JÖNKÖPING UNIVERSITY
School of Health and Welfare

Nurses' experiences of health promotion to patients with diabetes type 2 in Vietnam

- A qualitative study

MAJOR FIELD OF STUDY: *Nursing*
AUTHORS: *Alma Sandin, Josefin Sjöstrand*
SUPERVISOR: *Pär Wennberg*
JÖNKÖPING 2023

Summary

Title: Nurses' experiences of health promotion to patients with diabetes type 2 in Vietnam

Background: Diabetes is one of the seven major causes leading to death and disability in Vietnam. In the year 2021 the amount of people aged 20-79 with diabetes in Vietnam were 3.9 million, which is equal to 6.1% of Vietnam's population. Health promotion is a central part of nursing and is the process of enabling people to increase control over, and to improve their health. Person centered care is defined as to promote health based on how the individual person perceives health and sickness.

Aim: Investigate Vietnamese nurses' experiences of health promotion to patients with diabetes type 2.

Method: A qualitative design with an inductive approach. Nine nurses have been interviewed at one hospital in Vietnam through semi-structured interviews.

Result: Three main categories, 1. Experiences of the importance of knowledge about health promotion, 2. Experiences of the importance of support to the patients to promote health, 3. Experiences of health promotion through educating and informing the patient

Conclusion: The Vietnamese nurses explained their knowledge and experiences of health promotion to patients with diabetes mellitus type 2 (DM2), which included educating, supporting, and informing the patients. Vietnamese nurses have a need for more knowledge about health promotion.

Keywords: Diabetes mellitus type 2, health promotion, nursing, Vietnam, nurse's role

Sammanfattning

Titel: Sjuksköterskors erfarenheter av att arbeta hälsofrämjande med diabetes typ 2 i Vietnam.

Bakgrund: Diabetes är en utav de sju främsta anledningarna till dödsfall och funktionsnedsättning i Vietnam. År 2021 var 3.9 miljoner i åldrarna 20–79 diagnostiserade med diabetes, vilket motsvarar 6.1% utav Vietnams population. Hälsofrämjande arbete är en utav sjuksköterskans främsta arbetsuppgifter och innebär möjliggörandet för individer att öka kontrollen över samt förbättra sin hälsa. Personcentrerad omvårdnad beskrivs som att anpassa och främja hälsa utifrån hur den enskilde individen uppfattar hälsa och sjukdom.

Syfte: Undersöka vietnamesiska sjuksköterskors erfarenheter av att arbeta hälsofrämjande för patienter med diabetes typ 2.

Metod: En kvalitativ design med en induktiv ansats. Nio sjuksköterskor har intervjuats på ett sjukhus i Vietnam genom semistrukturerade intervjuer.

Resultat: Tre huvudkategorier, 1. Erfarenheter av vikten av kunskap om hälsofrämjande arbete, 2. Erfarenheter av vikten av att främja hälsa genom att stödja patienten, 3. Erfarenheter av att främja hälsa genom att undervisa och informera patienten.

Slutsats: De vietnamesiska sjuksköterskorna beskrev deras kunskap och erfarenheter om hälsofrämjande arbete med diabetes mellitus typ 2 (DM2), som inkluderade undervisning, att ge support och att informera patienterna. Vietnamesiska sjuksköterskor har behov av mer kunskap om hälsofrämjande arbete.

Nyckelord: Diabetes mellitus typ 2, hälsofrämjande arbete, omvårdnad, Vietnam, sjuksköterskans roll

Table of content

Introduction 1

Background 2

Diabetes mellitus 2
Prevalence and incidence 2
Treatment for diabetes mellitus type 2 3
Diabetes in Vietnam 3
Health promotion 3
Patient education 4
Theoretical framework 4
Person centered care 4

Problem description 5

Aim 6

Methods 7

Design 7
Established contact 7
Participant selection 7
Data collection 7
Data analysis 8

Ethical considerations 11

Result 12

Experiences of the importance of knowledge about health promotion 13
The nurse's role in applying health promotion in different aspects 13
The importance of how the nurses work with gaining more knowledge 13
Experiences of the importance of support to the patients to promote health 14
The nurse's role in supporting about complications and preventative measures 14
The importance of adapting the care and support depending on each patients recourses 14
Follow up treatment 15
Experiences of health promotion through educating and informing the patient 15
The importance of giving information in different ways 15
The importance of giving information about lifestyle changes 16

Discussion 18

Method discussion 18
Design 18
Data collection 18
Data analysis 19
Result discussion 19
Experiences of the importance of knowledge about health promotion 19
Experiences of the importance of support to the patients to promote health 20
Experiences of health promotion through educating and informing the patient 20

Conclusions 22

Clinical implications **22**

References **23**

Appendices……..

Appendix 1: Conversation with previous MFS student ……
Appendix 2: First email conversation with contact persons……
Appendix 3: Acceptance from Da Nang University of Medical Technology and Pharmacy……
Appendix 4: Letter of invitation……
Appendix 5: Interview questions…….
Appendix 6: Consent form…….

Introduction

Diabetes is a global epidemic and the prevalence of the disease in Vietnam is increasing at an alarming rate (World Health Organization [WHO], 2016). According to the International Diabetes Federation ([IDF], 2021) in the year 2021 the amount of people in Vietnam aged 20-79 with diabetes were 3.9 million. The increase is due to economic growth, changes in consumption and lifestyle as well as changes in the social environment (Pham & Eggelston, 2015; WHO, 2016). Diabetes is one of the seven major causes leading to death and disability in Vietnam (Ngoc et al., 2020).

According to Eckert (2012) and Pham & Ziegert (2016) health promotion plays an important role in the management of diabetes. Nurses are described as the primary providers of health promotion (Piper, 2009). The nurse's role in working with the process of health promotion is done by providing information, knowledge, support, guidance, care and coping techniques to individuals and patients (Haugan, 2021).

Background

Diabetes mellitus

Diabetes is a chronic disease that requires life-long treatment. The disease has a serious impact on the quality of life on both individuals and families (Demirci et al., 2013). Furthermore, it poses a significant global burden on both public health as well as on the socioeconomic development (Akhtar et al., 2022). The disease occurs when the pancreas does not produce enough insulin, nothing at all or when the body cannot effectively use the insulin that the body produces. Insulin is a hormone that helps the body regulate the blood sugar (Langlais et al., 2015). According to Natali et al. (2015) insulin is crucial for survival, as insulin regulates the metabolism when the food intake is discontinuous. Insulin also helps the body to build-up depots of glycogen, proteins and lipids, which are all necessary to sustain the energy requirements during fasting (Natali et al., 2015). The secretion of insulin is produced and regulated by β-cells in the pancreas. The β-cells respond to changes in the physiological concentration of blood glucose and sense whether the glucose levels and body need more or less insulin secretion (Seino et al., 2015).

There are two main forms of diabetes; diabetes type 1 (DM1) and DM2 (Demirci et al., 2013). When suffering from DM1 the body does not produce any insulin at all. With DM2 the body is still producing insulin, but it has been shown that people with DM2 have a decreased β-cell mass, an impaired insulin secretory function and furthermore peripheral insulin resistance. All of which contribute to the development of hyperglycemia and DM2 (Demirci et al., 2013; Magliano et al., 2015; Marchetti & Ferrannini, 2015). Hba1c is a measurement used when monitoring the long-term average blood glucose over the past two or three months (Kovatchev, 2017).

Prevalence and incidence

According to WHO (2016) diabetes is a global epidemic. IDF (2021) stated that in Europe, year 2021 there were estimated 61 million people diagnosed with diabetes. Compared to in Southeast Asia the same year, there were estimated 90 million people diagnosed with diabetes. In Europe the prevalence has increased from 4,9 % in year 2000 to 7.0 % in year 2021. Compared to Southeast Asia, the prevalence has increased from 5.3 % in year 2000 to 10.0 % year 2021 (IDF, 2021).

IDF (2021) states that people in Vietnam with diabetes aged 20-79 were 1.7 million in the year 2011, which is equal to 3.2% of Vietnams population. In the year 2021 the amount of people aged 20-79 with diabetes were 3.9 million, which is equal to 6.1%. Compared to people with diabetes in Sweden aged 20-79 in year 2011 which was estimated 386 000, equivalent to 4.2% of Sweden's population. In year 2021 it was estimated 496 000 people with diabetes, which is equal to 5.0% (IDF,2021).

The incidence between year 2011 and 2016 was 9.1% in the middle-aged population in Vietnam (Quang et al., 2021). The increased prevalence of diabetes may be explained by different contribution factors. Some of them are an aging population, urbanization, increased incidence of obesity, poverty, and physical inactivity (Pham & Ziegert, 2016).

Diabetes is one of the seven major causes leading to death and disability in Vietnam (Ngoc et al., 2020). In 2021 it was estimated that 57 220 deaths in Vietnam were due to severe or not well-treated diabetes. Furthermore, it is estimated that approximately 2 million people in Vietnam are living with undiagnosed diabetes (IDF, 2021).

Treatment for diabetes mellitus type 2

A non-pharmacological treatment is the primary choice of treatment when it comes to DM2 (Mann et al., 2015). Medication in form of pills and injections subcutaneously is a complement when a non-pharmacological treatment is not sufficient. Persons with DM2 may need insulin later in their course of disease as the insulin function deteriorate. Additionally, some require insulin in the earlier stage of DM2 for an adequate glycemic control (Magliano et al., 2015). The non-pharmacological treatment includes the importance of nutrition, physical activity, weight loss, to stop smoking and other lifestyle choices that have an impact on the blood sugar level (Magliano et al., 2015). There is an association between obesity and risk of DM2 (Folorunso et al., 2013). According to Evert et al. (2019) and Mann et al. (2015) a healthy and balanced diet with a reasonable reduction of the total intake of carbohydrate has a positive effect when treating DM2 as well as to increased dietary fiber will also help to lower the blood glucose level. Furthermore, physical activity is a protective factor against DM2. By reducing total body fat and stimulate weight loss, the body will get an improved insulin sensitivity in the muscular cells (Galbo & Ritcher, 2015). Exercise improves overall glycemic control in a patient with DM2 and a reduction in HbA1c levels can be expected with consistent exercise (Galbo & Ritcher, 2015).

Diabetes in Vietnam

According to WHO (2016) primary health care practitioners in low-income countries do not possess the necessary technologies needed to help people with diabetes to properly manage their disease. For example, access to essential medicines, including lifesaving insulin, and techniques are limited in low-and middle-income countries.

According to Ngoc et al. (2020) many of the primary health care facilities in Vietnam do not have the capacity to diagnose, treat or monitor the patients with diabetes. Additionally, the population in Vietnam do not have enough awareness of the symptoms of diabetes which usually leads to the patients being very sick before they seek healthcare (Ngoc et al., 2020). The diabetes related expenditures in Vietnam are in general higher than the average monthly salary (WHO, 2016). It also affects the development of the society when the family is burdened with taking care of their sick relative with diabetes, which is often the case in Vietnam when they cannot afford the treatment (Ngoc et al., 2020).

Vietnam continues to develop with rapid urbanization and increased average income. An unhealthy diet and inactive lifestyle have and will continue to become more common. These are all contributors to the increasing prevalence of diabetes in Vietnam (Pham & Eggelston, 2015; WHO, 2016).

Health promotion

The Ottawa Charter for health promotion (WHO, 1986) is an international agreement signed at the first conference on health promotion that was organized by WHO. The Ottawa Charter for Health promotion describes health promotion as being the process

of enabling people to increase control over, and to improve their health. WHO (1986) continues explaining how health promotion moves beyond a focus on individual behavior towards a wide range of social and environmental interventions. Health promotion includes everything from the prevention of disease and empowering individuals, to promoting environmental and policy change. One of the major aims of health promotion is to achieve equity in health by enabling all people to achieve their fullest health potential (Haugan & Eriksson, 2021). According to Piper (2009) health promotion is a central part of nursing. The nurse's role in working with the process of health promotion is done by providing information, knowledge, support, guidance, care and coping techniques to individuals and patients (Haugan, 2021). Health promotion has moved from earlier being considered a goal or desired end point to now be viewed as a process to facilitate movement toward accomplishment of health goals (Murdaugh et al., 2019). Furthermore, there is a limited knowledge about Vietnamese nurses' conceptions of health promotion and health promotion is described as a fairly new concept for nurses in Vietnam (Pham & Ziegert, 2016).

Patient education

According to Bastable (2006) teaching is an important aspect of the nurse's professional role. Nurses must have a basic understanding and knowledge of teaching and learning to perform their practice responsibilities with efficiency and effectiveness. The purpose of patient education is to increase patient's competence and skills for self-care and self-management and to prepare patients and their families for independence. The nurse's role is to support patients in the process of becoming active participants in their own care (Bastable, 2006).

A person diagnosed with DM2 faces life-long challenges and therefore education and support is crucial for individuals coping with DM2 (Trout et al., 2019). According to Trout et al. (2019) patient education has shown to have many beneficial effects for patients with DM2, such as improved quality of life, better diabetes knowledge, lower risks of complications, decreased anxiety among patients and lower health care costs

Theoretical framework

Person centered care

The Quality and Safety Education for Nurses ([QSEN], Cronenwett et al., 2007) developed six core competencies with definitions to prepare nurses to have the knowledge, skills, and attitudes necessary to perform and improve the quality and safety of the healthcare systems. One of the six core competencies for nurses is person centered care. Person centered care is defined as that the person's experience and perception of illness and sickness shall be respected and confirmed, as well as to promote health based on how the individual person perceives health. The performed care shall be based on respect for the patient's preferences, values and needs. When practicing person centered care the patient, the patient's relatives and the healthcare professionals are viewed as equals and partners where everyone's individual competence is equally important in how the care will be performed (Cronenwett et al., 2007).

Furthermore, the patient is seen as a person instead of just a patient with an illness and a diagnosis. The healthcare professional should be taking social, psychological together with biomedical factors into account as well (van Weel-Baumgarten, 2010). According to Trout et al. (2019) person-centered care is promoted to be the most thorough approach when working with individuals who are diagnosed with DM2. When providing person-centered care to a patient with DM2, health care professionals should focus on the individual's physical, psychological, and social conditions which includes for example potential lifestyle changes and psychological and social factors that can affect the individual's health status (Trout et al., 2019).

Problem description

The population in Vietnam do not have enough awareness of the symptoms of diabetes which usually leads to the patients being very ill before they seek healthcare. This also leads to affecting the development of the society when the family is burdened with taking care of their sick relative with diabetes. Health promotion plays an important role in the management of diabetes. Nurses have a central role as providers of health promotion. Furthermore, person-centered care is promoted to be the best approach to use for offering the optimal care for patients with DM2. Despite this, there is a limited knowledge about Vietnamese nurses' conceptions of health promotion and furthermore health promotion is described as a fairly new concept for nurses in Vietnam.

Aim

The aim of this study is to investigate Vietnamese nurses' experiences of health promotion to patients with diabetes type 2.

Methods

Design

This study has used a qualitative design, with semi-structured interviews. A phenomenography approach has been used. The authors have used an inductive approach when conducting the study and a convenience selection was used.

Established contact

To establish contact with potential contact persons in Da Nang, Vietnam, searches for previous Minor Field Studies [MFS] students writing their thesis on nursing in Da Nang were made. The people found were then contacted through Facebook messenger to ask for the emails of the contact persons they had when doing their MFS, see print screen (Appendix 1). Email conversations with the contact persons in Da Nang was then started (Appendix 2). The contact persons both worked at the Da Nang University of Medical Technology and Pharmacy. Firstly, an acceptance by the Da Nang University of Medical Technology and Pharmacy was given (Appendix 3). Contact with the International Office at the Da Nang University was also established, and a letter of invitation was received from them (Appendix 4). Furthermore, did the International Office at Da Nang University help to get the approval needed to be able to conduct the study at the hospital.

Participant selection

The inclusion criteria for the participants in this study were that they had to be a nurse, work at a hospital in Vietnam, have experience of working with patients with diabetes and that they had worked as a nurse for at least one year. Additionally, an inclusion criterion was that the informants accepted that the interviews were audio recorded. A convenience selection of 9 participants were selected with the help of a contact person in Da Nang, Vietnam. The amount of nurses who were asked by the head nurse or if someone declined to participate is unknown to the researchers.

Data collection

The data collection was conducted during two weeks in February 2023, at the endocrinology department at one hospital in Da Nang, Vietnam.

The study used semi structured interviews. Semi structured interviews use open end questions with a certain structure, but the authors still have the possibility to adapt the questions after how the informant answers (Polit & Beck, 2021). The questions were written down beforehand and the same questions were asked to all of the informants. The questions were developed from the aim of this study and included introductory -, transition -, and key questions with the possibility to follow up questions (Appendix 5).

The interviews were held in English with help of an interpreter who translated the informants' answers from Vietnamese to English. The interpreter got access to the project plan beforehand to get a deeper understanding about the study's aim as well as to the interview questions. This was done so the interpreter would be able to translate them in advance for the interviews to be prepared.

The interviews were held at the hospital where the informants worked. A designated place for the interviews was made by the head of the department together with the contact person from the University who also was the interpreter. The length of the interviews were about 30 minutes. The shortest interview was 25 minutes and the longest was 38 minuets. The interviews always started with an introductory greeting by the authors and interpreter. Information about the study's aim was given to the informant by the interpreter in Vietnamese who translated the information from English that the authors had written. The informant then signed the consent form.

A pilot interview was conducted to see if any changes regarding the interview guide needed to be made. No major modifications were made, only a few clarifications of the questions. This did not affect or change the collected data from the pilot interview compared to the latter interviews. Therefore, the pilot interview was used in the result and study. Both authors were present at every interview together with the informant and the interpreter. The interviews were audio recorded with two smartphones with the informant's consent. After the recorded interviews, the authors sat down and listened to the recordings several times and transcript the interviews verbatim. The transcript did not include anything so that the informants could be identified. Additionally, the interviews were coded into numbers to keep the confidentiality of the informant.

Data analysis

The transcripts were reviewed and analyzed by both authors together. When analyzing the data, a content analysis method was used. According to Elo & Kyngäs (2008) content analysis is a method of analyzing written, verbal, or visual communication messages. Through content analysis, the collected data was divided into content-related categories describing the aim of the study. The aim when using a content analysis method is to attain a condensed and broad description of the phenomenon with an outcome of concepts or categories describing the phenomenon (Elo & Kyngäs, 2008). In this study categories were used.

Moreover, an inductive analysis process was used in this study based on Elo & Kyngäs (2008). This analysis process is mainly used when there is not enough former knowledge about the phenomenon. When using an inductive approach, the data is observed through instances and then combined into a larger whole or general statement. The first step of the inductive analysis process is the preparation phase. During this phase the authors determined and selected the units of analysis. This was done by copying the transcribed verbatim data to a new Word document that was shared by both authors. The authors then read and reviewed the data and decided what information that was deleted and not analyzed (Table 1).

Table 1. Examples of collected data that were not analyzed.

Not analyzed data	Reason
"...and they go to health check-up and the first way that they when they urine and ... inaudible* ...if the urine so they go to do the test and then they ...*inaudible*...DM2"*	Could not hear or understand the whole sentence
*"No sugar in the first...*inaudible..."*	Could not hear the whole sentence.
*"...because the patient here, because the patients here admit to the hospital...*inaudible*...so they can know about the situation when the patient stay at home easily by asking them."*	Could not hear or understand the whole sentence.

The next step of this analysis process was organizing the qualitative data (Elo & Kyngäs, 2008). The authors read through the data again to identify statements that answer the aim of the study. These statements were highlighted in the shared Word document. A condensed sentence of the core of the meaning from the highlighted comment was written. The condensed sentences were then collected in a new document shared by both authors. From the condensed sentences, sub-categories, generic categories, and main categories were identified which answered the aim of the study (Table 2).

The last phase is the reporting phase (Elo & Kyngäs, 2008). This phase consisted of reporting the result. The data and the result were described through main categories, generic categories, and sub-categories. The sub-categories and generic categories described the content of the main categories. Authentic citations were also used when reporting the results (Elo & Kyngäs, 2008).

Quote	Condensed sentence	Sub-category	Generic category	Main Category
"…If they do by themselves, I will show the patient the injection position, the instrument that the patient needs to have like alcohol to do the hygiene and how to do with the needle after injection and also how to keep the insulin in the good environment." (Nurse 9)	If the patient uses injections, the nurse will guide the patient how to do the injection, what to do safely with the needle after injection and how to keep the medication at home.	Education about safety	The nurse's role in supporting about complications and preventative measures	Experiences of the importance of support to the patients to promote health
"I also guide the patient about the complications of the DM that the patient can prevent…" (Nurse 7)	The nurse explain about complications and how to prevent them.	Complications and prevention		
"When the patient know that they get the DM2 first of all they feel stressful so I do the like advice the patient calm" (Nurse 4) *"For the mental health I encourage for the patient…" (Nurse 5)*	It is the nurse's job to support and encourage the patient if they feel upset, worried, or stressed.	Emotional support	The importance of adapting the care and support depending on each patient's resources	
"…if the patient is too old and do not have enough health to do by themselves, I will support the patient to do light exercise and cooperate with the rehabilitation department to help the patient." (nurse1)	Support the patient in their physical activity and/or cooperate with the rehabilitation department if the patient is too old and/or need help.	Supporting the patient		

Table 2. Examples of how quotes were analyzed into main categories.

Ethical considerations

The Helsinki Declaration (World Medical Association, 2013) is a formal statement that sets out ethical principles for medical research to guide the protection of human participants. The declaration includes statements to protect the life, health, dignity, integrity, right to self-determination and confidentiality of personal information of the human participants (World Medical Association, 2013). These ethical principles will be used throughout the study. Studies accomplished within general university education do not require any ethical approval, but ethical considerations should be and have been reflected upon.

Furthermore, the study will follow the three basic principles of the Belmont report (National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 1979) which are: respect of person, beneficence, and justice. When performing a study with humans there is a risk of the informants feeling obliged to participate when being asked to do so. To respect the informants' autonomy, the informants were asked for their consent. No interviews were conducted before the consent form was signed (Appendix 6). According to World Medical Association (2013) consent must be given orally or in written form. Information about the study was given to the interpreter in written form, who explained the information orally to the informant. The individuals should be treated by the principle of autonomy, meaning they are capable of making choices after careful considerations of all information (National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 1979). The informants' autonomy will be considered by informing the informants that the participation is voluntary and about the possibility to withdraw their consent at any time without explanation. The Belmont report (1979) states the importance on making sure that the participant know that the participation is voluntary and that they can withdraw at any time. To preserve the informants' integrity, their information will stay confidential. This is done by not mentioning any names and instead being coded into numbers. To protect the privacy and confidentiality of the informants' information every precaution must be taken (World Medical Association, 2013). Furthermore, will the recordings of the interviews and the data be kept on both authors smartphones and computers, all of which have a code lock function so that no unauthorized persons will be able to access the material. The recordings and data will be deleted after the thesis is submitted and approved. To not let preconceived knowledge and preunderstandings of the authors affect the result, a dialogue about this was done between the authors during the entire study to make sure it was the informant's voices and not the author's voices that was heard. The interpreter had pre-knowledge about the subject as well, and to not let the interpreter affect any result a clear discussion was held between the interpreter and the authors about what knowledge the interpreter had as well as to clarify that the translations were made word by word.

Result

The result was based on nine participants, all of which had worked as a nurse from 5 to 35 years and everyone had experience of working with DM2 (Table 3).

Table 3. Participants and their gender, age, and experience.

Female	Age 25-40	Age 41-55	5- 20 Years working as a nurse	21-35 Years working as a nurse	< 1 year working with DM2	1-10 Years working with DM2	>10 Years working with DM2
9	4	5	5	4	3	2	4

The result formed three main categories: Nurses' experiences regarding caring for patients with DM2, nurses' role and experiences of health promotion through patient education, and Nurses' perceptions of important lifestyle changes as a non-pharmacological treatment for DM2 (Table 4).

Table 4. The three main categories and generic categories.

Main category	Generic categories		
Experiences of the importance of knowledge about health promotion	The nurse's role in applying health promotion in different aspects	The importance of how the nurses work with gaining more knowledge	
Experiences of the importance of support to the patients to promote health	The nurse's role in supporting about complications and preventative measures	The importance of adapting the care and support depending on each patient's resources	Follow up treatment
Experiences of health promotion through educating and informing the patient	The importance of giving information in different ways	The importance of giving information about lifestyle changes	

Experiences of the importance of knowledge about health promotion

This category gives a deeper insight on how the nurses perceived health promotion and their experiences of working with health promotion to patients with DM2. The nurses explained health promotion and how they worked with promoting health in various ways. The category also includes the nurses' experiences of their own knowledge and the need to increase their knowledge.

The nurse's role in applying health promotion in different aspects

The nurses described health promotion in different ways. Some of the nurses described health promotion to be about the different ways to help the patient experience better both physical and mental health. Another nurse described health promotion being about helping the patient to control their disease through lifestyle changes. The nurses expressed it being difficult to explain health promotion but also mentioned lifestyle changes. Lastly, a few nurses described that health promotion was about adapting the care for the patient's disease and situation.

Nurse 8

"Health promotion is help the patient to control the disease through nutrition, exercise, and lifestyle change."

The nurses described different focuses and important parts in nursing care and working with health promotion to the patients. The nurses described how the nursing care focused on blood glucose control through nutrition, exercise, and medication.

Nurse 9

"I provide for the patient about the diet, nutrition, what kind of food that the patient should eat in order to keep balance the blood glucose and also guide the patient some signs and symptoms of reduced blood glucose and how to prevent it."

The importance of how the nurses work with gaining more knowledge

The nurses expressed how they wanted and needed more knowledge in order to provide for the patients. The nurses wanted to know more about everything but especially described the need of gaining more knowledge about nutrition and foot ulcers.

Nurse 8

"...study more because when the patient asks some questions, I do not know how to answer"

The nurses explained different ways of how they already worked on increasing their knowledge. That included the department having weekly meetings were the head

nurse together with the nurses discussed and learned more about the disease and how to take care of the patients. Furthermore, the hospital organized training courses for the nurses to join.

Nurse 5

"Here the hospital and the department also organize the education days to attain the knowledge about the DM2 between the staff in this department."

Experiences of the importance of support to the patients to promote health

This category describes how nurses supported patients and relatives about DM2, the consequences and complications of the disease as well as to treatment and how to prevent complications. Furthermore, the nurses expressed the importance of supporting the patient through different emotions. The nurses described the need to adapt the information and care depending on each patient's resources and situation. Lastly, the nurses described the patient's ability to apply the treatment advice and information from the nurses was dependent on socio-economic differences.

The nurse's role in supporting about complications and preventative measures

The nurses explained how health promotion included educating and giving information about different complications of DM2 and how to prevent them. The nurses explained how they educated the patient about blood glucose, for example how eating habits affect the blood glucose. They continued to describe how they gave information about how too low and too high blood glucose will affect the body and also what to do when the blood glucose is high or low. The nurses explained the importance to control complications related to DM2 such as foot ulcers. To prevent foot ulcers the nurses described how they explained to the patients to not be barefoot, use good shoes and moisturize their feet.

Nurse 7

"I also guide the patient about the complication of the DM that the patient can prevent…"

The importance of adapting the care and support depending on each patients recourses

The nurses described supporting the patient as part of promoting health. Supporting the patient was explained to include encouraging the patient if they felt upset, worried, or stressed. The nurses described how some patients can at first feel sad and worried when being diagnosed with DM2, this was explained as being an important moment for the nurse to be supportive for the patient.

Nurse 4

"First when the patient know that they get the DM2 they feel sad and worried. After I talk to the patient, the patient will calm down and accept the situation and then accept the treatment."

Furthermore, the nurses explained how supporting patients also included to support them in different activities. The nurses mentioned how they promoted health through supporting the patient in reducing and/or quitting to smoke and/or consume alcohol.

The nurses described to support the patient when they were doing physical activity if the patient needed help.

Nurse 1

"...if the patient is too old and do not have enough health to do by themselves, I will support the patient to do light exercise and cooperate with the rehabilitation department to help the patient."

The nurses emphasized how adapting the care after each patient's recourses is important when working with health promotion. The nurses mentioned that if the patient was bed-rested the nurse would help the patient to do bed appropriate exercise. Furthermore, the nurses explained that the patients' socio-economic status may affect how much of the treatment and advice each patient can apply.

Nurse 2

"...but depend on the economy of each patient they can apply or not what the nurse say to them."

Follow up treatment

According to the nurses they did not have a system to follow up the patient's treatment and course of disease at the endocrinology department where the nurses worked. After the patient being discharged from the nurses' department, the nurses did not have any more contact with the patient. The nurses emphasized the importance of re-examination for the patient and for them to do it every one to three months, but the patients had to book the appointments themselves. The nurses explained how the re-examinations were not done or provided by the same health care staff that had treated the patient at the endocrinology department.

Experiences of health promotion through educating and informing the patient

This category is about different lifestyle changes that nurses gave advice about to promote health to patients with DM2. The nurses described how they promoted health through different ways of giving the patients information.The nurses described how they gave information and advice about different non-pharmacological treatment options such as nutrition, exercise, and other lifestyle changes regarding smoking and alcohol.

The importance of giving information in different ways

The nurses described how giving information and educating patients and relatives was an important part of the nurse's role in promoting health. The nurses described themselves to be responsible to educate the patients about different aspects of DM2. The nurses described how they gave the patient information about for example medication for DM2. If the patient used injections for insulin treatment, the nurses would guide and educate the patient on how to do the injection, what to do safely with the needle after injection and how and where to keep the medication at home.

Nurse 4

"...If they do by themselves, I will show the patient the injection position, the instrument that the patient needs to have like alcohol to do the hygiene and how to do with the needle after injection and also how to keep the insulin in the good environment."

The nurses explained oral communication and giving posters as the most common way of giving information. The nurses mentioned that they sometimes showed the patients a video, books or recommended TV-channels and websites.

Nurse 6

"...gives a paper with information, show the patient the information board and also show the patient some TV-channels that talk about the DM2."

The nurses described that the department arranged a DM-club every month to promote health through health education. At the DM-club the patients could talk to other patients in the same situation and ask questions for the nurses to answer.

Nurse 3

"...also organize the DM club to do the education for the DM patient and with the snowball effect to get more knowledge. In the meeting i will advise the evidence-based practice to show the result of research to the patient and show the patient that how very dangerous if the patient cannot control the blood glucose"

The importance of giving information about lifestyle changes

The nurses described how they informed the patients about the importance of a balanced nutrition. They gave examples of what food DM2 patients should reduce and what they should eat more of. The nurses described how they generally advised DM2 patients to reduce the amount of carbon hydrate, calories, lipid, and oil in their nutrition. Examples of food that was explained to the patients they should reduce included rice and bread. The nurses explained vegetables to be the most common food they advised patients to increase in their nutrition.

Nurse 3

"... I will advise the patient eat more vegetables and reduce the glucoses such as rice or bread and also follow the pyramid of food."

The nurses described how they advised the patient to do exercise. The nurses mentioned walking as an appropriate form of exercise. Swimming and Tai Chi is other exercises that the nurses mentioned as appropriate options for the patients. The nurses also described how they recommended bed-rested patients to still do some kind of exercise in their bed, such as arms and legs movements. One of the nurses recommended the patients to exercise 15 minutes three times a week, whilst another nurse recommended 15-30 minutes of exercise five to seven times a week.

Nurse 1

"If the patient can walk I advise them walking, if the patient cannot walk I advised them to do arm movements on the bed."

The nurses emphasized the importance of why the patients should quit smoking and reduce the use of alcohol. The nurses explained how they promoted health through informing the patients about the damages and possible complications that smoking and consuming alcohol may have on the body.

Nurse 2

"...I will explain about the bad effect of alcohol and smoke to the DM2. And also if the patient do not stop it will make them complication to them self."

The nurses described how they informed the patients who smoked on a regular basis to reduce the amount that they smoked gradually instead of to quit all at once. The nurses explained that it was important to reduce the smoking gradually so that the patient's body will get used to smoking less and less instead of getting a chock when not receiving the nicotine that they body usually gets from the smoking.

Discussion

Method discussion

Design

The chosen design for the study was a qualitative design. A qualitative method has its origin from the holistically perspective and intend to study persons' experiences of a phenomenon (Polit & Beck, 2017). A qualitative design is relevant to use when a study aims to describe experiences and descriptions, just as this study investigates nurses' experiences of working with health promotion to patients with DM2. Nothing is considered to be right or wrong with the person's experience (Polit & Beck, 2017). Furthermore, the study used an inductive approach. The use of an inductive approach focuses on interpretations and understanding of phenomena and are obtained from direct interviews and looking for patterns that can be used to create explanation (Pope & Mays, 2020), hence this was a relevant approach to use in this study and increased the trustworthiness.

Data collection

The informants had experience of working with DM2 which increase the credibility of this study. It is crucial to find participants who have experience of the phenomenon to achieve credibility (Graneheim et al., 2017).

Convenience selection had to be used since the department only had 13 nurses and the study included 9 informants to provide enough information. The credibility of the study could have increased with a stratified selection in order to obtain a bigger diversity of informants (Polit & Beck, 2017), this was no option in this study because of the number of nurses at the chosen department. The nurses who participated were selected by the head nurse. This could be seen as a risk to the participants autonomy and affect the result as well as to decrease the study's trustworthiness if the nurses felt obliged to participate since they were asked by their superior (Polit & Beck, 2017).

Semi-structured interviews were used when performing the interviews. This is beneficial when conducting a qualitative study as semi-structured interviews let the informant speak freely about their experience but still with some structure (Polit & Beck, 2017).

An interpreter had to be used during all of the interviews. The interpreter who translated the informants' answers from Vietnamese to English was not an educated interpreter but had a PhD and was a lecturer at the faculty of Nursing at the Da Nang University of Medical Technology and Pharmacy. The use of an interpreter includes risks of affecting the result and might weaken the study's credibility if information is mistranslated or misunderstood (Egilsson et al., 2022). Follow-up translations could have been done in order to increase the study's data validity even though using an interpreter (Egilsson et al., 2022). This was not possible in this study due to time limits. The interpreter had Vietnamese as mother language and spoke English fluently. The interpreter had knowledge of medical terms in both languages. This minimized the risk of any mistranslations or misunderstandings and in turn increased the study's credibility. However, due to the language barrier it was difficult for the authors to create a relationship with the informants and not possible to create in-depth interviews. Both authors also spent some time at the hospital to be able to get a better

understanding of the nursing care at the hospital. This was done in order to try to minimize any misunderstandings due to cultural and organizational differences between Sweden and Vietnam (Pham & Ziegert, 2016). This helped the authors to understand the informants' answers better.

A pilot interview was conducted to check if the questions answered the aim of this study and if any changes to the interview guide had to be made. According to Polit and Beck (2017) a pilot interview is conducted to test the feasibility of the study. By doing a pilot interview it will minimize the risk of being inefficient during the rest of the data collection as well as to make sure it is done methodologically and ethical which increased the study's trustworthiness (Polit & Beck, 2017). No major modifications were made, only a few clarifications of the questions and therefore the pilot interview was included in the result.

Data analysis

A content analysis method was used when analysing the data. A content analysis method is used when analysing verbal, written or communication messages and is a model to describe a phenomenon in a theoretical form (Elo & Kyngäs, 2008).
Representative quotes and citations from the informants were used. This increases both the credibility as well as to the trustworthiness as it makes it clear that it is the informant's voice and not the researcher's interpretations (Graneheim et al., 2017).

Previous experiences and preunderstandings of the authors can for example influence the way the questions are asked and what follow-up questions are asked. The authors' preunderstandings and preconceived notions can also affect the analysis of the study (Graneheim et al., 2017). To minimize the risk of this affecting the analysis of the result, the authors were aware and had an understanding about that preunderstandings exists and may influence the analysis. The authors were open about their previous knowledge and continuously reflected with each other about their preconceived notions. That there were two authors both conducting the interviews as well as when analyzing the data can be seen as a strength and improve the study's dependability (Graneheim et al., 2017).

Result discussion

Experiences of the importance of knowledge about health promotion

The nurses described health promotion to be about helping the patient to get good both mental and physical health and to help the patient control their disease through lifestyle changes. This is in line with how WHO (1986) describes health promotion as being the process of enabling people to increase control over, and to improve their health. A few of the nurses described health promotion to be about adapting the care for the patient and their disease and situation. This view is consistent with one of QSEN's (Cronenwett et al., 2007) core competencies for a nurse: person centered care, which emphasize how the nurse shall perform the care after the patient's preferences, needs and perceptions of health and illness. The fact that many of the nurses found it difficult to explain health promotion and all the nurses described health promotion in fairly different ways, indicates a limited knowledge of health promotion among the Vietnamese nurses. The nurses themselves also expressed how they wanted and needed more knowledge in order to provide better care for the patients. This is in line

with Pham and Ziegert's (2016) study which result also found a limited knowledge among Vietnamese nurses' conceptions of health promotion. Pham and Ziegert (2016) describes health promotion as being a fairly new concept for nurses in Vietnam. This could indicate how education about health promotion needs to be more integrated in nurses' education as well as to already registered nurses.

Experiences of the importance of support to the patients to promote health

The nurses emphasized the importance of the nurses supporting the patient through different emotions and feelings as a part of working with health promotion. This is in line with Haugan (2021) who described the nurse's role working with health promotion to be about providing support, guidance, care and coping techniques to patients. This indicates how the Vietnamese nurses work with health promotion in the supporting aspect.

The nurses emphasized how adapting the care after each patient's recourses is important when promoting health. This view is yet again in accordance with what Cronenwett et al. (2007) writes about how person-centred care shall be performed. The patient's ability to apply the treatment advice and information was according to the nurses dependent on socio-economic differences and thus sometimes impeded the nurses to work with health promotion to these patients. Even though the nurses emphasized to adapt the care after each patient's resources, they did not know how they could work with health promotion in a recourse-limited setting for a patient. This shows how Vietnamese nurses need more knowledge of how to use person-centered care and efficiency of interventions when performing health promotion to patients with DM2. The patient not being able to follow the treatment due to economic conditions can be linked to WHO (2016) who states that the diabetes related expenditures in Vietnam are in general higher than the average monthly salary.

The endocrinology department did not have a system to follow up the patients' treatment and course of disease according to the nurses. Even though the nurses emphasized the importance of re-examination, they did not have any more contact with the patient after the patient was discharged. Haugen & Eriksson (2021) states that health promotion includes everything from prevention of disease and empowering individuals, to promoting environmental and policy change. It was clear that the Vietnamese nurses work with health promotion mainly focused on the aspect of prevention of the disease since they did not follow up the patient. This shows a lack of consistency in every aspect of health promotion from the Vietnamese nurses.

Experiences of health promotion through educating and informing the patient

The nurses described themselves to be responsible to educate the patients about the different aspects of DM2 and how they worked with health promotion through different ways of giving information to the patients. This is consistent with Bastable (2006) and Haugan (2021) who explained patient education and providing information to be an important aspect of the nurse's role working with health promotion. According to Fishman et al. (2023) does diabetes education also enhance a person's quality of life. This indicates that when the Vietnamese nurses educate and inform the patients, they are working with health promotion. Furthermore, the nurses described how they adapted how they gave the information to the patients depending on how they noticed the patients would prefer and understand given information. This

shows how the nurses worked person-centered when providing information and educating the patients.

The information the nurses gave about what health promotion interventions the patients needed to do to control their DM2, was in accordance with the health promotion interventions about nutrition, physical activity and lifestyle changes that Magliano et al. (2015) said was important when treating DM2. As earlier mentioned, to give information and educate is one part of when working with health promotion (Haugan, 2021), though the Vietnamese nurses seemed to lack skills and techniques in how to help the patients to apply the advice the nurses gave. For example, the nutritional advice the nurses gave included to reduce the amount of carbohydrate, calories, lipid, and oil in the patients' nutrition. This is consistent with what Evert et al. (2019) and Alzahrani et al. (2021) writes about the reduction of the total intake of carbohydrate to have a positive effect when treating DM2. Though, the nurses could not give examples of interventions or ways that the nurses could help the patients to be consistent with the reduction of the patients' intake of carbohydrate, more than informing the patients of the different nutritional advice. This shows how the nurses work with health promotion related to DM2 in certain aspects, but they need more knowledge and techniques to be able to apply every aspect of health promotion work as well as person-centered care when providing care as a nurse to patients with DM2.

Conclusions

Nurses described their experiences of how they worked with health promotion and how it was done by educating and supporting patients and relatives and how they adapted the care after each patient and their situation. Furthermore, the nurses described different ways of giving information and how they worked with health promotion by giving advice about different lifestyle changes that would be beneficial for patients with DM2. The patient's socio-economic status and situation was mentioned to be a barrier when nurses worked with health promotion. Vietnamese nurses have a need for more knowledge about health promotion to patients with DM2.

Clinical implications

The result of this study contributes to an improved insight and understanding about Vietnamese nurses' role and work with health promotion regarding patients with DM2. This study helps to find the knowledge as well as to any lack of knowledge Vietnamese nurses have about working with health promotion to patients with DM2. As a result, this study can possibly contribute to improve nurses work with health promotion leading to an improved preventative work, patient education and support and better care regarding DM2. This in turn can lead to a decreased prevalence of DM2 in Vietnam and an increased quality of life for the people living with DM2. Hopefully this study will inspire to future research in how to integrate more education about health promotion in the nursing education. Further research investigating what information and how it could be more integrated in nursing education in Vietnam is necessary.

References

Akhtar, S., Nasir, J.A., Ali, A., Asghar, M., Majeed, R., Sarwar, A. (2022). Prevalence of type-2 diabetes and prediabetes in Malaysia: A systematic review and meta-analysis. *PLoS ONE, 17*(1). https://doi.org/10.1371/journal.pone.0263139

Alzahrani, Skytte, M. J., Samkani, A., Thomsen, M. N., Astrup, A., Ritz, C., Chabanova, E., Frystyk, J., Holst, J. J., Thomsen, H. S., Madsbad, S., Haugaard, S. B., Krarup, T., Larsen, T. M., & Magkos, F. (2021). Body weight and metabolic risk factors in patients with type 2 diabetes on a self-selected high-protein low-carbohydrate diet. *European Journal of Nutrition*, *60*(8), 4473–4482. https://doi.org/10.1007/s00394-021-02605-0

Bastable, S. B. (2006). *Essentials of Patient Education*. Jones and Bartlett Publishers.

Cronenwett, L., Sherwood, G., Barnsteiner, J., Disch, J., Johnson, J., Mitchell, P., Sullivan, D. T., & Warren, J. (2007). Quality and safety education for nurses. *Nursing Outlook*, *55*(3), 122–131. https://doi.org/10.1016/j.outlook.2007.02.006

Demirci, H., Satman, I., Cinar, Y., & Bilgel, N. (2013). Essentials of Diabetes Care in Family Practice. I O. Oguntibeju. (Ed.), *Diabetes Mellitus - Insights and Perspectives (pp. 255-270)*. Intech.

Eckert, K. (2012). Impact of physical activity and bodyweight on health-related quality of life in people with type 2 diabetes. *Diabetes, Metabolic Syndrome and Obesity*, *5*, 303–311. https://doi.org/10.2147/DMSO.S34835

Egilsson, B. R., Dockett, S., & Einarsdóttir, J. (2022). Methodological and ethical challenges in cross-language qualitative research: the role of interpreters. *European Early Childhood Education Research Journal*, *30*(4), 638–652. https://doi.org/10.1080/1350293X.2021.1992463

Elo S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*(1), 107–115. https://doi.org/10.1111/j.1365-2648.2007.04569.x

Evert, A.B., Dennison, M., Gardner, C.D., Garvey, W.T., Karen Lau, K.H., Macleod, J., Mitri, J., Pereira, R.F., Rawling, K., Robinson, S., Saslow, L., Uelmen, S., Urbanski, P.B., Yancy, W.S. (2019). Nutrition Therapy for Adults With Diabetes or Prediabetes: A Consensus Report. *Diabetes Care* 42 (5): 731–754. https://doi.org/10.2337/dci19-0014

Fishman, S. R., Fernandez Galvis, M. A., Linnell, J., Iribarren, P., Jonas, V. H., Gittleman, J. M., Tanenbaum, M., Scherer, M., Weiss, L., Walker, E. A., Crespo-Ramos, G., Hoogendoorn, C. J., Pham-Singer, H., Wu, W. Y., & Gonzalez, J. S. (2023). Diabetes-Related Quality of Life: Learning From Individuals Making Lifestyle Changes to Improve Type 2 Diabetes Control. *The Science of Diabetes Self-Management and Care, 49*(2), 136-149. https://doi.org/10.1177/26350106221149665

Folorunso, O & Oguntibeju, O. (2013). Essentials of Diabetes Care in Family Practice. I O. Oguntibeju. (Ed.), *Diabetes Mellitus - Insights and Perspectives (pp. 255-270)*. Intech.

Galbo, H., & Ritcher, E.A. (2015). Exercise. I R. A. Defronzo., E. Ferranini., P. Zimmet & G. Alberti (Eds.), *International Textbook of Diabetes Mellitus (pp.589-614)*. Wiley Blackwell.

Graneheim, U. H., Lindgren, B.-M., & Lundman, B. (2017). Methodological challenges in qualitative content analysis: A discussion paper. *Nurse Education Today, 56*, 29–34. https://doi.org/10.1016/j.nedt.2017.06.002

Haugan, G. (2021). Nurse-Patient Interaction: A Vital Salutogenic Resource in Nursing Home Care. I G. Haugan., & M. Eriksson (Eds.), *Health Promotion in Health Care – Vital Theories and Research (pp.117-136)*. Springer Nature.

Haugan, G., & Eriksson, M. (2021). An Introduction to the Health Promotion Perspective in the Health Care Services. I G. Haugan., & M. Eriksson (Eds.), *Health Promotion in Health Care – Vital Theories and Research (pp.3-14)*. Springer Nature.

International Diabetes Federation. (2021) *IDF Diabetes Atlas, 10th edn*. IDF. https://www.diabetesatlas.org

Kovatchev, B. P. (2017). Metrics for glycaemic control -- from HbA1c to continuous glucose monitoring. *Nature Reviews.Endocrinology, 13*(7), 425-436. https://doi.org/10.1038/nrendo.2017.3

Langlais, P. R., Mandarino, L. J., & Garvey, T. (2015). Mechanism of insulin signal transduction. I R. A. Defronzo., E. Ferranini., P. Zimmet & G. Alberti (Eds.), *International Textbook of Diabetes Mellitus (pp.163-192)*. Wiley Blackwell.

Magliano, D., Zimmet, P., & Shaw, E. (2015). Classification of diabetes mellitus and other categories of glucose intolerance. I R. A. Defronzo., E. Ferranini., P. Zimmet & G. Alberti (Eds.), *International Textbook of Diabetes Mellitus (pp.3-14)*. Wiley Blackwell.

Mann, J., & Chrisholm, A. (2015). Dietary management of diabetes mellitus in Europe and North America. I R. A. Defronzo., E. Ferranini., P. Zimmet & G. Alberti (Eds.), *International Textbook of Diabetes Mellitus (pp.577-588)*. Wiley Blackwell.

Marchetti, P., & Ferrannini, E. (2015). β -cell and function in human type 2 diabetes. I R. A. Defronzo., E. Ferranini., P. Zimmet & G. Alberti (Eds.), *International Textbook of Diabetes Mellitus (pp. 354-370)*. Wiley Blackwell.

Marton, F. (1981). Phenomenography – Describing conceptions of the world around us. *Instructional Science, 10*(2), 177-200. https://doi.org/10.1007/BF00132516

Murdaugh, C.L., Parssons, M. A., & Pender, Nola. J. (2019). *Health promotion in nursing practice*. Pearson.

Natali, A., Del Prato, S., & Mari, A. (2015). Normal β -cell function. I R. A. Defronzo., E. Ferranini., P. Zimmet & G. Alberti (Eds.), *International Textbook of Diabetes Mellitus (pp. 108-124)*. Wiley Blackwell.

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). *The Belmont report: Ethical principles and guidelines for the protection of human subjects of research*. U.S. Department of Health and Human Services. https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html

Ngoc, N.B., Lin, Z.L. and Ahmed, W., (2020). Diabetes: What Challenges Lie Ahead for Vietnam?. *Annals of Global Health*, *86*(1), p.1. http://doi.org/10.5334/aogh.2526

Pham, N. M., & Eggelston, K., (2015) Diabetes Prevalence and risk factors among Vietnamese adults: Findings from community-bases screening programs. *Diabetes Care 1*, *38*(5): e77-e78. https://doi.org/10.2337/dc14-3093

Pham, N. M., & Ziegert, K. (2016). Ways of promoting health to patients with diabetes and chronic kidney disease from a nursing perspective in Vietnam: A phenomenographic study. *International Journal of Qualitative Studies on Health and Well-Being*., *11*(1). https://doi.org/10.3402/qhw.v11.30722

Piper, S. (2009). *Health promotion for nurses: theory and practice*. Routledge.

Polit, D. F., & Beck, C. T. (2021). Resource manual for Nursing research: generating and assessing evidence for nursing practice (Eleventh edition.). Wolters Kluwer.

Quang, B. T., Tran, P. P., Thanh, C. N., Thi, N. B., Dinh, T. D., Quang, T. T., Tuan, L. D., Thuy, N. D. T., Anh, N. N. (2021) High incidence of type 2 diabetes in a population with normal range body mass index and individual prediction nomogram in Vietnam. *Diabetic Medicine, 39*(2). https://doi.org/10.1111/dme.14680

Seino, S., Shibasaki, T., & Minami, K. (2015). β -cell biology of insulin secretion. I R. A. Defronzo., E. Ferranini., P. Zimmet & G. Alberti (Eds.), *International Textbook of Diabetes Mellitus (pp. 96-107)*. Wiley Blackwell.

Simpson, R.W., Shaw, J.E., Zimmet, P.Z. (2003) The prevention of type 2 diabetes - lifestyle change or pharmacotherapy? A challenge for the 21st century. *Diabetes Research and Clinical Practice, 59*(3), 165-180. https://doi.org/10.1016/S0168-8227(02)00275-9

Trout, K. K., McCool, W. F., & Homko, C. J. (2019). Person-centered primary care and type 2 diabetes: Beyond blood glucose control. *Journal of Midwifery & Women's Health, 64*(3), 312-323. https://doi.org/10.1111/jmwh.12973

Van Weel-Baumgarten E. Person-centered clinical practice. (2010). *International Journal of Integrated Care, 10*(5). DOI: http://doi.org/10.5334/ijic.499

World Health Organisation. (1986). *Ottawa Charter for Health Promotion: First International Conference on Health Promotion Ottawa, 21 November 1986*. https://www.healthpromotion.org.au/images/ottawa_charter_hp.pdf

World Health Organization. (2016). *Health promotion*. WHO. https://www.who.int/news-room/questions-and-answers/item/health-promotion

World Health Organization. (2016). *The growing burden of diabetes in Viet Nam*. WHO. https://www.who.int/vietnam/news/feature-stories/detail/the-growing-burden-of-diabetes-in-viet-nam

World Medical Association. (2013). *Declaration of Helsinki: Ethical principles for medical research involving human subjects*. https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/

Appendices

Appendix 1: Conversation with previous MFS student.

Appendix 2: First email conversation with contact persons

20 sep. 2022 kl. 17:05 skrev Ly Huynh <huynhlyytedn@gmail.com>:

Dear Josefin and Alma,

It's great to hear from you both.
Definitely, in the cooperation between Jonkoping University and Danang Medical Technology and Pharmacy, we have the MFS every year. Nursing faculty have received and supported some Swedish nursing students for the bachelor's thesis from Jonkoping University since 2011.
We would like to welcome you both to Da Nang for your thesis process and experiences.
In order to support you both, please give me some related information, such as the period of time and the title of your thesis,...
I look forward to hearing from you both.

P/s. Please contact me via another email because this email is almost full.
My uni email: htly@dhktyduocdn.edu.vn

Best regards,

Mrs Ly, Vice Head of Nursing Faculty.

Appendix 3: Acceptance from Da Nang University of Medical Technology and Pharmacy

BỘ Y TẾ
TRƯỜNG ĐẠI HỌC
KỸ THUẬT Y - DƯỢC ĐÀ NẴNG
Số: 43 /QĐ-DHKTYDĐN

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

Đà Nẵng, ngày 03 tháng 02 năm 2023

QUYẾT ĐỊNH

Về việc đồng ý tiếp nhận sinh viên quốc tế sang học tập và nghiên cứu tại Trường

HIỆU TRƯỞNG TRƯỜNG ĐẠI HỌC KỸ THUẬT Y - DƯỢC ĐÀ NẴNG

Căn cứ Quyết định số 595/QĐ-TTg ngày 15/04/2013 của Thủ tướng Chính phủ về việc thành lập Trường Đại học Kỹ thuật Y - Dược Đà Nẵng;

Căn cứ Quyết định số 3196/QĐ-BYT ngày 30/11/2022 của Bộ trưởng Bộ Y tế về việc công nhận Hiệu trưởng Trường Đại học Kỹ thuật Y - Dược Đà Nẵng nhiệm kỳ 2020-2025;

Căn cứ Biên bản Thỏa thuận hợp tác giai đoạn 2022-2024 đã ký kết vào ngày 26 tháng 01 năm 2022 giữa Trường Đại học Kỹ thuật Y - Dược Đà Nẵng và Trường Khoa học Sức khỏe, Đại học Jonkoping, Thụy Điển;

Xét đề nghị của Ông Trưởng Phòng Quản lý Khoa học - Công nghệ và Hợp tác Quốc tế.

QUYẾT ĐỊNH

Điều 1: Đồng ý tiếp nhận các sinh viên của Trường Y tế và Phúc lợi, Đại học Jonkoping, Thụy Điển (Danh sách đính kèm) sang học tập và nghiên cứu tại Khoa Điều dưỡng, Trường Đại học Kỹ thuật Y - Dược Đà Nẵng.

Thời gian: Từ ngày 25/01/2023 đến ngày 30/3/2023

Kinh phí: do chương trình Minor Field Studies tài trợ.

Điều 2: Phòng QLKH-CN&HTQT và các sinh viên có tên ở Điều 1 có nhiệm vụ thực hiện các quy định và chính sách hiện hành của Nhà nước Việt Nam về xuất cảnh và nhập cảnh của khách nước ngoài tại Việt Nam, chấp hành các quy định về phòng, chống dịch COVID-19.

Điều 3: Quyết định này có hiệu lực kể từ ngày ký. Các phòng QLKH-CN&HTQT, Phòng Đào tạo Đại học, Khoa Điều dưỡng và các sinh viên có tên ở Điều 1 chịu trách nhiệm thi hành Quyết định này./.

Nơi nhận:
- Như trên;
- Lưu VT, P. QLKH-CN&HTQT.

HIỆU TRƯỞNG

TRƯỜNG ĐẠI HỌC KỸ THUẬT Y - DƯỢC ĐÀ NẴNG

Lê Thị Thúy

Appendix 4: Letter of invitation

Vietnam Ministry of Health
Danang University of Medical Technology and Pharmacy

LETTER OF INVITATION

Da Nang, 5th October, 2022

Dear Mr. Par Wennberg,

Based on the cooperation between the School of Health and Welfare, Jonkoping University, Sweden and the Da Nang University of Medical Technology and Pharmacy, Da Nang, Viet Nam, regarding to teachers and students exchange, we would like to invite Alma Sandin and Josefin Sjostrand from the School of Health and Welfare, Jonkoping to collect data and write their theses at our University in Spring 2023.

Duration: January 23rd – March 19th, 2023 (8 weeks)

The costs for travel and living in Da Nang will be covered by the Minor Field Study Program.

Alma Sandin and Josefin Sjostrand are warmly welcomed to the Da Nang University of Medical Technology and Pharmacy.

Should you require further information, please do not hesitate to contact us.

Best regards,

TRƯỜNG ĐẠI HỌC KỸ THUẬT Y - DƯỢC ĐÀ NẴNG

Le Thi Thuy, MD, PhD
Vice-Rector

Danang University of Medical Technology and Pharmacy
99 Hung Vuong Street, Hai Chau District,
Danang City, Vietnam

Phone: (84)236-3835380
Fax: (84)511-3835380

Website: *dhktyduocdn.edu.vn*
Email: *htqt@dhktyduocdn.edu.vn*

Appendix 5: Interview questions

INTERVIEW QUESTIONS

Age:
Number of years working as a nurse in Vietnam:
And with diabetes:
Where did you get your education (country):

Introductory question

- What do you understand or know about the term "health promotion"?

Transition question

- What symptoms and signs from diabetes type 2 can you notice when the patients seek healthcare and are diagnosed with the disease?

Key question

- What guidelines do you work by or with regarding patients with diabetes type 2?
- Can you describe how you work with health promotion regarding patients with diabetes type 2?
    - How do you work with lifestyle changes (smoking & alcohol)?
    - Physical activities?
    - Nutrition/Diet?
    - Pharmacological treatment?
        - When in the course of the disease do they mainly get pharmacological treatment?
- How do you give all this information about dm2 to the patients?
    - How would you say/describe the patient feels when receiving this information?
- How do you follow up these patients during the first year after them being diagnosed and discharged?
- Do you feel you have enough knowledge and information about how to work with health promotion regarding the patients with diabetes type 2?
    - If no – what else do you feel the need of knowing and learning?
    - If yes – did you get this knowledge from the education or from working in practice?

Ending:

- Is there anything you want to add?

Appendix 6: Consent form

JÖNKÖPING UNIVERSITY

You are invited to participate in this interview study performed by Alma Sandin and Josefin Sjöstrand.

We are two nursing students from Sweden, studying at the School of Health and Welfare, Jönköping University. The aim of this study is to investigate how nurses in Da Nang, Vietnam work with health promotion regarding patients with diabetes type 2 within the first year after being diagnosed. The investigation will be performed through interviews with about 10 nurses who work at two different hospitals in Da Nang, Vietnam.

The interviews will be performed by the two researchers, Alma and Josefin, together with an interpreter if needed. The interviews will be recorded. The only people who will have access to this recorded material are the two researchers and an interpreter if needed. All information and material will be handled with confidentiality and your identity will not be disclosed.

Your participation is voluntary, and you can withdraw your participation at any time during the investigation. After you sign the consent form, you are still free to withdraw at any time and without giving a reason.

If you have any questions, please contact:
Alma Sandin, saal20jd@student.ju.se or Josefin Sjöstrand, sjjo20cy@student.ju.se

Supervisor at Jönköping University:
Pär Wennberg, Senior lecturer, par.wennberg@ju.se

Advisor at the host institution, Da Nang:
Dr Le Thi Thanh Tuyen, ltttuyen@dhktyduocdn.edu.vn
Lecturer of Nursing faculty

Contact person at the host institution, Da Nang:
Huynh Ly, htly@dhktyduocdn.edu.vn
Vice Head of Nursing Faculty

CONSENT FORM

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Date ……

Name……

Signature……

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Date ……

Name……

Signature……