Nurses experience of applying professional competence and influencing the quality of nursing care in terms of diabetes in an Indian rural hospital

- an interview study

Sjuksköterskornas erfarenhet av att tillämpa professionell kompetens och påverka kvalitén på omvårdnaden gällande diabetes på ett indiskt landsbygdssjukhus

- en intervjustudie

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ABSTRACT

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Introduction - India is beginning to resemble the western worlds’ way of living and that leads to an increased risk of chronic diseases such as diabetes. Due to its very large population India has the world second largest number of people with diabetes; 61,3 million people. Studies have shown that the awareness of diabetes is poor, especially in rural areas. Aim - To investigate nurses’ experience of applying professional competence in patient education with focus on diabetes type II in an Indian rural hospital. Method – Data was gathered through twelve qualitative interviews. The interviews were tape recorded, transcribed verbatim and then analyzed through content analysis. Result – Three main categories were identified; Acquired competence to meet the patients, Helping the patients manage their disease and Nurses’ ideas for quality improvements regarding diabetes care. Conclusion - This study identified different obstacles that could have a negative effect on the care and treatment of patients with diabetes type II. The nurses had many ideas for quality improvements which could raise the awareness of the disease among patients, improve clinical outcomes and the work environment for the nurses. The nurses are willing to get more education about the disease and implement quality improvements if the resources and equipment are provided by the hospital.
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INTRODUCTION

Diabetes type II
Diabetes is a chronic disease that may be congenital or develop later in life related to diet, physical inactivity and lifestyle. However the focus of this study was diabetes type II, the kind that develop due to ageing or lifestyle which comprises 90 percent of people with diabetes around the world (WHO 1999). According to WHO (2015) chronic diseases, also known as non-communicable diseases, are not passed from person to person. They are usually slow progressing and of long duration. People with this type of diabetes has an increased blood sugar level, hyperglycemia, caused by insulin resistance and the reduced hormonal production of insulin that provides cells with glucose. Diabetes type II was previously referred to as noninsulin dependent or adult onset diabetes.

Risk factors that are associated with diabetes type II is ageing, high blood pressure, obesity, lack of physical activity and smoking (Safari et al. 2014). This disease can lead to complications such as neuropathy, nephropathy, retinopathy and diabetic ulcers. It also increases the risk of cardiovascular diseases (WHO 1999).

Nurses’ role in diabetes care
It is necessary to discover patients with diabetes early, to be able to offer treatment and care to avoid secondary complications or need for hospitalization (Euro Diabetes Index 2014; Joshi et al. 2013). Since complications from diabetes can be avoided by good knowledge about diabetes type II among the patients, nurses have a very important role in teaching the patients about the disease and its complications as well as supporting the patient in the management of the disease (Kaur & Walia 2007). Lack of awareness of diabetes type II among patients leads to poor self-management and understanding of the importance of diet and/or lifestyle changes to prevent complications, it can also reduce the compliance of diabetes care (Khan et al. 2013). Lack of awareness of diabetes among nurses can lead to poor diabetes care and treatment. Long-term effects of lack of awareness among nurses increases the risk of complications, morbidity and the quality of life will deteriorate for the patients (Iversen 2010).

Nurses’ competence
International Council of Nurses (ICN) (2009) defines competence as a combination of knowledge, skill and judgment shown in job performance. Nursing competence reflects knowledge, understanding and judgment, cognitive, technical, psychomotor and interpersonal skills as well as personal attributes and attitudes (ICN 2009). Competence is defined by World Health Organization (WHO) as following:

“Sufficient knowledge, psychomotor, communication and decision-making skills and attitudes to enable the performance of actions and specific tasks to a defined level of proficiency.”

(WHO 2011)
A competent nurse can successfully establish the necessary knowledge, skills, attitudes and professional behavior on a specific assignment, action or purpose in the work setting. Competence is also about having the skills to recognizing the persons’ knowledge limits and refer to someone else with more knowledge and skill if necessary (WHO 2011).

**Self-management**
To be able to achieve optimal control of their diabetes, patients have to be provided with the necessary knowledge and skills, which is obtained through diabetes self-management education. The education should include information about nutrition, exercise, detection and treatment of diabetes complications among other things and the information should be easy to understand (Umpierrez 2010). Self-management education contributes to an improved quality of life, better health and clinical outcomes such as stable blood glucose level and fewer complications (Bagnasco et al. 2014). To be able to provide a good self-management education the nurses have to apply patient-centered care and take personal characteristics such as age, cultural influences and prior diabetes knowledge into account. The patient have to learn to monitor symptoms and signs and keep blood glucose level under control (Bagnasco et al. 2014). Diabetes self-management education focuses on psychosocial adjustment through problem solving, coping and personalized goal setting (Hollis et al. 2014).

Dorothea Orem (1995) has established a theory of self-care which consists of three part; self-care, self-care requisites and self-care demand/therapeutic self-care demand. Self-care is undertaken by individuals to improve well-being, life and health. Self-care requisites can be universal, developmental or health deviation. Universal needs are defined as maintenance of human structure and function, and associated life events. Developmental self-care needs are natural conditions in life associated with events. Health deviation self-care needs are seen in cases of illness. The nurse must assess each persons’ self-care needs along with factors affecting self-care abilities in order to maintain healthy systems (Orem 1995).

**Health system in India**
The health care system in India consist of both private and public health care facilities whereof the private sector mostly provides curative health services and the public sector provides both curative and preventive services. The public health sector comprises of the central government, state government, municipal and local level bodies. Every state is responsible for providing health services but the central government contribute in a significant way through grants and sponsored health programs. The private sector comprises of the “not-for-profit” and the “for-profit” health structure and is dominant in all submarkets; hospital construction, medical education and training, pharmaceutical manufacture, medical technology, supportive services and provisioning of medical care (Ministry of Health and Family Welfare 2011).
India is facing two major challenges in health care and that is the increased number of non-communicable diseases such as diabetes and cardio-vascular disease, along with communicable diseases such as tuberculosis that still constitute a big problem in India. The access to health care is insufficient and the shortage of medical staff is substantial which primarily affects the rural population, 70 percent of the total population (Wennerholm 2013). Only a minority of the 1, 25 billion population have health insurance (approximately 300 million people) and therefore the cost of health care leads to big financial strains for the patients (Wennerholm 2013; WHO 2013).

**Nursing education in India**
The dominant form of nursing education in India is health school-based nursing training, these schools are usually attached to hospitals. They provide training for General Nurse Midwife (GNM) which has a duration of three and a half years. After completing the GNM education the students become registered nurses and receive a diploma. GNM education provides the nurses with more hands-on experience and practical work (Tiwari et al. 2013). Basic nursing (B.Sc.) is a university education which leads to a bachelor degree in nursing with the duration of four years. Students graduating from B.Sc. nursing become registered nurses and can engage in both clinical nursing and clinical teaching (Tiwari et al. 2013).

**Problem definition**
India is beginning to resemble the western worlds’ way of living and that leads to an increased risk of chronic diseases such as diabetes (Akter et al. 2014). The worldwide prevalence of diabetes has risen dramatically in developing countries (Muninarayana et al. 2010). Due to its very large population India has the world second largest number of people with diabetes, 61,3 million or 8 % of the population (Akter et al. 2014). Studies have shown that the awareness of diabetes, its symptoms, complications and management of the disease are poor, especially in rural areas in India (Ashita et al. 2012; Muninarayana et al. 2010). The nurses have a very important role when it comes to educating the patients and give them more knowledge about their disease. With the right knowledge, complications can be prevented and the patients’ quality of life can be improved. Therefore it is of interest to investigate nurses’ experience of applying professional competence in patient education.

**AIM**
The aim of this study was to investigate nurses’ experience of applying professional competence in patient education with focus on diabetes type II in an Indian rural hospital.
METHOD

Study design
The study was performed with a descriptive qualitative approach and semi-structured interviews were conducted to collect data.

Sampling
Inclusion criteria for being included in the study were that the participants had to be a registered nurse with at least one year of work experience and working in a medical ward. The authors wanted to include both genders, varying work experience and nurses with different positions in the ward in order to get a wider sampling. In order to identify possible participants, criterion sampling was used and oral information was given to the staff in all the medical wards at Acharya Vinoba Bhave Rural Hospital. Those who volunteered to participate were included in the study and got further oral and written information (appendix I) at the time of the interview. Twelve interviews were conducted with nurses who volunteered and had the time to be interviewed, no one was excluded from participating in the study. Three of the participants were in charge nurses and nine were staff nurses. Four of the nurses were male and eight were female. The mean age of the participants was 31.75 years where the eldest was 49 years old and the youngest 23 years old. The mean of working experience among the nurses was 8.25 years where the nurse with the most experience had 26 years and the one with the least had 1 year of work experience. One of the nurses had completed B.Sc. nursing and the rest of the nurses had completed GNM nursing (see table 1).

Table 1. Demographic information

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
<td>8 female</td>
<td>4 male</td>
</tr>
<tr>
<td>Age</td>
<td>23-46 years</td>
<td>24-49 years</td>
</tr>
<tr>
<td></td>
<td>Median age: 27.5 years</td>
<td>Median age: 25.5 years</td>
</tr>
<tr>
<td>Years of experience</td>
<td>1-20 years</td>
<td>1-26 years</td>
</tr>
<tr>
<td></td>
<td>Median experience: 5 years</td>
<td>Median experience: 3.25 years</td>
</tr>
<tr>
<td>Education</td>
<td>8 GNM</td>
<td>3 GNM, 1 B.Sc.</td>
</tr>
<tr>
<td>Position in the ward</td>
<td>6 Staff nurses</td>
<td>3 Staff nurses</td>
</tr>
<tr>
<td></td>
<td>2 In charge nurses</td>
<td>1 In charge nurse</td>
</tr>
</tbody>
</table>

Data collection
Data collection was conducted during January 2015 through twelve semi-structured interviews with nurses at Acharya Vinoba Bhave Rural Hospital in India. Since the first language of the nurses was Hindi an interpreter was used during the interviews to improve the understanding between the participants and the authors. The interpreter was used to translate both the researchers’ questions and the participants’ answers. Before conducting the interviews the interpreter got information about the study, its purpose and got a copy
of the interview guide. The semi-structured interviews were based on a specific set of topics and a written interview guide (appendix IV) was followed (Polit & Beck 2012).

Two pilot interviews were conducted but those were not included in the analysis because of the weakness in quality. After conducting the pilot interviews the interview guide was adjusted, some of the questions were clarified in order to avoid misunderstandings and one question was removed from the interview guide because of its similarity with another question. The interpreter got more distinct instructions about their role in the interview which included to give a direct translation without adding any personal values. The interviews were tape recorded and transcribed verbatim the same day as the interviews were conducted in order to get the participants actual responses since notes tend to be incomplete and might be influenced by the researchers’ personal views (Polit & Beck 2012). The participants’ demographic information was collected by using a form (appendix III) with questions about the participants’ sex, age and work experience.

Data analysis
The data was analyzed by using qualitative content analysis. In content analysis the researcher reads the interviews to find key concepts, meaning units that relates to each other through their content and context. The meaning units were condensed, abstracted and labeled with a code (Graneheim & Lundman 2004). The whole context were considered while condensing and labelling meaning units with a code to ensure a meaningful content (Polit & Beck 2012). The codes were sorted and grouped together, sub-categories and categories were formulated which constitute the basis of the result (Graneheim & Lundman 2004). Meaning units were identified by the authors individually in order to maintain an objective perspective. The identified meaning units were compared to each other and the interviews to ensure meaningful content and a correct interpretation. The authors discussed the meaning units before abstracting and labeling the units with a code. The codes were then grouped together according to similarities in content and formed different categories. The categories were modified several times in order to ensure that the meaning units only resided in one of the categories.

Ethical considerations
This study was approved by the ethical committee of Acharia Vinoba Bhave Rural Hospital (appendix V). All nurses who fulfilled the inclusion criteria got oral information about the study and its purpose. The nurses who volunteered to participate got further oral and written information (appendix I) at the time of the interview. Consent to participate in the study was documented by the use of a consent form (appendix II). Participation in the study was voluntary and their partaking could be terminated without any consequences. All data was handled confidentially which means the data was only reviewed by the researchers and was only used in order to fulfill the research aim (Polit & Beck 2012). The confidentiality of the participants was ensured by using quotations that could not be linked to any individual (Polit & Beck 2012).
**Study context and settings**

Acharia Vinoba Bhave Rural Hospital is located in Sawangi (Meghe), in the district of Wardha which is situated in the north eastern part of the state Maharashtra (see figure 1). Maharashtra is the third largest state in India in both area and population (Maps of India 2013; Ministry of Health and Family Welfare 2014). Acharia Vinoba Bhave Rural Hospital is a teaching hospital attached to a medical college. The hospital has 1206 beds and its motto is “Cure with Care” (Datta Meghe Institute of Medical Science 2015). Each ward has ten to thirty beds with two staff nurses who provide basic nursing care to the patients. The ward also has an in charge nurse who is responsible for management and supervision of the staff. Other than the employed staff there is also nursing students that help with the daily care of the patients.

![Figure 1 – Map of India with Maharashtra and Wardha marked](MSPHC 2011; Nations Online 1998).
RESULTS
Analysis of the data regarding nurses’ experience of applying professional competence in patient education with focus on diabetes type II, resulted in three categories; Acquired competence to meet patients, Helping the patients manage their disease and Nurses’ ideas for quality improvements regarding diabetes care. The categories and sub-categories are presented in Table 2.

Table 2. Categories and sub-categories

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
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<tbody>
<tr>
<td>Acquired competence to meet the patients</td>
<td>- Learning about diabetes during nursing education</td>
</tr>
<tr>
<td></td>
<td>- Ability to describe diabetes type II</td>
</tr>
<tr>
<td></td>
<td>- Sustaining and improving knowledge</td>
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<tr>
<td>Helping the patients manage their disease</td>
<td>- Self-management advice</td>
</tr>
<tr>
<td></td>
<td>- Teaching methods</td>
</tr>
<tr>
<td></td>
<td>- Obstacles while educating the patients</td>
</tr>
<tr>
<td>Nurses’ ideas for quality improvements regarding diabetes care</td>
<td>- Resources to improve diabetes care</td>
</tr>
<tr>
<td></td>
<td>- Equipment to complement patient education</td>
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Acquired competence to meet the patients
The ability to describe diabetes type II among the nurses was varying and was affected by level of education, work experience, personal interest and position in the ward. The nurses highlighted the importance of sustaining and improving their knowledge to be able to meet patients with diabetes type II. Their responses centered around three areas which were learning about diabetes during nursing education, ability to describe diabetes type II and sustaining and improving knowledge.

Learning about diabetes during nursing education
Eleven of the participants had completed GNM nursing and one had completed B.Sc. nursing. All the participants mentioned that they got some sort of education about diabetes during their nursing education. One of the nurses had only learned briefly about diabetes during the nursing education, since the participant attended nursing education several years ago the education was not as good as it is now. Six of the twelve participants expressed how they got education about the pathophysiology, definition, cause, sign and symptoms and management of diabetes type II.

“I had a subject called medical surgical nursing, in that subject I have learned about diabetes mellitus, its definition, sign and symptoms, cause, pathophysiology and especially management.”
(Nurse 11, age 26)
Ability to describe diabetes type II

The ability to describe diabetes type II among the nurses was varying. Six participants were able to describe the definition, sign and symptoms and characteristics of diabetes type II. They described diabetes type II as noninsulin dependent and it is characterized by high blood glucose level. The most common sign and symptoms described by the nurses were polyuria and increased thirst. Only one of the twelve nurses described obesity and heredity as risk factors associated with diabetes type II.

“Diabetes mellitus type II is formally known as noninsulin dependent diabetes mellitus, it is characterized by hyperglycemia then the symptoms are increased hunger, thirst and polyuria, incontinent of urine. We are giving the patient medication, for diabetes type II the tablet is Metformin. Routinely RBS-checkup, every 2 or 4 hours. The risk factors are obesity and heredity.” (Nurse 9, age 25)

Six participants were not able to describe the definition, sign and symptoms and characteristics of diabetes type II. They either described diabetes type II as insulin dependent or were not able to describe the difference between diabetes type I and II.

“There are two types of diabetes, type I and type II. In type I the patient is not taking any insulin, it’s insulin independent and type II is insulin dependent.” (Nurse 7, Age 27)

The ability to identify complications of diabetes type II was better than the ability to describe the disease among the participants. The most common described complications were retinopathy, nephropathy, neuropathy, foot ulcers and delayed wound healing. Some of the participants described increased thirst, sweating, dizziness and weakness as complications of diabetes type II.

Sustaining and improving knowledge

The most common ways to sustain and improve knowledge among the participants were by reading books and interacting with the patients. Some of the participants asked seniors such as in charge nurses, doctors or clinical instructors if they had any questions about diabetes type II and thereby improved their knowledge about the disease. They also had classes about diabetes type II and other conditions, the classes were conducted by higher authority or the matron department.

“Here we use to have some seminars on this disease condition and by attending that seminar we become more specialized in that field.” (Nurse 11, age 26)
Three of the nurses talked about the importance of working to gain experience and knowledge. One of the nurses read new research about diabetes type II.

“I use to read new research regarding diabetes and find it by searching on the internet. Interacting with the patient, reading the patient file and doctor notes.” (Nurse 8, age 42)

**Helping the patients manage their disease**

Patient education is influenced by nurses’ knowledge about diabetes type II and teaching methods as well as the patients’ receptiveness. The nurses expressed that patient education is a way to help patients with the management of the disease. Their responses centered around three areas which were self-management advice, teaching methods and obstacles while educating the patients.

**Self-management advice**

Self-management advice given to the patients by the nurses included how to maintain their health through diet, RBS-checking, medications, routine check-ups and exercise in form of for example yoga and meditation. None of the nurses mentioned explaining to the patients how lifestyle changes can have positive effects on the disease. Two nurses gave education about the sign and symptoms of diabetes type II to their patients. Only one nurse gave education about the pathophysiology, cause and complications of diabetes type II. When it comes to diet the nurses highlighted the importance of a sugar free diet, less carbohydrates, avoiding spicy food and eating on regular times. Many of the nurses used a dietician to help with the construction of a menu plan for the patients.

“...patients may be having more hunger so I instruct the patients before taking any food they have to take salad and after the salad they can take food so that the glucose level will not increase more.” (Nurse 8, age 42)

“...patient with low socioeconomic status they should eat good food because people will always have some kind of food in their home, but the poor will not.” (Nurse 3, age 23)

Most of the nurses informed the patient about the sign and symptoms of hyper- and hypoglycemia and how to act when that appears. The most common advice given by the nurses was to carry chocolate or biscuits as well as insulin to take if the patients feel any symptoms of hypo- or hyperglycemia. Regarding the medication the nurses informed the patients about frequency, dose and how to follow the doctors’ prescription. Four of the nurses gave advice about how to prevent and take care of wounds which is a common complication of diabetes type II. One of the nurses gave the patients the advice to always wear slippers in order to avoid foot ulcers. The nurses also advised the patients to go to the hospital if they have an increased blood glucose level for a long period of time.
Teaching methods

The participants educated their patients by giving verbal information in the local language. The education was given to the patients by their bed. Two of the nurses also gave information about diabetes type II to the patients’ relatives when the patient was not ready to take in the information. The participants got the opportunity to educate the patients during admission and discharge. They also mentioned that while handing over to the next shift, during the rounds or whenever they got the time they would give the patient education.

“... whenever we get some time we will go to the patients and just talk about the diet, exercise and what to do or not to do.” (Nurse 3, age 23)

Obstacles while educating the patients

The participants identified obstacles that can occur while educating the patients. The main obstacles described by the participants were that the patient was not ready to take in the information given by the nurses. Language problems, level of understanding, low education, financial problems and psychological factors were some of the reasons mentioned by the nurses which might explain the patients’ unwillingness to listen to the information given by health care staff. Some of the nurses mentioned that lack of time and the heavy workload were obstacles while educating the patients.

“They are so anxious about the disease so if the sisters tell them something about the disease they will become more anxious and they are not willing to accept the information.” (Nurse 4, age 23)

“...patient will be from the village and if we are saying something they are not willing to hear and they will not be able to follow it as we are saying. Financial problems will be there for the patient so we are telling the patient what to eat but the patient will not be able to afford that food...” (Nurse 11, age 26)

Nurses’ ideas for quality improvements regarding diabetes care

The participants identified many quality improvements that could be done while giving education to patients with diabetes type II. Their responses centered around two areas which were resources to improve diabetes care and equipment to complement patient education.

Resources to improve diabetes care

To be able to give a good care to patients with diabetes some of the nurses highlighted the importance of increasing the manpower, since there is a lack of nurses at the hospital.
They also wanted to get more time with the patients since the nurse-patient ratio is very high it is hard to provide good care to the patients. They also mentioned group discussions as a way of improving the awareness of diabetes type II among the staff and the patients.

“As there is less number of staff in the hospital we are not able to give nursing care properly to the patient.” (Nurse 7, age 27)

The participants said that there are not any specialized nurses in diabetes care at the hospital. Most of the nurses said that they do not get the opportunity to specialize in diabetes care but they are willing to if they get the chance.

**Equipment to complement patient education**

Most of the nurses thought that as a complement to verbal information there should be access to audio visual aids, charts, flashcards and pamphlets to increase the patients knowledge and understanding about diabetes type II.

“Charts should be given to the patient so that the patient can understand better.” (Nurse 1, age 28)

When it comes to audio visual aids the nurses mentioned that television, drama and power point presentations could be used. One of the nurses also expressed a wish for a standard protocol on what to discuss with patients with diabetes type II since there is not any standard protocol or form regarding the disease.

“I think that there should be standard protocol or some form that should be there so we can just tick we have talked about that, we have done that.” (Nurse 3, age 23)
DISCUSSION
The aim of this study was to investigate nurses’ experience of applying professional competence in patient education with focus on diabetes type II in an Indian rural hospital. Three main categories regarding professional competence were identified; Acquired competence to meet the patients, Helping the patients manage their disease and Nurses’ ideas for quality improvements.

Result discussion
Regarding the nurses ability to describe diabetes type II, the nurses with more work experience were able to give a more accurate description than the nurses with less work experience. Hollis et al. (2014) discovered that more experienced nurses are more likely to engage in diabetes related care than unexperienced nurses. The nurse who had completed B.Sc. nursing gave a richer and more detailed description of the disease than the nurses who had completed GNM nursing. B.Sc. nurses have more skills in teaching activities and get competencies in demonstrating understanding of lifestyle and other factors, establish critical thinking when making decisions in order to provide quality care and apply the latest trends and technology. The competencies for GNM nurses are more elementary and are focusing on giving nursing care to the patients and demonstrate basic skills in teaching the individuals (Indian Nursing Council).

Since diabetes is a chronic disease, education to the patients is not only a part in diabetes treatment because it is the treatment itself. The patients have to be educated in order to understand and manage their disease. The nurses have a very important role in teaching the patients and providing education is a big part of nursing care. The nurses must assess each persons’ self-care needs (Orem 1995) and provide the individuals with suitable information, which can only be fulfilled if the nurses have the required knowledge (Kaur & Walia 2007). Nicolucci et al. (1996) showed the value of diabetes education when those patients who never received diabetes education had a fourfold increased risk for major complications.

In order to provide self-management education to the patients, nurses require knowledge of diabetes type II and its management as well as counselling and teaching skills (Hollis et al. 2014). These skills were showed by the participants who mentioned giving education about sign and symptoms, pathophysiology, cause and complications of diabetes type II to the patients. The nurses identified diet, exercise, RBS-checking, medications and routine check-ups as self-management advice given to the patients. The nurses self-management advice are supported by the American Association of Diabetes Educators (2008) who identifies seven self-care behaviors; healthy eating, being active, monitoring, taking medications, problem solving, reducing risks and healthy coping. Many of the nurses gave the patient the advice to do yoga and meditation as a form of exercise. Yoga and meditation are culturally appropriate activities, long-held traditions in India and are often preferred by the patients as well as dancing and walking (Balagopal et al. 2012; Khan et al. 2013). Orem (1995) emphasize the importance of self-care behavior and that it is the patient who must independently maintain their health.
The most common obstacle described by the nurses was that the patient was not ready to take in the information given by the nurses. The nurses discussed that language problems, level of understanding, low education, financial problems and psychological factors might affect the patients’ willingness to listen to the information given by the nurses. Approximately 300 different languages are represented in India, whereof 22 are officially recognized (Landguiden 2014). Therefore language barriers occur and is a major hurdle while giving the patient education (Kahn et al. 2011). Khan et al. (2013) found that patients with lower education than a high school degree had a lower knowledge about the disease. Ergler et al. (2010) discovered that medical staff are sceptical of poor patients’ ability to understand medical information due to the lack of education among the patients. Approximately 25 percent of India’s population are living under the poverty line (WHO 2011). In order to get adherence among the patients regarding the diet modifications, inexpensive dietary substitute has to be available in the market (Venkataraman et al. 2009). Another obstacle for the poor people are the accessibility to diabetes medications, although medications are available at lower than global price it is still too expensive for many people (Srinath Reddy et al. 2005). Being diagnosed with diabetes triggers a lot of psychological reactions among the patients such as stress, anxiety, chock, fear and a feeling of losing control over their lives which might affect the patients’ ability to take in the information given by the nurses (Abdoli et al. 2014).

The participants mentioned the need for an increased manpower at the hospital. The manpower shortage in India is supported by International news and views (2011) who identified the need to train more than 0,9 million nurses to meet the short fall of nurses in the country. According to Ministry of Health and Family Welfare (2011) there are 1,7 million registered nurses in India but only 0,4 million are active, this could be a contributing factor for the lack of nurses in the country. A reason for the low number of active nurses in India can be migration to other countries. Nurses migrate in order to get a higher income, a better social status and it is beneficial for the family (Thomas 2006). The participants expressed that there is a lack of specialized nurses in diabetes care at the hospital. Yacoub et al. (2014) emphasize that it is imperative for nurses to have knowledge and expertise to act on recommended standards of care, this can be accomplished by promoting continuing education in diabetes for nurses. According to Euro Diabetes Index (2014) diabetes specialist nurses are necessary to provide good diabetes care.

One of the nurses thought that there should be a standard protocol regarding diabetes care. Venkataraman et al. (2009) emphasize that the lack of national guidelines and treatment protocols makes it difficult to assure quality health care services. A checklist is a useful and simple tool for reducing human mistakes and ensuring best practice adherence (Pronovost et al. 2006). To improve diabetes care a strategy checklist might be a resource for evolving economies such as India (Lee et al. 2014).
Method discussion
Since the aim of this study was to investigate nurses’ experience of applying professional competence, a qualitative approach was used. Qualitative research is designed to understand individuals, situations and is attempting to not only describe but to explain phenomena (Altmann 2007; Polit & Beck 2012). Qualitative research is typically performed in an in-depth and holistic fashion, striving for an understanding of the whole (Polit & Beck 2012). To collect data for the study, semi-structured interviews were conducted. In semi-structured interviews the researcher wants to cover a specific set of topics where the participants are encouraged to talk freely about the topics. Questions should be designed so that the participants get an opportunity to provide rich and detailed information about the phenomenon under study (Polit & Beck 2012). Sample size in qualitative studies are based on informational needs and there are no fixed rules for sample size (Polit & Beck 2012). A higher number of participants could have increased the trustworthiness although the authors felt that towards the end of the sampling no new information was received. Polit and Beck (2012) emphasize that sampling should end when data saturation occurs, no new information is obtained and redundancy is achieved.

In order to identify participants for the study, criterion sampling was used. Criterion sampling gives the opportunity to identify and understand cases with experiential information on the phenomenon of interest. The participants are selected to meet predetermined criteria of importance (Polit & Beck 2012). An inclusion criterion for this study was that the participants should have at least one year of work experience. The nurses who only had one year of work experience tended to be more insecure and often gave shorter and simplified answers. Benner (1993) highlights that competence is something nurses get through experience, unexperienced nurses need support and guidance from more experienced nurses. Nurses go through different stages in order to become an expert, during these stages nurses develop more skills and become more competent. That is an argument to why the authors choose to have work experience as an inclusion criterion.

To document the nurses consent to participate in the study, informed consent forms were used. Informed consent is an ethical principal which requires researchers to obtain the voluntary participation of subjects. With informed consents the participants get adequate information about the research and the information has to be on a level that the participants can comprehend. The participants can consent to or decline participation voluntarily (CODEX 2015; Polit & Beck 2012). To ensure the participants confidentiality each participant was assigned an identification number which was attached to the actual data rather than other identifiers. No identifying information was entered onto computer files and the identifying information were destroyed as quickly as possible (Polit & Beck 2012).

The interviews which lasted for approximately 30 minutes were conducted in a private room at the hospital. A private room makes it possible to avoid interruptions and provides a good environment for recording of the interviews (Polit & Beck 2012). Both of the
authors were present during the interviews, the authors took turns of being the interviewer while the other author listened and took notes. This was an advantage during the interviews since the interviewer could focus on interviewing the participant and the other author could process the answers and come up with appropriate follow up questions. This was useful since English is not the first language of the authors, which made it harder to analyze the answers during the interview process. The interviews were conducted with help of an interpreter. Two nursing students helped with the interpretation but only one was present during the interview in order to decrease the number of people during the interview. Since the interpreters had a busy schedule, the help from two interpreters were necessary in order to complete the data collection.

When using an interpreter issues might occur, the interviews can be socially awkward and are often filled with interruptions and misunderstandings (Kosny et al. 2014). The presence of an interpreter provide support for the interview but immediate contact between the participants and interviewer is interrupted which is a challenge to the desired openness and immediacy (Björk Brämb erg & Dahlberg 2013). The authors felt that the interviews tended to be shorter and often lacked depth when using an interpreter, which is also described by Kosny et al. (2014). During some of the interviews the authors experienced that the participants gave lengthy responses but the interpreters gave a summarized reply in English. This argument was also highlighted by Kosny et al. (2014) and the simplified replies could result in loss of data. The researcher has to trust that the interpreter has summarized or modified the participants’ responses accurately (Esposito 2001; Kapborg & Berterö 2002). Misunderstandings can occur when participants and researchers speak different languages. Metaphors and concepts can vary and there might not be a direct translations for certain words or phrases available which can lead to that the richness and nuances of the languages is lost (Kosny et al. 2014).

Using an interpreter that are familiar with the participants’ culture can be of great advantage while conducting cross-cultural interviews. The researcher needs to have a basic understanding of the culture and the participants’ environment when undertaking a study involving people from other cultures (Birks et al. 2007), which the authors got from the help of the interpreters. The authors of this study had done some research about the country and its culture before undertaking the study and also spent time familiarizing with the environment both in the hospital and surrounding areas before conducting the interviews. Working with interpreters allows more people to participate in the research, people that otherwise might be excluded due to the language barrier (Lee et al. 2014). The presence of an interpreter provides support for the interview and the interpreter acts like a bridge between the participant and the researcher which enables the horizon of understanding to expand and overlap each other (Björk Brämb erg & Dahlberg 2013).

The results may have been affected by the participants’ desire to please the interpreter and researchers, this can lead to that the participants give answers they think the interviewers want to hear. In Asia in particular, people have respect for authority and conformity (Birks et al. 2007; Kapborg & Berterö 2002). Since the interpreters were
nursing students they knew many of the participants, which could lead to that the participants felt more comfortable and relaxed during the interview process and could be more open in their responses. Although knowing the interpreters could also be a risk, the participants might have felt that the confidentiality was threaten.

The authors’ lack of experience when it comes to interviewing might have affected the data collection and thereby the results of the research. Skilled interviewers can learn the perspectives of the participants, gain insight into lived experiences and discover the nuances in stories. Unexperienced interviewers often have a problem in collecting rich and relevant data (Jacob & Furgerson 2012). It is common for beginning researchers to underestimate the complexity of the interview process, skills in managing the interview process is developed through experience (Birks et al. 2007). When the authors started to feel comfortable conducting interviews, the quality of the interviews improved and the ability to collect rich and relevant data increased. Therefore it is a possibility that the interviews conducted in the later stage of data collection had a higher quality because of the authors gained experience.

Clinical value
This study is of clinical value because it illumines nurses’ experience of applying professional competence in patient education with focus on diabetes type II. Quality improvements identified in the study can be used to improve awareness of the disease among patients and nurses. The quality improvements can facilitate the nurses’ ability to provide patient education and improve the quality of diabetes care. Obstacles identified in this study can help nurses individualize the care and thereby motivate the patient to lifestyle changes. With good patient education complications can be prevented and the quality of life among diabetes patients can be improved. This study can be of clinical value all around the world but especially in those countries that do not have a developed diabetes care.

Future research suggestions
It could be of interest to conduct the same kind of study in other hospitals, both in India and other countries to see if there are any differences regarding diabetes care. Another area that would be interesting to investigate is what could be done to improve nurses’ professional competence regarding diabetes type II, as well as investigate different teaching methods in order to see which method that gives the best outcome in patient education. The quality improvements identified in this study could also be implemented in the diabetes care to see if they have a positive outcome on patient education.
CONCLUSION
This study identified different obstacles that could have a negative effect on the care and treatment of patients with diabetes type II. The nurses had many ideas for quality improvements which could raise the awareness of the disease among patients, improve clinical outcomes and the work environment for the nurses. The nurses are willing to get more education about the disease and implement quality improvements if the resources and equipment are provided by the hospital. Since this study was conducted based on only twelve interviews with nurses at a single hospital, the results cannot be applicable to all hospitals in India. It is also important to keep in mind that although all participants were registered nurses, they have different levels of education.
ACKNOWLEDGEMENTS
First we would like to express our gratitude to the management at Acharia Vinoba Bhave Rural Hospital for letting us conducted our data collection there. We would also like to thank the staff at Smt. Radhikabai Meghe Memorial College of Nursing, especially principal Mr. B.D Kulkarni for making us feel welcome and made our stay very pleasant. A special thanks to Navnita Jadhav and Angel Raju for helping us with identifying participants and interpreting during the interviews. We are also very grateful to all the participants for contributing with their time and engagement.

We would also like to express our appreciation to SIDA for giving us the MFS scholarship which made this study possible. We would like to give a special thanks to Agneta Danielsson at Karlstad University for helping us with all the practical matters before leaving for India. Finally our greatest gratitude goes to our supervisor Jan Nilsson for his support, encouragement and useful critiques during this research work.

Thank you!
REFERENCES


Appendix I – Information to participant

Nurses’ experience of applying professional competence and influencing the quality of nursing care in terms of diabetes in an Indian rural hospital.

You are being asked to participate in the study above. The purpose of this study is to investigate nurses’ experience of applying professional competence in patient education with focus on diabetes type II. Since complications from diabetes can be avoided by good knowledge about the disease, among the patients, nurses have a very important role in teaching the patients about the disease and its complications.

The study will be performed by two nursing students, Angelika and Linn, from Karlstad University. We have chosen to conduct our study in Sawangi, India and we will collect data for our bachelor thesis during January-February 2015. Our supervisor in Sweden is Jan Nilsson, senior university lecturer, PhD, Karlstad University.

To collect our data we will conduct interviews that will last for approximately half an hour. The interviews will be recorded, with your permission, in order to analyze the information revealed during the interview. All data will be handled confidentially, you will be anonymous which means the data will only be reviewed by the researchers and will only be used in order to fulfill the research aim. The recordings and field notes will be kept in safe storage. Your participation is strictly voluntary and you have the right to terminate the interview at any time without there being any consequences. An interpreter may be used during the interview if the language barriers become a problem. You will be asked to sign a consent form if you decide to participate in the study.

Please contact us if you have any questions or would like more information about the study.

Kind regards,

Angelika Johansson (Karlstad University)
a1_johansson@hotmail.com
+46 73 0363875

Linn Johanson (Karlstad University)
linnjohansson1992@hotmail.com
+46 73 0745956
Appendix II – Consent Form

I have taken part of the giving information regarding the study "Nurses’ experience of applying professional competence and influencing the quality of nursing care in terms of diabetes in an Indian rural hospital".

I am informed that participation is strictly voluntary and that I have the right to terminate the interview at any time without there being any consequences. I approve that an interpreter may be used during the interview if needed.

With this I give my consent to be interviewed and that the interview will be recorded.

Signature of participant

_____________________________

Name of participant

_____________________________

Date

_____________________________

Signature of student

_____________________________

Name of student

_____________________________

Date

_____________________________
Appendix III – Demographic Information

1. What is the sex of the participant? Male/Female

2. What age is the participant? ……….. Years

3. How many years of work experience has the participant? ……….. Years

4. Which ward is the participant working in? …………………………………………………………………………………

5. Previous work experience in health care practice?
   ……………………………………………………………………………………………………………………………………………

6. Which academic level/ work title has the participant?
   ……………………………………………………………………………………………………………………………………………
Appendix IV – Interview Guide

- Please tell us about your knowledge regarding diabetes type II and its complications.
  - What education did you get about diabetes during your education to become a nurse?
  - How do you sustain and improve your knowledge?
  - Do you have any nurses specializing in diabetes care?
  - Do you get the opportunity to specialize in diabetes care?

- Please describe the education you give to patients with diabetes type II.
  - How do you educate the patients?
  - Do you use any assessment form when educating the patients?

- Please tell us about the self-management advice you give to patients with diabetes type II.

- Please tell us about the opportunity to educate patients.

- Please tell us about the obstacles that might occur during patient education.

- In your opinion is there any improvements that could be done regarding education to patients with diabetes type II?

- Is there anything else you want to tell us?

Thank you for your time and participation.
Appendix V – Ethical Approval

Datta Meghe Institute Of Medical Sciences
(Deemed University)
(Established under Section 3 of UGC Act, 1956 vide Notification No. F-9-46/2004 – U.3 Govt.of India)

INSTITUTIONAL ETHICS COMMITTEE

Res No. DMMSIEC/2014-15/01

Date: 22.12.2014

The Institutional Ethics Committee in its meeting held on 13.12.2014 has approved the following research work proposed to be carried out at Smt. Radhikabai Meghe Memorial College of Nursing & A.Y.B.R. Hospital, Sawangi (Meghe), Wardha.

This approval has been granted on the assumption that the proposed work will be carried out in accordance with the ethical guidelines prescribed by Central Ethics Committee on Human Research (C.E.C.H.R.)

The details of the proposed research work approved by the committee are as under:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Research workers (Guide/Supervision)</th>
<th>Category</th>
<th>Topic of the proposed research</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Ms. Angelika Johansson (Ms. Jon Nilsson) (Mrs. Seema Singh) Dept. of Medical Surgical Nursing</td>
<td>Departmental Project</td>
<td>“Assessment of nurses’ capability in applying competence and influencing nursing care in terms of Diabetes in Tertiary Care Rural Hospital in Central India.”</td>
</tr>
</tbody>
</table>

(Dr. A.J. Anjanary)
Secretary
Institutional Ethics Committee
D.M.M.S. (D.U.)

Copy to:
1. Ms. Angelika Johansson, Faculty of Health Sciences and Technology, Karlstads University.
2. Ms. Jon Nilsson, Faculty of Health Sciences and Technology, Karlstads University.
4. Mrs. Seema Singh, Professor Medical Surgery, Nursing Dept., SRMMECON
5. Principal, SRMMECON