the future to support in decision making were of extreme importance to the patients (Boyle et al. 2016; Edwall et al. 2008; Edwall et al. 2010; Svenningsson et al. 2010).

It was necessary that nurses exercised a level of passion and patience in rendering nursing and comforting care to patients (Burrige et al. 2014; Modic et al. 2016). Skills to give advice with dignity was not left out - nurses should not be shy but rather be courageous enough to explain every vital information to the patients (Boyle 2016; Halkoaho et al. 2014; Shigaki et al. 2010).

Distressing features about nurses were also mentioned. Non-recognition of expertise of patients own situation. (McDonald et al. 2013.) More supports were needed in peer-to peer-setting but were simply disregarded by some nurses (Delea et al. 2010; Richardson et al. 2015; Svenningsson et al. 2010).

Nurses' ability to embrace and appreciate patients had tremendous meaning to patients and led to patients´ acknowledgement and empowered self-capacity (Kasteleyn et al. 2014; Svenningsson et al. 2010). Guilty conscience from nurses were not tolerated by patients. Patients valued hope and confidence from nurse to build a future. Positive characteristics portrayed by nurses supported patients to get control of the disease and guided the patients in accepting their condition. (Edwall et al. 2008; Svenningsson et al. 2010.)

Nurse's Time during Appointment with T2D Patient is Valuable

Nursing care is provided in the diabetes consultations and time is always a key factor. Patients appreciated that nurses allocated time to talk and listen to them. Some patients had wished to have more time to express their own opinions. (Shigaki et al. 2010; van Dijk-de Vries et al. 2016.) Each patient had a slightly different requirement. As a result, it was stated that time at diabetes consultations be dependent on individual needs. (Boyle et al. 2016.) Time was primordial during appointments with patients. Patients required and had urge for extra time since only time matters when discussing essential issues (Boyle et al. 2016; Edwall et al. 2010). Time is also needed in ensuring, adopting

and processing knowledge (Svenningsson et al. 2010). It was realized that regular appointment with health care professionals were highly respected and appreciated. At the appointment, clinical facts relieved body symptoms (Edwall et al. 2010). Patients liked and considered useful nurses' appointment because they were extended (Boyle et al. 2016; Wellard et al. 2007). Easily accessible and caring community health workers (CHW) were important for the patients with type 2 diabetes. Non-restricted access to CHW was valuable for patients. (Richardson et al. 2015.) During the appointment, general wellbeing was checked, and clinical measurements were investigated (Edwall et al. 2010; van Dijk-de Vries et al. 2016).

Role of the Nurse in the Care is Significant

Patients described the broad professional role extending from personal through family to community role (Shigaki et al. 2010). Confusion emerged from unclear roles of general practice nurses (Boyle et al. 2016). Collaborative or partnership approach in nurse-patient relationship was most appreciated by type 2 diabetes patients (Adolfsson et al. 2007; Edwall et al. 2008; Halkoaho et al. 2014; Wellard et al. 2007; Svenningsson et al. 2010). Patients considered that nurses' care were vital for their health and self-care (Halkoaho et al. 2014). They appreciated nurse's organized care and rapid intervention through skilled communication (Boyle et al. 2016; Macdonald et al. 2013; Modic et al. 2016). Burden of disease was easily addressed (van Dijk-de Vries et al. 2016) and activities provided another relaxing way (Halkoaho et al. 2014).

6 DISCUSSIONS

6.1 Ethical Considerations

Ethical principles in research are the fundamental core of all scientific activities (Kankkunen & Vehviläinen-Julkunen 2009). Failing in ethical questions may take whole reliability from the whole research (Kylmä & Juvakka 2007, 137). A scientific research is ethically accepted and reliable and its results credible if the research is conducted by following responsible conduct of research practices (Finnish Advisory Board on Research Integrity 2012; JAMK University Applied Sciences 2013).

Any research that includes people requires an awareness of the ethical issues that may be derived from such interactions (Orb, Eisenhauer & Wynaden, 2001). This study focused on peer literature review, and the data were collected via systematic exploitation of selected and appraised articles that answers the research questions. It is ethical practice to consider how the research can be best built upon work that has already been done. After exploring existing studies, it might be decided that a research question has already been answered. As a result, it could be unethical to research the issue again. This Thesis work, was pre – submitted to the JAMK Thesis approval authority.

Fabrication, falsification and plagiarism are dishonest practices that are occurring in scientific communities (Finnish Advisory Board on Research Integrity 2012; Masic 2012). Plagiarism is stealing of others´ words, ideas or work without giving any credit to the original authors (Finnish Advisory Board on Research Integrity 2012; Kumar et al. 2014; Masic 2012). Plagiarism can be unintentional or intentional (Kumar et al. 2014; Masic 2012). Unintentional plagiarism indicates that researcher paraphrases wrongly original course or uses improper citation (Kumar et al. 2014). Researchers are not native English speakers therefore unintentional plagiarism may occur due to lack of English vocabulary or researchers may unintentionally misinterpret articles. Plagiarism in all forms were avoided throughout by referring to the original authors of any document used. Improper citations were also taken care of by strictly following JAMK's Project Reporting Instructions (JAMK University of Applied Sciences 2016). JAMK University of Applied Sciences uses an internet application called Urkund System to detect and prevent plagiarism in thesis, practical assignments or other works where portions or whole text have been uplifted from other authors publications without proper citation. The Urkund System functions so that it compares text of the thesis against the

material, published in books, internet material and other documents that has been brought to the system, to find any similarities. It does not tell if citations are correctly done. (JAMK University of Applied Sciences 2014.) This thesis work was submitted to Urkund before final evaluation.

Reporting invented observation or results of the study, which have not been conducted by using methods as reported is called fabrication. Falsification, also known as misrepresentation occurs when results are intentionally presented and reported incorrectly so that it will lead to twisted conclusion of the study. In addition, not reporting results that are central for topic of study is falsification. (Finnish Advisory Board on Research Integrity 2012). Fabrication and falsification was avoided in this literature review by assimilating the protocols of responsible conduct of research practices.

6.2 Validity and Reliability

In qualitative researches, the quality of the studies is evaluated with validity and reliability (Heale & Twycross 2015; Leung 2015). Reliability is repeatability and accuracy of the study. The two candidates working on this review analysed the data separately and later on compared them. Using peer reviewed articles and the amount of data, increases the reliability. (Hirsjärvi, Remes & Sajavaara 2009, 231.) Research phases are described so that the next researcher can conduct the study again and get the same results. Validity is the competence of the study (Heale & Twycross 2015) and study design was answering to the research question (Tuomi & Sarajärvi 2009, 136). As mentioned earlier the study design here consisted of peer reviewed articles published in English or Finnish language carefully selected from the year 2007 till date (2017). The reliability of the study was expected to increase when the researchers (the two of us) conducted the content analysis individually and compared the results together.

There is a risk of bias when conducting a literature review if the researcher is too close to the subject of the study. Own preconceptions; personal attachments or opinions may influence the conclusion instead of a conclusion made after methodological outcome. Fortunately, none of the researchers involved in this study was that closed to the topic under study. Researcher needs to be objective to the interest of research and focus to the true subject. (Machi & McEvoy 2009b, 19–20.) Language and funding bias was evidenced in this study. The search literatures were limited only in English and Finnish suggesting that relevant data in other languages might have been left out. The lack of

funding led to availability bias since the research was limited to only available or free accessible data. Bias in data analysis, interpretation and other aspects of the research were avoided where objectivity was expected and respected. Research data, methods, procedures, and results were reported honestly, and good record of the research activities shall also be kept for example in JAMK library and Theseus. Credits and acknowledgement were given where due and the work was open to criticism and new ideas. Transferability refers to the extent to which the findings of a qualitative research can be generalized or transferred to other settings or context. To facilitate transferability, it is valuable to give a clear and distinct description of selection and characteristics of data collection and process of analysis. The individual or group who wishes to "transfer" the results to a different context is/are then responsible for making own judgment about the sensitivity of the generalization. (Graneheim & Lundman 2004; Morse 2015.) In this research, the descriptions of all the parts of the study were given accurately and richly thus the results of the study can be used where necessary.

6.3 Discussion of Main Results

This study has covered main aspects of patient's growth to empowerment, components of diabetes counselling, and nurse's contribution in promoting self-care of T2D patients. The aim of the research was to elucidate the experiences of type 2 diabetes patients with nursing care, based on existing literature. The results of this research showed that the viewpoints of the T2D patients about patients´ growth to empowerment, components of diabetes counselling, and nurses´ contribution in promoting self-care are quite similar to each other´s T2D patients views though some contradictions were however found.

Caregivers are aware of the importance of patient-centred care and healthcare promotion of diabetes type 2 patients through empowerment, counselling and nurses´ participation or contribution toward self-care. The shift towards self-management also mean that excellent communication between health professionals and patients must be reinforced in order to fill the gap of clients feeling isolated. With reference to communication, patients reported many positive attitudes towards diabetes healthcare promotion practices as well as few negative views, also of some aspects of all the areas discussed (Aldolfsson et al. 2007; Boyle et al. 2016; Edwall et al. 2008; Kasteleyn et al. 2014; Richardson et al. 2015).

A drift toward patient-centred care and self-management necessitates the need for patients´ empowerment especially in the care of chronic illnesses. This is highly

beneficial to outpatients with long term illnesses (Jerofket, Weiss & Yakusheya 2014). Newly diagnose type 2 diabetes patients were at first finding it difficult to accept the illness. The huge amount of sacrifices involved in coping with the disease coupled with managing the new relationship with health professionals, and social stigma were the main reasons behind such fear and denial. But through nursing intervention and encouragement, most showed accepting and positive attitude toward the newly diagnose T2D illness, (Boyle et al. 2016; Burrige 2014; Dellasega et al. 2012; Edwall et al. 2008; Halkoaho et al. 2014; van Dijk-de Vries et al. 2016.) This result is also in line with the study published earlier in 2014 by Jerofket and colleagues. Jerofket and group (2014) explore the empowerment to self-management of patients with life threatening long-term illnesses through nurse behaviours, patient activation and functional health status. The design was non-experimental, with participants consisting of 113 postsurgical cancer and cardiac patients enrolled between August 2012 and February 2013. Patient perceptions of patient-empowering nurse behaviors and baseline patient activation were measured prior to discharge. Patient activation and functional health status were measured 6 weeks following discharge. The data were analysed with multiple linear regression using a simultaneous equation approach. (Jerofket et al. 2014.)

Counselling was patient-centred and performed through education, guidance and discussion that allowed patients to air out their emotions and questions. The essence (meaning of counselling) being to assist newly diagnose T2D and already existing patients to actively embrace self-management and take responsibility of own illness; support those newly diagnosed to breach fear, irritation and “denial” thoughts and positively see that though T2D is a chronic disease, it can be dealt with or managed. Being scared, irritated and “denying” portray negative feelings on the patient’s side. Patients were stressed, worried, shy and exposed signs of guiltiness and anxiety (Adolfsson et al. 2007; Halkoaho et al. 2014; Kasteleyn et al. 2014). This was identified to be due to deficit in support and guidance from health professionals, for example concerning multiple pharmacy. This implies that nurses and GPN must educate, guide and support the newly diagnosed patients about the T2D to take up self-management. Counselling education focused on T2D, lifestyle and pharmacotherapy would also generate a degree of confidence, coping and good feelings. Client-centred care and compassion coupled with self-management answers to all these patients´ queries. Patient-centred means that the nurse is too close to the patient giving room for equality in relationship and creating mutual trust. This makes the patient to feel confident, gain

coping strategy and consequently embrace self-management. This is in conformity with the research work of Kaptein and colleagues (2010) and the reviews of Rchaidia and others. (2009). In 2010, Kaptein and group., had similar findings in a study that used a range of respondents and caregivers, with varying degree of asthma severity, and in different settings of medical care. They showed how chronic illness perceptions (asthma) influence patients' coping and self-management behavior, and definitely the outcome. (ibid.) Guidance can also empowered patients in gaining deeper understanding of their self-care management and trust in continuing their lives with diabetes.

The promotion of T2D patient's wellbeing is the primary responsibility of the nurses. Although most nurses´ contributions were oriented toward encouraging self-management, patients perceived their approach as both positive and negative. Most of the patients explained that nurses´ contribution through guidance, time, being there for them and being listen to, they felt relieve; gained confidence and independence in their self-management. These reflected a positive attitude toward nursing care. This was in line with studies shown by Kvåle & Bondevik (2010), Rchaidia and group (2009) and Edvardsson and coworkers (2016). In 2010, Kvåle & Bondevik conducted a qualitative study that recruited 20 cancer patients (10 women and 10 men). In-depth interviews were tape recorded, transcribed, and analyzed. The text was condensed into units and clustered into themes. A similar result was obtained by Rchaidia and colleagues (2009) using literature review that was conducted with cancer patients to find out what constitute a good nurse. A systematic key word search was performed using five journal databases (1998–2008). The application of inclusion criteria and critical appraisal identified 12 relevant articles. (Rchaidia et al. 2009). Nurses contribution through what was seen as a good nurse in caring and patient-centeredness was confirmed by Edvardsson and others (2016) in another study that used descriptive non-experimental correlational design recruiting 210 acute inpatients in December 2012. The study collected self-report patient data through a study survey including demographic data and the Caring Behaviours Inventory, the Person-centred Climate Questionnaire, the SF-36 and the Distress thermometer. Descriptive statistics together with Pearson correlation and hierarchical linear regression were used. (Edvardsson et al. 2016).

It was found that most T2D patients with comorbidity may develop depressive feelings and self-care may become complicated. This condition easily evolves in situation where self-management tailored at home is lacking or limited. This underpins American

Diabetes Association's (ADA) recommendation to improve hospital-home transition comorbid condition (ADA 2017c S124, Hirschman & Bixby 2014). Nurses however need to identify resources that positively impact T2D patients´ self-care and emphasise on it during counselling. In collaborative approach in health professional, T2D patient relationship was observed to be positive and facilitated patients´ self-care. Collaboration means that care professionals together with T2D patient and his/her family makes a planned care goal and work together toward the goal – that of improving the patient´s condition. Easily accessible and caring health workers with non-restricted access, were valuable to the patients with type 2 diabetes (Richardson et al. 2015). This was in line with the findings of Soleimani and colleagues (2010) and Larsson and others (2011) about how participation in the care of chronic illnesses facilitated treatment. Soleimani and co-workers in 2010 in a study that employed twenty-two participants recruited by using purposeful and theoretical sampling. The data generated by semi structured interviews and participant observations. Constant comparison was used for the data analysis that demonstrated the importance of participation of care professionals, patient and family in the care of patient with chronic illness. This was also shown in 2011 by Larsson et al. in a research method in which data were collected through 6 focus groups with 26 Swedish informants recruited from inpatient and outpatient care. Content analysis with qualitative approach of the tape-recorded interview material was made. In their findings, Larsson and colleagues (2011) included four barriers to patients' participation in patients´ own care. These included among others facing own inability, meeting lack of empathy, meeting a paternalistic attitude and sensing structural barriers. These barriers can only create fear and silenced the patient to submission making it impossible for the patient to participate in his/her own care.

Nurses' role is to facilitate relieve of patients' burden in chronic disease management. Diagnosis of T2D is a starting point for positive working partnership between nurse and patient. Practice nurses' experienced great pleasure of being able to provide information and education for patients to learn more about their illness. Patient education was seen as essential component of T2D disease management especially with newly diagnosed illness from nurses' perspective. Adequate amount of information and visual modes was important in the patient´s education. Small pieces of information provided within/during the sequence of appointments with clear and simple language gave nurses an opportunity to give information to patients with their new life long condition. Nurses supported patients by breaking tasks into smaller pieces, agreeing realistic goals and

taking into consideration patients' individual needs, challenges and lifestyle. Nurses noticed that letting patients to share their thoughts could decrease the need for further appointments. (Macdonald et al. 2008.)

T2D is a long term chronic disease requiring constant monitoring and daily medical therapy. Continuity in care is significant component in care path of T2D. Alari and coworkers (2006) studied patients' with T2D perceptions of continuity in diabetes care where patients experienced three types of continuity: relation continuity, team continuity and continuity of information. Similar results were also observed in this research even though perceptions of continuity were not identified as terms of continuity of care as in the research findings published by Alari and group in 2006. Patients with T2D felt a connection in their relationship with familiar nurse of GP and it gave them confidence to share sensitive issues. On the other hand, overfamiliarity was identified as hinderance for GP to diagnose. In the results, patients were happy with broad professional role that extended also to a family role (Shigaki et al. 2010).

Communication between nurse and patient is essential in continuity of care, which was shown as personal attention for patients with type 2 diabetes. Continuity of care improved the care balance of T2D because patients knew that the same physician would continue the care (Alari et al. 2006). Similar results were recorded in this study as well. Good communication was valued, and it had positive response for self-management (Delea et al. 2015; van Dijk-de Vries et al. 2016). Family or personal physician was not mentioned among the patients in this study. In the research of Alari and coworkers (2006) some patients preferred to have same physician in charge of the care. Loss of psychosocial aspect from the care and focus only on physical care was inevitable with young GP locum tenens. (ibid.)

Medical records included a lot of information of the patients and patients saw it as a tool for unfamiliar GPs to form a holistic understanding of a patient's condition and situation (Alari et al. 2006). Information was part of patients' growth to empowerment, which is very essential part in understanding the care of T2D and learning to live with the illness. Health care professionals need to have sensors when to provide information that is not too much causing frustration for patients and not being able digest it (Svenningsson et al. 2010; Wellard et al. 2007).

The results give quite broad understanding of the patients with type 2 diabetes experiences with nursing care globally. Generalizing the results may be limited only to

four continents in the whole world owing to the fact that there were no articles from African and Asian countries. The sample size consisted of 486 participants with type 2 diabetes, all together in the 16 reviewed articles. The small sample size also limits interpretation of the results for all patients with type 2 diabetes in world widely. There were also participants with type 1 diabetes and other diabetes forms and in some researches, experiences of registered nurses were incorporated in the studies (Delea et al. 2015; Macdonald et al. 2013; Modic et al. 2016; Wellard et al. 2007).

Heath care system varies greatly among the countries included in the literature review and there is no coherent way of providing health care globally. Parity, universal and solidarity are the main principles and values in health care that concern health care regardless of the country and health care systems (Leppo 2013, 96). The health care system in the United States of America (USA) is private insurance based, Netherland has private based insurance, even though government taxes are also paid (Expatica 2017). In the other countries where the reviewed articles were produced, health care services are government based public services including non-governmental associations (NGOs) in addition to private services (Angloinfo 2017; Commonweath Fund 2017; Health care 2016; Leppo 2013, 98; Ministry of Health 2017). Health care system may impact on how patients with type 2 diabetes feel about received diabetes care. The citizens of social welfare states have public social security for medical costs and unexpected illnesses. On the other extremity are people living on private insurance based, including countries like USA, where socioeconomic status effects on how broad coverage an individual can afford. In the reviewed articles, nursing care were provided in both outpatient and inpatient health care. The experiences can vary between primary and secondary health care because generally patients have more severe health condition and may be in more vulnerable state as inpatients in hospitals compared to primary health care where commonly diabetes self-care follow up is organized.

In some reviewed articles, health care or care providers were used to describe the people who delivered care (Kasteleyn et al. 2014; Svenningsson et al. 2010), therefore it was unclear who was the provider, physician or nurse or both. In addition, one research patients' perceptions of care were studied in GP-led integrated care (Burrige et al. 2014). According to Renders and others (2001), Wood (1990) and Griffin (1997) diabetes care has gone through transition from hospital care to primary care starting in 1970s and from 1990s onwards, from GP-led practices to nurse-led practices in primary health care (Goyder et al. 1998). In the research carried out by Boyle and colleagues

(2016), transition to nurse-led practitioners created confusion in diabetic patients in Australia where DSME were provided by practice nurses in collaboration with physician. Nurses have become part of diabetes teams and they provide support, counsel on everyday life with T2D and medication adjustments instead of physician. It has been shown that nurse-led patient-centred self-care support can improve glycated haemoglobin ($HbA1_c$) among patients with T2D (Jutterström et al. 2016). Furthermore, patient education and regular contacts with nurses had positive input on health outcomes among T2D diabetic patients (Renders et al. 2001). Patients with chronic obstructive pulmonary disease (COPD) regular visits to nurse-led practices was reported to reduced unexpected physician visits, decreased anxiety and promoted self-efficacy. This might be associated with clinical and also cost effectiveness of the patients with T2D. (Baker & Fatoye 2017.)

The study method used in the research was literature review and was utilised to collect information from previous studies, synthesize the current knowledge and describe the phenomenon of interest. Instead of collecting data from scientific articles filled in the inclusion criteria, data could have been collected through interviewing patients with T2D. Interview as data collecting method allows deeper way of gathering information from patient groups and sensitive issues can be also studied. Interviewee has an active role and when interviewer does not only listen actively but brings his/her conceptions, dialog is formed. (Kankkunen & Vehviläinen-Julkunen 2009, 99; Kylmä & Juvakka 2007, 81.) If the study would have been conducted through interview, the study sample would have been limited to a notable fewer participants. In addition, the sample would have had represented a certain country or city where study would have been implemented. In this case, Jyväskylä city in Finland. Patient with T2D is a vulnerable patient group, and managing T2D on daily basis might be sensitive issue for many patients. Collecting data from primary health care or specialist health centres would have required the process of acquiring ethical consent before interviewing. The process of ethical committee and recruitment of participants would have delayed the conduction of the research and because of these, the literature review was chosen as the methodology.

6.4 Conclusions and Recommendations

Diabetes type 2 care implies patient dependence on health professionals. Patients' self-care should be recommended and be highly encouraged. In order to avoid potential

insufficiency in self-management, patients' need must be supported, professionals need communication skills to engage with patients as partners in care and the system should be able to offer flexible access to supportive care. Nurses should create some time to listen to the patients´ perceptions. In psychosocial care, caregivers need to consider the potential emotional turbulence that disease progress can bring (or mean) to a patient. It's equally important to commend that, in T2D patients´ guidance, it is a right for T2D nurses to have deep educational background in health promotion.

In conclusion, T2D patients demonstrated both positive and negative feelings regarding the care they received from health professionals. In overall, the majority of T2D patients expressed happiness and satisfactions especially regarding own autonomy in self-care and when compassion and empathy were being associated by the nurses in their care. This was achieved through "being there for the patient," "feeling for the patient" and equality in relationship by caregivers in patient-centered care. These suggest positive experiences toward self-management. However, resources that have positive impact on T2D patients´ self-management should be emphasized during caring process.

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Author, year, country, journal	Title	Aim	Research method	Sample	Main results
Aldolfsson et al. 2007, Sweden, International Journal of Nursing	"Type 2 diabetic patients' experiences of two different educational approaches – a qualitative study"	To find out the patients' with T2D[1] perceptions of engaging in an empowerment group educational programme or receiving one-to-one counselling.	Qualitative design, randomized controlled trial, semi-structured interviews.	n=28	Communication, guidance was emanated from care provider causing a one-way relationship between care provider and patient. Patients were expected to follow recommendations and advice therefore learning the disease management was difficult. Where relationship was equal, participating in empowerment group and holistic learning were experienced and led to in-depth understanding of disease management.
Baggio et al. 2013, Brazil, Brazilian Journal of Nursing	"Perception of people suffering from diabetes regarding the disease and the reasons for hospital readmissions: a descriptive study"	To find out how people with T2D perceived the disease and identify the reasons that led to hospitalization.	Qualitative design, thematic content analysis.	n=7	Patients perceived illness as lost of control leading to diabetic complications and losing all organs. When rehospitalized, patients noticed how bad their conditions were.
Boyle et al. 2016, Australia, Journal of Clinical Nursing	"A qualitative study of patient experiences of Type 2 Diabetes care delivered comparatively by General Practice Nurses and Medical Practitioners"	To examine patients' with T2D perceptions of nursing care provided by general practice nurses (GPN) in co-operation with physician.	Qualitative design, semi-structured one-to-one interviews	n=10	The role of GPN was confusing, but patients appreciated longer appointment time with them. Feeling of being listened to, informal conversations and extra support made patients feel acknowledged by GPNs.
Burridge et al. 2014, Australia, Health Expectations	"Making Sense of Change: Patients' Views of Diabetes and GP-led Integrated Diabetes Care"	To study patients' with T2D experiences of illness, self-care and collaboration in GP-led practice.	Qualitative design, in-depth interview, inductive thematic analysis	n=30	Positive collaborative environment promoted self-care of T2D. Patient-centered and individualized approach to diabetes care was highly appreciated.

Delea et al. 2015, Ireland, BioMed Central Health Services Research	"Management of diabetic foot disease and amputation in the Irish health system: a qualitative study of patients' attitudes and experiences with health services"	To examine patients with diabetes and foot illness or lower limb amputations experiences of foot care services, perceptions of received care and developmental suggestions for the services.	Qualitative design, semi-structured individual interviews, inductive thematic analysis	n=6 T2D, n=4 T1D[2]	Psychosocial support was required in addition to medical management from health care professionals. Perceived level of education and information of illness varied considerably between patients.
Dellasega et al. 2012, the United States of America, Diabetes Research & Clinical Practice	"How patients with type 2 diabetes mellitus respond to motivational interviewing"	To examine how patients' with T2D experience motivational interview in promoting positive behavioral change.	Qualitative design, interview, Phenomenological Analysis (IPA)	n=19	Motivational interview encouraged and empowered patients to take responsibility of self-care management. Patients felt being heard and responded to as human beings. Equality was experienced in nurse-patient relationship. Motivational interview was dynamic nurse coaching or guidance and support.
Edwall et al. 2008, Sweden, Journal of Clinical Nursing	"The lived experience of the diabetes nurse specialist regular check-ups, as narrated by patients with type 2 diabetes"	To explore patients' with T2D perceptions of regular diabetes nurse specialist (DSN) check-ups.	Qualitative design, narrative interviews, phenomenological-hermeneutic method	n=20	The regular check-ups with DSN had significant meaning for patients in managing diabetes. Patients were being listened to, supported and guided, which empowered them to become independent and confined to live everyday life with well-balanced diabetes.
Edwall et al. 2010, Sweden, Scandinavian Journal of Caring Science	"The meaning of a consultation with the diabetes nurse specialist"	To find out how patients perceive the consultations with diabetes nurse specialists.	Qualitative design, interview, a phenomenological hermeneutic method	n=20	Nursing care and guidance empowered patients in gaining a deeper understanding of their self-care management and gave trust in to continue their lives with diabetes.
Halkoaho et al. 2014, Finland, European Diabetes Nursing	"Type 2 diabetes patients' perceptions about counselling elicited by interview: is it time for a more health-oriented approach?"	To illustrate patients' with T2D coping resources and find out the experiences of counselling given by nurses.	Qualitative design, one-to-one interviews, inductive content analysis	n=15	Knowledge of the disease, support given by nurses emerged as coping resources for patients. Nurse bringing up coping resources in counselling session was important for patients. Lack of information of disease itself was missing, medication was center of discussions. Counselling was individualistic.

Kasteleyn et al. 2014, Netherlands, Primary Care Diabetes	"What follow-up care and self-management support do patients with type 2 diabetes want after their first acute coronary event? A qualitative study"	To investigate patients' with T2D and who had an acute coronary event perceptions of follow up care after discharge and what themes should be addressed in self-care program after discharge from hospital.	Qualitative design, semi-structured group interviews, Krueger method	n=14	Patients felt that they were left alone; lack of adequate information about T2D and on acute coronary event. Patients did not receive enough individualistic support for self-management from health care professionals
Macdonald et al. 2013. New Zealand, BioMed Central Nursing	"Nurse-patient communication in primary diabetes management: an exploratory study"	To describe the dialog between nurse and patient in diabetes care.	Qualitative design, consultations and interviews, content analysis	n=18, n=10 RN[3]	Mismatch of the consultations was experienced between patients and nurses. Nurses used check-list to cover large area of topics to support patients' self-care management. Patients felt too much of information, lack of acknowledgement of expertise and missing individualism in conversations.
Modic et al. 2016, the United States of America, International Journal for Human Caring	"Caring behaviors: Perceptions of acute care nurses and hospitalized patients with diabetes"	To find out the perceptions of caring behaviors among hospitalized patients with diabetes and acute care nurses.	Qualitative design, interview, content analysis	n=45 T2D, n=10 T1D, n=1 other, n=63 RN	Patients experienced positive caring examples. They were informed of blood sugar results and upcoming examinations and diabetes was monitored by nurses with quick responses to hypoglycemia. They also felt being listened to.
Richardson et al. 2015, the United States of America, Journal Community Health	"Diabetes Connect: African American Women's Perceptions of the Community Health Worker Model for Diabetes Care"	To find out African-American women with T2D experiences of community health worker (CHW) -lead diabetes education and to identify possible benefits and risks of it.	Qualitative design, interview, content analysis	n=25	Essential role of CHW was a collaborative connection to the healthcare system. CHW was seen as coach and partner. Approachable, shared expertise, empathy, supportiveness were patients´ description of CHW.
Shigaki et al. 2010, United States of America, Nursing Administration Quarterly	"Nurse Partners in Chronic Illness Care Patients' Perceptions and Their Implications for Nursing Leadership"	To study patients with multiple chronic conditions experiences of nursing care in primary health care.	Qualitative designs, semi-structured individual interview, grounded theory	n=12	Nurse-patient partnership was found to be central for patients in their self- care management of T2D. Appreciation for professional skills and availability when needed. Reinforcement of autonomy was important for patients.

Svenningsson et al. 2009, Sweden, Patient Education and Counselling	"Experiences of the encounter with the diabetes team – A comparison between obese and normal-weight type 2 diabetic patients"	To compare obese and normal-weight patients' with T2D experiences in their care encounters with diabetes team.	Qualitative design, interview, content analysis	n=28	Being overweight or normal weight did not affect how patients perceived care from diabetes team. Personal support and patient-centeredness were missing in the diabetes team led encounters. Patients felt left alone with guides and instructions, guilty of not following instructions given to them. When encounter had an aspect of individualized and personalized care, patient felt grateful and supported.
van Dijk-de Vries et al. 2015, Netherlands, International Journal of Nursing studies	"Patients' readiness to receive psychosocial care during nurse-led routine diabetes consultations in primary care: A mixed methods study"	To investigate patient's with T2D willingness to discuss psychosocial challenges with nurses during diabetes check-ups.	Mixed method, semi-structured in-depth interview, content analysis, questionnaire, SPSS[4]	n= 12[4] n=205[5]	Diabetes check-up was considered as biomedical check-up and psychosocial well-being was not seen as a part of diabetes care. Patients valued a good nurse-patient relationship with active dialog.
Wellard et al. 2007, Australia, International Journal of Nursing Practice	"Issues in the provision of nursing care to people undergoing cardiac surgery who also have type 2 diabetes"	To find out the challenges that patients with type 2 diabetes and cardiac specialist nurses experience who will undergo cardiac surgery in hospital.	Qualitative design, individual interview, content analysis	n=7, n=6 RN	Nurses feel uncertain in providing diabetes care as secondary disease, but not cardiac care. Patients were anxious about their diabetes care dues to changes in daily routines and not being able to perform their self-management.

[1]Type 2 diabetes [2]Type 1 diabetes [3]Registered nurse [4]IBM SPSS Statistics 21.0

Authors, year	Original expression	Reduced form	Subcategory	Grouping	Main category
Kasteleyn et al. 2014	*"...nothing had been asked or discussed regarding sexuality in the period after their ACE; they would like to have received more information on this topic."*	Missing information on sexuality	**Information Received about T2D[1] is Important**	**Information Received about T2D is Important**	**Patients' Growth to Empowerment**
Edwall et al. 2008	*"... patients developed a willingness to take responsibility for self-care without putting their health at risk."*	Readiness to take responsibility	**Developing Process towards Accepting T2D is Vital**	**Developing Process towards Accepting T2D is Vital**	
Boyle et al. 2016	*"...good interpersonal relationships..."*	Positive interaction	**Nurse-patient Partnership is Necessary**	**Nurse-patient Partnership is Necessary**	
van Dijk-de Vries et al. 2016	*"...sexual problems reported barries to mentioning the consequences of these sensitive issues to a female nurse."*	Inability to discuss sexual issues with female nurse	**Communication between Nurse and Patient is Essential**	**Communication between Nurse and Patient is Essential**	
Edwall et al. 2010	*"In the consultation DNS's attention to and communication of body state were facts which served as a guide to regulate self-management."*	Clinical facts and feedback on self-management	**Feedback on Dealing with Self-care is Encouraging**	**Feedback on Dealing with Self-care is Engouraging**	
Adolfsson et al. 2007	*"... care providers ...giving advice and recommendations they expect patients to follow... but felt nonetheless that they had limited diabetes knowledge."*	Need for more education	**Education about T2D is Essential**	**Education about T2D is Essential**	**Components of Diabetes Counselling**
Svenningsson et al. 2010	*"Encounters from an individual perspective meant support from the diabetes team, which generated a feeling of being able to control the situation."*	Patient-centered care	**Patient centered Care is very Crucial**	**Patient-centered Care is very Crucial**	
Burridge et al. 2014	*"about personal diabetes indicators & `diabetic life´ ...some participants were willing to push the limit of what was recommended."*	Passionate & ready to put in all energy to follow recommendations	**Self-care of T2D is Important**	**Self-care of T2D is Needed**	
Halkoaho et al. 2014	*"Guidance that supported nutritional changes was described as a positive way to change lifestyles."*	Guidance promoted lifestyle changes	**Guidance to Self-care of T2D is Needed**	**Guidance to Self-care of T2D is Needed**	

APPENDIX 2 Process of content analysis (2/2)

Dellasega et al. 2012	*"They were more at ease with nurses because of how they approach them and paid attention to them during their visits."*	Felt comfortable with nurses during visits	**Patients' Emotions appear due to T2D and Care**	**Patients' Emoitions appear due to T2D and Care**	
van Dijk-de Vries et al. 2016	*"...need to get direct and clear questions about their psychosocial well-being"*	Explicit and straight questions	**Questions emerged Over Time**	**Questions emerged over Time**	
Wellard et al. 2007	*"...identifying them as technically skillful..."*	Talent in professional skills	**Nurse Features in Delivering Care is Vital**	**Nurse Features Delivering Care is Vital**	**Nurse's Contribution in Promoting Self-care**
Richardson et al. 2015	*"... participants preferred easy, unlimited access to Community health worker (CHW) ... "*	Non-restricted access to CHW	**Nurse's Time during Appointment with T2D patient is Valuable**	**Nurse's time during appointment with T2D patient is Valuable**	
Modic et al. 2016	*"...experiencing a hypoglycemic event while in the hospital, stating that the nurses responded quickly."*	Rapid care intervention	**Role of the Nurse in T2D care is Significant**	**Role of the Nurse in the Care is Significant**	

[1]Type 2 diabetes