LIVED EXPERIENCE OF PATIENT WITH DIABETES AFTER CORONARY ARTERY BYPASS GRAFT - A CASE STUDY

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**ABSTRACT**

**Lived experience of patient with diabetes following coronary artery bypass graft - a case study**

Background: Open heart surgery is considered as a threat to life and is accompanied by fears and anxiety. People with diabetes who have experienced a cardiac event are at greater risk of a further cardiac event, progression of cardiac disease and premature mortality, however studies which explore diabetic patient’s experiences after open heart surgery is very limited in literatures.

Aim: explore the lived experiences of a patient with diabetes after going through coronary artery bypass grafting.

Method: A phenomenological hermeneutic approached is chosen for this study. An in-depth interview was done with one interviewee. The three steps of phenomenological hermeneutic approach, i.e. naïve understanding, structural analysis and comprehensive understanding was used for data analyzing.

Results: The findings revealed that the meaning of having diabetes and going through heart surgery consist of five main themes; being scared, inability to engage in daily living activities, altered self, being cared for by family members and health care providers, and also recovery experiencing by the body. The patient with diabetes described high level of stress and difficult recovery phase due to alteration in diabetes management post-operatively.

Conclusion: the finding of this study give us an in-depth understanding of lived experience of a diabetic patient after CABG, however as it is a case study the results can not be generalized. This study concluded that more research in bigger populations is needed to get a practical insight about the effect of diabetes on post-operative phase after CABG from patient’s perspective and then clinical interventions need to be set which address patient’s perspective and enhance their expectation for better recovery following a critical cardiac event.

*Key words*: diabetes, lived experience, coronary artery bypass graft OR open heart surgery, patient perspective, recovery
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1. INTRODUCTION

Coronary artery disease is a leading cause of mortality and morbidity all around the world. Open heart surgery is a life event that has a profound influence on both the individual and the family as a unit (Karlsson, Johansson & Lidell, 2006; Dunckley, Ellard, Quinn & Barlow, 2007). In the postoperative period, patients can feel dependent to others and express being afraid of damage to their heart and surgical site (ibid).

In the context of heart surgery association of comorbidities like diabetes are prevalent (Wellard, Cox & Bhujoharry, 2007). Compared with individuals who don’t have diabetes, patients with diabetes undergoing coronary artery bypass grafting (CABG) have worse outcomes, including higher mortality, and higher rates of morbidity in the forms of deep sternal instability, wound infection, stroke, renal dysfunction, and respiratory problems. Moreover, longer intensive care unit and hospital stays, poorer postoperative physical functioning, and lower quality of life are evident (Ji et al, 2010).

In order to reach an optimal recovery for patients with diabetes after open heart surgery, as nurses we need to obtain a deeper knowledge about patient’s expectation of recovery after surgery and also we need to know how diabetes can influence the experiences of patient after heart surgery? which is met only by exploring the experiences of patients from their own perspectives in the recovery phase after surgery. Exploring the available literature shows that exploring lived experience after CABG in diabetic patient with focusing in diabetes and it’s effect on the patient’s lived experience after surgery is not well established in literatures. This study is inspired by the results of literature review in the context of open heart surgery accompanied by diabetes.

2. BACKGROUND

Coronary artery bypass grafting as a kind of open heart surgery is considered as a threat to life and is accompanied by fears and anxiety (Karlsson et al. 2005). A disease leading to heart surgery is an unwelcome event in the patient’s life and the operation would affect the person’s integrity (Lindsay, Smith, Halon, Weatley, 2000). When the cardiac event is associated with a comorbid disease like diabetes, the patient may experience greater threat to life and the intensity of fears and anxiety would be increased (ibid).

When a patient is going through heart surgery all efforts and cares are addressed toward physical needs and technical dimensions and delivery of care. However, if all the delivered cares are focused on physical aspects and technical dimensions, the patient perspective or human dimension will be abandoned. Hence, it not only causes a failure to interact with the patient as a person but also the patient’s perspective is ignored (Lindsay et al, 2000; Lindsay et al, 2003).
As previous studies have shown; people with diabetes who have experienced a cardiac event are at greater risk of a further cardiac event, progression of cardiac disease and premature mortality (Lee, Folsom, Pankow & Brancati, 2004). After cardiac surgery patients with diabetes have more desire to explain their health problems and make changes in their lifestyle (Wu, Ghang & McDowell, 2006). According to Lower and Bonsack (2002) in the heart surgery context, nurses and health care staffs often concentrate on monitoring rather than communicating with the patient. Thus, nurses may have little understanding of experience of the patient and their expectation of recovery and improvement in quality of life. In the cardiac surgical context, nurses have an important role in providing support and education to patients about their postoperative recovery and minimizing risk of complications (Wellard et al, 2007).

The first six weeks after cardiac surgery have been proven to be the most difficult for patients after discharge. They express concerns about physical problems such as wound healing, pain and leg swelling (Leegaard & Fagermoen, 2008). When heart surgery (CABG) is done in a patient with diabetes how the post-operative recovery would be affected? How diabetes can influence the experience of patient in the first weeks after surgery? This is an issue which is not studied enough in researches.

This study is exploring the lived experience of a person with diabetes who also has undergone open heart surgery in a caring science perspective. We are going to explore how it is feeling for the patient in recovery phase after CABG in a particular case study which leads us to a deeper understanding of this particular case’s experiences. We however don’t be able to generalize our understanding of this single case to other cases but we may get insight to the research question of the study. Karlsson et al (2005) indicate that the genuine lived experience of patient with diabetes after heart surgery can only be expressed by the patients themselves through words and bodily expressions. From their stories we can reach a deep understanding of their success or failure to obtain an adequate well-being. Bringing in the caring science perspective, i.e. by exploring the lived experiences, would supply knowledge about everyday life of the patient from their own perspective (ibid).

2.1. Review of literature
According to Gardner, Elliott, Gill, Griffin and Crawford (2005) the recovery from cardiac surgery for some patients is complex and difficult but exploration of these experiences using qualitative approach is limited. Quantitative studies which explore patient outcomes following cardiac surgery is well established in the literature. These studies’ aims varied from measuring morbidity and mortality to measuring health related quality of life (Kathainen, Merilainen & Jokela, 2004; Myles, 2001; Rantanen, 2008) or psychometric measures (Roebuck, 1999). Some studies have discovered improvement in quality of life (Rumsfeld, Magid & O’Brien, 2001), however some other reported the weaker health-related quality of life for cardiac surgery patients compared to general population one month after cardiac surgery (Rantanen et al, 2008), other literature identified that the recovery from heart surgery may be prolonged and accompanied by complications such as pain (Gardner, 2005; Hunt, 1999), fatigue and sleep disturbances (Chocron, 2000).
One study described a telephone follow up service at four weeks after discharge for cardiac surgery patients and found wound problems to be most common, followed by pain control, mobility and eating discomforts (Johnson, 2000).

When it comes to exploration of experiences of specific groups of patients, e.g. patients with diabetes after cardiac surgery based on qualitative approach, it receives only limited investigations. Wellard et al (2007) found that diabetic patients described concerns about diabetes control and treatment regimen following cardiac surgery. They found many specific challenges for people with diabetes in the context of cardiac surgery. The most prominent challenge is the need for specific information regarding the ‘typical journey’ and the changes resulting from their cardiac surgical experience. The typical journey in their study begins since the patient is admitted for the cardiac surgery and will ends up with patient postoperative recovery. Patients need to know what will happen, that they will have insulin while in intensive care and that their usual diabetes regimen might be altered forever. These are challenges which patients faced with in their study. They focused on issues in the provision of nursing care that patient perceived as important from the point of admission for cardiac surgery to the postoperative recovery period, however lived experiences of patients after heart surgery were not addressed in their study.

As many studies, more quantitative rather than qualitative approach, have been done to explore patient outcomes after cardiac surgery (Gardner et al, 2005) and a few studies have explored patients experiences of diabetes, but a mixture of these two phenomena, i.e. a combination of diabetes and cardiac surgery receive only few hits (Brandt, 2004; Wellard, 2007; Wu, 2006).

Wu et al. (2006) revealed in their study that patients with diabetes who had a critical cardiac event experienced considerable feelings of hopelessness and fatigue. Patients also had concerns in the areas of self-confidence and confidence in health professionals. In their study patients indicated that greater self-confidence and confidence in health professionals would help their ability to manage their daily lives.

Wellard et al (2007) illustrate in their study that comorbid conditions are the major reason for hospitalization for people with diabetes; consequently, glucose control and other diabetes-related care might not be adequate where the primary focus is on other diseases. Care of diabetes among hospitalized patients has been identified as poor, and poor glycemic control in patients with diabetes can lead to neurological ischemia, delayed healing and increased incidence of infection, all of which have significance in the context of cardiac surgery. In the cardiac surgical context nurses have an important role in providing support and education to patients about their postoperative recovery and minimizing risk of complications (Wellard et al, 2007).

As it is understood in the review of literature; exploring the experience of diabetic patient after CABG is not well established in literature. There is not enough knowledge about how diabetes influences the day to day life of a patient after CABG.

Theoretical framework
2.2.1. Caring science and the lived experiences
Caring science is health oriented which means that caring should focus on strengthening a person’s health and promote well-being (Dahlberg & Segesten, 2010). Caring science has its roots in the human sciences. The aim of caring science is to obtain a greater understanding of patient and his situation which can develop an optimal care (Horberg, Ozolins & Ekebergh, 2011). In fact patient perspective is a foundation for caring science.

Caring science emphasizes the patient experience which therefor demands an approach that understand the world as patient experience it. Consequently, giving attention to patient’s everyday life from his/her own perspective is of importance in caring science (Horberg et al, 2011). Why it is important to obtain knowledge of the essential meaning of lived experience within health care? Lindseth and Norberg (2004) discuss that; as health care provider in order to understand and improve our own practice, we need to reflect on lived experiences. Without reflection on lived experiences it is difficult to become aware of whether or not our caring practice is successful and also it is impossible to implement a fruitful discussion that may change caring practices and lead to improvements.

In fact by exploring the patient’s lived experiences we will be able to understand the patient’s world in a way that is experienced by him. By understanding his world it will be possible to understand whether diabetes has influenced his day to day life or not?

Life manifests itself in experience, and each lived experience shows structures or styles which need to be studied so that health service providers understand their patients. For a patient with diabetes who has done open heart surgery the experiences could be individual and unique and this is by exploring their lived experience or their world or their life-world that we can realize their experiences and understand the special meaning of having diabetes and going through open heart surgery. When we are exploring patient’s lived experience or the patient’s day to day life so we can recognize whether or not diabetes has affect his/her day to day life in the recovery phase of heart surgery.

The lived experience of having diabetes and undergoing heart operation can only be expressed through words and body expressions by the patients themselves. From their stories we can get to a deepened understanding of both their success and failures in adapting to new life situations

3. DEFINITION OF RESEARCH PROBLEM

Recovery after open heart surgery is a complicated process which varies from person to person. Many factors can affect this process and prolong the recovery duration after heart surgery. Compared with non-diabetic individuals, patients with diabetes undergoing coronary artery bypass grafting (CABG) have worse outcomes like deep sternal instability, wound infection, stroke, renal dysfunction, and respiratory problems (Brandt, 2004; Ji, 2010). In the cardiac surgery context nurses may have little understanding of experience of the patient and their expectation of recovery and health improvement. In the cardiac surgical context, nurses have an important role in providing support and education to patients about their postoperative recovery and minimizing risk of complications (Ji, 2010; Wellard, 2007).
It appeared that considerable thought have been focused on the whole experience of undergoing CABG and the effects of the surgery to their health and well-being. Only few studies (Wu et al, 2006) was identified which explore the lived experience of a diabetic patient after heart surgery under the light of phenomenological approach.

The number of studies which focus on the lived experience of patients with diabetes after open heart surgery is little (Brandt, 2004; Wu, 2006; Wellard, 2007) however many studies have been done to investigate the patient experiences after open heart surgery without focusing on diabetic patients (Doering, 2002; Dunckley, 2007; Gardner, 2005; Karlson, 2006), so the investigation of day to day experience of diabetic patients after heart surgery can reveal the meaning of these experiences to the individual and would help the health care professionals to understand what kind of support patients with diabetes need after surgery and also help them to meet the requirements of the patients based on their individual expectations. A deepened understanding of how the lived experience or in other word the life-world of the patient is affected by the life threatening event, i.e, having diabetes and going through heart surgery, can lead to more adequate support from professional health providers and enhancing the patient recovery process.

4. AIM

The aim of this study was to explore the lived experiences of a patient with diabetes after going through coronary artery bypass grafting in order to obtain a deeper understanding of what these experiences mean for the patient.

Research question
- Whether or not diabetes influence the experience of patient in the recovery phase after CABG?

5. METHOD

5.1. Design
A case study design was chosen for this study. A case study is expected to catch the complexity of a single case (Stake, 1995). In some situations, we have a research question, a need for general understanding, where we may get insight into the question by studying a particular case, says Stake (1995) and he names this as instrumental case study by which this study is inspired. Stakes believe that we do not study a case to understand other cases but instead we study the case to understand this particular case.

Case studies are in-depth investigations of a particular case. In a case study the case itself is central for researcher and clarifying concepts is in center of attention (Polit & Hungler, 1999). We take a particular case and come to know it well, no as to explore how it is different from others but to see how it is and how it does.
Jones and Lyons (2004) indicate in their study that Lincoln and Guba argue that case study can be strongly associated with qualitative research methods, because of it’s emphasis on real situations and their descriptive qualities. Stake (1995) identifies, also, three categories of case study, namely; intrinsic, collective and instrumental. Regardless of the definition of these three categories, Stake argues that these three levels could effectively be attached to any research method; whether quantitative or qualitative.

A qualitative research method is considered in this study and phenomenological hermeneutic approach is used in the analysis. The method is inspired by Ricoeur (1976) and developed by Lindseth and Norberg (2004). When performing a phenomenological hermeneutical interpretation, our aim is to disclose truths about the essential meaning of being in the life-world. To disclose the essential meaning of a phenomenon we need to tell stories which clarify our experience of the phenomena, the story then reveal the meaning of the phenomena in our lives. In order to interpret the stories we should create a text to be able to examine the meaning of phenomena as part of our lifeworld (Lindseth & Norberg, 2004). In phenomenological hermeneutic approach essential meanings are studied and revealed in the interpretation of text (ibid).

5.2. Data collection

5.2.1. Sample

According to Stake (1995) in a case-study sometimes, for example when we are doing an instrumental case study, we have the opportunity to choose the case. If we had a chance to choose, it is more useful to pick the one who is most likely to enhance our general understanding than to pick up the one most typical. So in order to find the qualified informant, an announcement was run by the Iranian radio channels in Stockholm and a brief description of study aims and design was presented and qualified listeners were invited to make a telephone contact to us for more clarification of study’s method. I looked for a patient with diabetes who has gone through coronary artery bypass graft. The inclusive criteria was that the informant must have done open heart surgery during the last five years and also should have diabetes which is diagnosed before surgery. As this study is a qualitative research based on lived experiences of informants the language skills of both interviewee and interviewer was important to us, so we had to look for an informant whose mother language is same as interviewer’s mother language. The criteria of age and sex was not taken into consideration, both male and female at each age of life were welcome to participate.

First time of announcement got no feedback, the second time got a telephone call from an Iranian female who met the initial requirement of participation. After the third time of announcement I got 2 calls from two Iranian men who met the study’s initial requirements for participation. Then I had three cases each was typical in its way. A short telephone conversation done with all three and one was chosen. After a telephone conversation with the informant, an information sheet for participation in which the aim of the study and participation terms and regulations were described (see Appendix 2) was sent to the informants and he was asked to confirm the interest to attend in few days.

5.2.2. informant
This study is a case approach on a 65 years old male from Iran who is a refugee and has been a permanent resident in Sweden since 1998. The informant is a person who has had diabetes type 2 since 10 years ago and has gone through Coronary Artery Bypass Graft in December 2010. The operation was done in a Swedish university hospital and the patient experienced the whole process of recovering and rehabilitation in Sweden. The participant is married and living with his wife and has two children both living in Stockholm. He is a software engineer who works in a private IT company. A good social network and family support was discovered based on the participant’s exploring. We call the informant Erik in result description and discussion.

5.2.3. interview
An in-depth tape-recorded narrative interview, inspired by Lindseth and Norberg’s (2004) phenomenological hermeneutic method, lasting 75 minutes was conducted. The interview was done approximately 16 months after surgery. After the informant confirmed to participate and the informed consent was signed, the interview was carried out in the interviewee’s apartment; in a silent room that no one disturbed or interrupted the interview. The interviewer was the student who was doing this study as her master thesis.

The interview was commenced by an open-ended question “would you explain about your experiences after surgery from the first hour in the hospital and further?” and then “how did you feel?”. Talking about his feelings make him more comfortable to narrate his experiences as much as possible and would help him to forget that this is an interview ongoing. This is a suitable method when meaning of lived experience is requested (Lindseth & Norberg, 2004). The interviewee was advised that he was free to talk and narrate the memories he choose.

Complementary questions were made during the interview based on the informant’s description in order to further clarification of patient’s experiences. The focus of interview put on the first 6 months after surgery and the interviewee was asked to explain about his experiences in first months after surgery. Field notes were made during the interview. The interviewee’s figures and nonverbal communicating signals were noted. Tape recording technique was used in order to grasp the essential meaning by listening and re-listening the recorded interview.

5.3. Data analysis
The analyses followed the steps of phenomenological hermeneutic approach inspired by Ricouer which further developed by Lindseth and Norberg (2004). The tape-recorded interview was listened and re-listened to and the field notes were read. Then the contents were transcribed into text. The text was interpreted based on three methodological steps of phenomenological hermeneutical interpretation method. The report was written in an interpretative language.

5.3.1. naïve reading and understanding
Interpretation of the transcribed interviews started with a naïve understanding, aimed at acquiring a sense of a whole. The text was read several times in order to grasp it’s meaning as a whole. The naïve understanding of the text was formulated in phenomenological language and then the naïve understanding was validated or invalidated by subsequent structural analyses.

5.3.2. structural analyses
A thematic structural analysis was used in this study i.e.; identifying and formulating theme. A theme is a meaning which penetrates text parts and is conveying the essential meaning of lived experiences (Lindseth & Norberg, 2004). After reading the whole text it was divided to meaning units, i.e. a piece of sentence or several sentences or paragraph that conveys just one meaning. Then the meaning units were read through and reflected on and meaning units were condensed and reflected on based on similarities in meanings. The similar meaning units abstracted to subthemes and were assembled to main themes. The main themes were reflected on in relation to naïve understanding and evaluated whether the themes validate or invalidate the naïve understanding.

5.3.3. comprehensive understanding
According to Lindseth and Norberg (2004), the final phase of analysis consists of formulation of comprehensive understanding. The naïve understanding and the results of structural analysis together with the researcher’s pre-understanding are considered and reflected on based on research question and the context of the study. The result then compared with other similar studies and reflected on with the help of their findings.

5.4. Ethical consideration
The project plan was evaluated and reflected on by “Ethical committee Sydost, an ethical evaluation/consideration on student’s projects” in Karlskrona in March 2011. Before the study started the informant was informed about the study by sending an “information sheet for participant” to his mailing address and informed consent in accordance with Helsinki declaration for ethical consideration was signed by the informant (See Appendix 1 and 2).

6. FINDINGS AND INTERPRETATIONS

6.1. Naïve understanding
Experiences after heart surgery for Erik means strong feelings of fear and pain, was a scaring and terrible situation which was accompanied by pain over the chest and legs, sleep disturbances and nightmares and stress. Not having enough power to manage daily life and being dependent on others. It also means being weak and having strong emotions and being afraid to die. Alteration in self and alteration in body image in the form of being an ineffective and imperfect also had meaning to the patient. Lower self-confidence, feeling of powerless and feeling sicker due to change in diabetes treatment from tablet to insulin injection also reported as meaningful experiences by the informant.

Being cared for and coming over the hopelessness feelings, feeling safe and gaining hope by support from family. It means also being supported by family and good health care providers. Experiences was also accompanied by high level of stress and feeling unsecure and scared due to a post operative complication and changes related to diabetes’ treatment.

The experiences after surgery also include regaining control and physical strength, being recovered which means get back to social life, not having pain, improved psychologically and improved in self-alteration and improved physical strength.”
6.2. Structural analysis
The meaning of “having diabetes and going through open heart surgery” which is narrated by a diabetic patient was explained as consisting of five main themes and several sub-themes which is presented in table 1.

6.2.1. Being scared
The theme “being scared” was constructed from sub-themes: being scared to get out of bed; being scared and vulnerable due to alteration in diabetes treatment; being scared due to late recovery; fear of die and having anxiety.

The first days after surgery felt terrible for Erik to get out of bed and he was scared and stressed out in the first time after surgery when he wanted to try to get out of bed. Having experience of heart attack one year before surgery made him to be afraid of his heart stops beating and the threat prevent him to get out of bed. The heart attack was considered as a threatening background for him and made him more fragile and stressed. Erik narrated:
I had a heart attack one year before surgery and it made me scared and increased my worries after operation. I was afraid that this attack may happen to me again and ends up my life.

Alteration in diabetes treatment increased his fears and stress. Vulnerability describes unhappy feelings due to changed diabetes treatment plan and either the effect of diabetes on recovery after surgery. When he got his cautiousness back and found out that he was taking insulin via an infusion pump he got shocked. He has have diabetes type 2 since ten years ago which used to be treated by anti-diabetic tablets and being switched to insulin treatment after surgery considered as a stressful and scaring situation for him. Here the effect of diabetes as a comorbid disease on the experience of patient after surgery would be sensible. Diabetes considered as interfering disturbance which not only made the post-operative recovery more difficult for Erik but also changed his perspective to his life and caused him to look at the diabetes as a more serious disease which has to be adopted lifelong. He narrated like this:
Once I came home after operation I felt that my diabetes has become more prominent than before. had to inject insulin, was scared. It felt that I really don’t like to be treated by insulin. I wished I could switch back to those pills. It was much easier and I didn’t feel that I am sick.

Being scared due to late recovery related to comorbid disease was also connected to having diabetes. Having a mild infection over the surgical site in the sternum a couple of weeks after surgery made him to be scared and connect the problem to the diabetes. He feels that diabetes prevents him to be recovered adequately and make him to feel sicker and unrecovered. Having symptoms like itching over the chest’s wound, inflammation, mild fever which were related to having mild infection increased fragility and vulnerability in him and caused him to feel exhausted and hopeless to get back to the healthy level that he felt before surgery. All the fears which he experienced caused him to be anxious and he became angry and easily loses control. Anxiety and losing control considered meaningful experiences for him and he connected them in
higher extend to changes in diabetes treatment after operation that he had to admit as a reality in life.

6.2.2. Inability to engage in daily activities
The theme “inability to engage in daily activities” consists of sub-themes; having palpitation, having chest pain and burning pain over surgical site, sleep disturbances accompanied by nightmares, having some degree of depression and feeling of powerless.

Erik explained that he had experienced strong and rapid heartbeats in first few weeks after operation which could be easily heard by him and inhibited him of engaging in normal daily activities. Also he felt pain over chest and burning pains over the surgical sites both on the legs and over the sternum. A mild pain over the chest was felt during the rehabilitation training and he had to take some kind of analgesics before starting the practice.

Feeling pain was considered as a burden to him that he didn’t expected to experience after surgery. He expected that the operation would help him to regain his health to the optimum level but he was still feeling those discomforts that felt before surgery and this made him disappointed of getting recovered. Other discomforts that he experienced include sleep disturbances accompanied by nightmares which inhibited him to take part in daily activities. He described that he was unable to sleep well during the nights and had to take sleep pills and this made him to feel tired and have no energy to handle his daily needs. Feeling tiredness and having no energy during the day and being unable to handle daily living activities like taking bath, buttoning up clothes and walking are results from sleep disturbances which he was experiencing post-operatively. On the other hand he have been experiencing some degrees of depression in form of being unhappy and feeling that something is wrong with the body. Being afraid to die, sensitivity and feeling weak are all those experiences and feelings which cause him to feel depressed. He felt that he was losing energy or having no energy at all and feels powerless which means that he was experiencing feelings of being weak and not having control over his surroundings. He explained:

*I was easily losing my control, I couldn’t tolerate stress and I got disturbed with a single little stimulator. I feel that I have no power over my affairs. I was pissed off. And:
I had a prescription to walk daily but I was not confident enough to make it, I felt powerless and I didn’t believe that I had the ability to walk, felt that if I walk long distance or for a few minutes my heart might be hurt.*

6.2.3. Altered self
The theme “altered self” is constructed from sub-themes; alteration in self-confidence and body image, losing control and intolerance to stress, feeling sicker.

Erik believed that he was not a whole person as he was before. It is described as being dependent on others and lacking strength. He was feeling that his self-confidence was altered and his body image was changed. Turning to an imperfect person who is dependent to others for daily needs is something that he experienced. He didn’t see himself as a whole person anymore
and think that is physically impaired or something was missed by the body. When he could not manage the daily activities like walking or bottoming up clothes feelings of being worthless and

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<td>Being scared to get out of bed</td>
<td>Being scared</td>
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<td>Being scared due to late recovery results from comorbid disease</td>
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<tr>
<td>Having anxiety</td>
<td>Inability to engage in daily activities</td>
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<td>Fearing of die</td>
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<td>Being scared and vulnerable due to alteration in diabetes treatment</td>
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<td>Having palpitation</td>
<td>Altered self</td>
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<td>Having chest pain and burning pain over surgical site</td>
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<td>Sleep disturbances accompanied by nightmares</td>
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<td>Having some degrees of depression</td>
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<td>Feeling of powerless</td>
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<td>Losing control and intolerance to stress</td>
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<td>Feeling sicker</td>
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a lower sense of self-worth emerged. He felt lower confidence in managing daily activities by self. He had difficulties in complying the doctor’s advice regarding self-control of blood glucose or self-managing of diet. Losing control, changing mood and intolerance to stress was described by him as a factor which altered his integrity and confidence.

Before surgery I didn’t feel that I am sick however after surgery I felt sicker than before. I have got used to my diabetes before surgery and it didn’t feel like a serious disease but after surgery I found me sicker because I had to inject me insulin twice a day.

“Feeling sicker” was such a feeling that caused by insulin treatment after surgery. His perspective to diabetes as chronic disturbance has changed and he didn’t look upon the diabetes in a same way as he used to do before surgery. He looked upon the diabetes as a disorder which made him to feel sicker and prevent him to achieve expected improvement post-operatively. Alteration in diabetes treatment from oral treatment to insulin treatment caused him to feel more vulnerable and to consider himself as a sick person.

6.2.4. Being cared for by family members and health care providers

This theme is constructed by sub-themes; Feeling of being supported to adopt to new life situation, Being cared for physically, being supported emotionally and also feeling of having a structured and secured care protocol.

Being supported to adapt to new life situation is explained as a strong support that Erik received from his family members above all his wife. The family stood beside him in every single minute post operation and helped him to adjust himself with his new life style. Presence of family as a support caused him to take over the weakness and physical fatigue and reach a reasonable recovery. Physical supports that were delivered by family members include helping the patient to regain physical strength, get out of bed, walking, clothing and other daily living activities. He narrated:

As I remember the first time I wanted to get out of bed was a terrible point for me, I was weak and scared but I made it by help of my wife. It was felt that she was like extended legs for me.

Family support not only helped Erik to take over his physical weaknesses but also caused effective emotional improvement for him. Emotional supports he received by family means having support to adjust himself with new instructions for self-management of diabetes, getting peace and hope and staying beside. Standing beside by the family and encouraging him to be strong, to fight against hopelessness and to try to regain physical abilities as much as possible apply a strong feeling of hope and peace to him. He described:

I had a feeling of powerless, didn’t believe that “I can”, but she helped me to fight against my feelings and helped me to believe that “I can, and I do”. It was a nice feeling that she stood beside me and I am very blessed with her.

Family support showed a strong effect on reaching a successful diabetes self-management after surgery. He emphasized the importance of family role in adopting with new protocol for diabetes control after surgery.

Family support from one side and a good care plan applying by the health care givers on the other side made Erik to feel more secure and he could overcome his fears and worries after few weeks post-surgery, that is to say he could trust the care plan and care givers and feel safe after a
while. The care plan which was provided to the patient regarding diabetes control and self-management was well organized and was accessible during 24 hours the day. A very good emotional and medical support regarding new changes in glycemic control was delivered to him by specialist diabetes nurses. He was receiving a daily visit by specialist nurses in diabetes management for two weeks and also follow-up phone calls even several months after surgery made him to feel that still is important and is being followed by health care providers. He narrates:

The health care team seemed expert enough to deliver a qualified and trustable care as they had a well-structured plan for supporting me both for diabetes control and also the help I need regarding my heart operation. In addition being able to call the health care service 24 hours and asking about any concerns was very reassuring.

6.2.5. Meaning of being recovered
The theme “meaning of recovery experienced by the body” consists of subthemes; Feeling good sleeping pattern and feeling of getting back to normal social life.

Erik perceived the means of recovery as a natural part of his life. He could feel as real human being and perceived himself as living a more normal life. He was able to sleep adequately and free of any nightmares without need to take any sedative. Get back to normal social life is perceived when he would be able to get back to his work and start new life style. Also it is perceived as experiencing physical and emotional improvement through the whole body. He considered himself physically recovered when surgical wounds were relived and symptoms like burning and itching and pain over the wounds were disappeared, sleep patterns get back to normal point, ability to do daily activities was regained and also when he could get back to his work and start new social life. Emotional improvement means to him as not feeling fatigue, weakness and hopelessness as much as the first days after discharge. Having less stress and anxiety and taking control over surroundings cause him to feel that his lived body is experiencing emotional recovery. He explained that he got to a point where he was aware of limitations as a reality in his life and knew that life never would be taken for granted.

7. DISCUSSION

7.1. Comprehensive understanding and reflections
The lived experiences of a diabetic patient after heart operation as narrated by the informant in this study can be understood as the following themes; being scared, altered self, inability to engage in daily activities, being cared for by family and health care providers and meaning of being recovered. All themes are connected to each other and therefore express the lived experience of the patient. Lindseth and Norberg (2004) are in this idea that one theme always implicates the meaning dimensions of other themes. Lived experience is a network of experiences.

From the caring science perspective and by exploring the daily life of the patient from his own perspective, the findings of this study suggest that the meaning of having diabetes as a comorbid disease and undergoing heart surgery can be understood as a changing of the lived body to objectified body. According to Merleau-Ponty (1996), lived body is the body experienced at the pre-reflective level in a nonobjective way. For the person with diabetes the lived body after heart
surgery become disrupted and changed to objectified body which in turns has become an obstacle in everyday life and engaging in daily activities. Being scared in one side and having physical disturbances like; pain over the chest and surgical site, palpitation, sleep disturbances and feeling of powerless on the other side prevent the patient to engage in daily living activities properly. The recent themes linked to the theme “altered self” which is explained as alteration in the self-confidence and body image and losing control and intolerance to stress and feeling sicker due to having diabetes which in turns could be resulted from patient’s fears and physical disturbances. These experiences of the patient in this study are supported by the theory of Leder (1990) which declares: people with illness can no longer be involved with the world as they once were. In illness the surrounding world looks and feels different because the lived body and the environment are changed (Toombs, 1992). The lived experiences of the patient in this study illustrate the disruption of the individual from surrounding world.

Being scared has a particular meaning to this patient. Fears due to the alteration in diabetes treatment after surgery and also fears of getting out of bed and getting start to engage in daily activities and fear of die is experienced by this patient. Exploring patient’s life-world lead us to the fact that a huge part of the patient’s anxiousness is due to his diabetes and the changes happened to the diabetes management protocol after surgery. Wellard et al (2007) believe that patients need to be informed that their usual diabetes regimen might be altered life-long after surgery. In this study in spite of that the patient was well informed by health care providers before surgery about any possible alteration in diabetes treatment post operatively, it didn’t decrease his fears and his lived body experienced a high level of anxiety and fear based on the alteration in diabetes treatment. Here we can discuss that meaning of a phenomena is an individual term that is experienced differently from person to person and here even appropriate information delivered by health care professionals could not change the meaning of the phenomena experienced by the patient. For patient these changes are unexpected and produced stress and anxiety in them when they confronted with more invasive diabetes treatment than previously experienced.

The first experiences of insulin injection was stress making and scaring for the patient in this study and even very good and high quality educating about self-injection of insulin didn’t decreased his fears in the first self-practices. In post-operative context patients normally experience difficulties in learning about their adjusted treatment because of post-surgical tiredness and pain which contribute to poor concentration and limited readiness for learning (Wellard et al, 2007). Diabetes considered as interfering factor which not only made the post-operative recovery more difficult but also changed the perspective of the patient to his life and caused him to look at the diabetes as a more serious disease which has to be adopted lifelong. In fact the meaning of having diabetes has changed for the patient after heart surgery. The sudden importance of diabetes and subsequent adjustment required to handle it was the greatest challenge patient with diabetes confront with in the cardiac surgical context (Wellard et al, 2007). Having diabetes made the patient more vulnerable after surgery, delivered him unhappy feeling due to changes in diabetes treatment and probable prolonged recovery which in turn made him to feel anxious, hopeless and a little depressed. Also getting mild infection after surgery over the sternal wound led him to feel more anxiety and depression. Gardner (2005) believes that for some patients the surgery and a delayed recovery process affect their psychological status. These negative emotions were often resulted from the patient’s serious
physical illness and also stress contributes to the incitement of negative emotions (Tolmie, Lindsay & Belcher, 2006).

Heart disease and heart surgery as a life event is naturally experienced as a threat to life (Karlsson, Lidell & Johansson, 2008 & Lindsay, 2000) and it is a painful moment to admit the illness as a reality in life which can lead the patient to some degrees of anxiety (Karlsson et al, 2005). When the life threatening situation is combined with co-morbidities like diabetes and experience of heart attack earlier in the life, the anxiety perhaps occur in higher grades. Only by exploring daily life of the patient it would be possible to understand the patient’s experience of anxiety. Approaching the patient’s life-world here showed that not only presence of diabetes was considered as a stressor which contributed to anxiety but also experiencing heart attack earlier in the life was considered as another stressor which delivered some level of anxiety in the form of fear of die and prevents the patient to engage in normal daily activities like getting out of bed post-operatively.

All the physical discomfort which was experienced by patients after surgery (pain over surgical wounds and having palpitation in the early recovery phase and sleep disturbances) in one side and psychological discomforts (depression and feeling powerless and fatigued) on the other side disturbed patient’s well-being and prohibited him of engaging in daily living activities. Focusing in caring science perspective on health and well-being it can be discussed here that well-being is subjective and personal and can not be divided to physical or mental well-being (Horberg et al, 2011). According to Gadamer (1996) health or well-being is something that we don’t specifically notice in every day life when we are in health that means; health is silent, health doesn’t present itself to us. When we are healthy we are not afraid to meet and touch the world but when we are ill, we miss our natural access to the world. The illness disturbs the bodies access to the world and prevent the person carrying out his natural daily life (Dahlberg & Nyström; 2008, Horberg; 2011).

Severe illness often leads to a crisis. Crisis means feeling of distance, confusion and loss of control and loss of ability to handle the situation (Karlsson, 2005). It takes time to fully realize the consequence of heart disease and the effect of surgery on the life. The illness and it’s comorbid consequences made the patient to loss his confidence and look at his body in a different view. After surgery the patient have lost a lot of confidence and felt unable to do activities he was able to do before surgery and was therefore, not the same person he was before. According to Clark and Hampson (2001) confidence is an important factor influencing health behavior of diabetic patients. The level of confidence, in this study, was assessable by patient’s expression of his abilities in managing daily activities. Self-confidence can influence self-care in diabetic patient and also found to be a sub-theme for the diabetic patient who undergoes cardiac surgery. Patients experiencing both diabetes and a critical cardiac event expressed worries about their ability in managing their self-care (Wu et al, 2006).

In the recovery phase the patient looked at himself in a different way as he did before and didn’t feel like the same person as before. Viewed in a lifeworld perspective patient’s consciousness about this disorder made the patient feel unfamiliar with the body (Karlsson, 2005). According Toombs (1992) in illness the surrounding world looks and feels different because the lived body and the environment are changed. In this study the patient explained his unfamiliarity with his
body associated with feeling sicker due to alteration in diabetes treatment. Also having diabetes caused the patient to feel sicker and to have a different perception of the body. Merleau-Ponty (1996) describe that the relationship with the lived body is subjective rather than objective. When one is healthy he/she does not experience the lived body as a biological organism. The lived body is present in one’s every single action invisibly. Toombs 1992, describes that in healthy people the body appears as a healthy object and in certain situations like sickness, being old, feeling tired the body becomes present. According to Merleau-Ponty it is by means of the body that one has access to the world. Consequently when the perception of the body is changed the individual can no longer have access to the surrounding world.

7.1.1. Social networks and feeling of being recovered

Social supports in this case study came from different resources; family members, health care providers and rehabilitation staff. According to Schwarzer and Knoll (2007) social support has a key role in the stress and coping process. Social support is defined by Schwarzer and Knoll (2007) as resources provided by others and have several types, like instrumental, emotional in the form of empathy and reassuring and informational in form of giving advice. In the diabetes context according to Hjelm and Bertero (2010) social support has an important role in efficacy self-management of diabetes mellitus.

In this study family had a special meaning in terms of stress management and was reported as the most beneficial factor influencing recovery and coping process. In this study the family support was considered very positive which led the patient to reach an adequate coping point. The family had a positive role in stress management, managing diabetes self-control and encouraging and trying to make things easier for the patient. According to transactional stress theory presented by Lazarus and Folkman (1984) the more social support is presented the better coping is facilitated. According to this theory; supporting resources influence coping and coping results in various adaptation outcomes. Recovery, then, is a result of these adaptational outcomes (ibid).

Receiving a good care plan by health care providers and having a proactive support by both nurses and family members was experienced by the patient as invaluable and assuring. Based on what mentioned above empathy and assuring is one of the emotional sources of support provided by others (Schwarzer & Knoll, 2007). Receiving a good support by home nurse visits after surgery and helping with diabetes management after surgery created a sense of confidence and reliance to health care providers for the patient and also made the coping process easier which in turn can generates adaptation outcomes. According to Peplau’s Interpersonal relations theory; the nurse and patient build up a relationship that allows both to gain knowledge from the experience. In a successful therapeutic relationship the nurse acts in many different capacities in order to assist the patient to achieve independence and adaptation (kent, 2007).

Finally, it was also understood that during the recovery phase exactly after operation the participant underwent a process of feeling sick, reaching a turning point and then feeling recovered. Feeling recovered or feeling better is an individual process which varies from patient to patient. Some patients described a faster recovery than expected after surgery (Karlsson et al, 2005), however some patients explained the longer recovery and worse recovery experiences than they expected (Lindsay et al, 2003). Being recovered could be reflected by different descriptions person to person. From caring science perspective and by exploring lived experiences of the individual we can reach a deeper understanding of patient’s feeling about
being recovered or feeling better. In this study the meaning of being recovered is experienced and narrated by having less sleep disturbances, getting back to an acceptable social life, being able to engage in daily activities, get relief over surgical wounds and disappearance of symptoms like pain and itching over the wound and achieving a desirable well-being. In other words, improvement in quality of life contributes to the adequate recovery. In the recovery process the patient need to be recovered both physically and psychologically and systematic follow-up should address the patient’s physical and psychological recovery (Gardner et al, 2005).

7.2. Methodological considerations

The design of this study is case study. According to Stake (1995) single cases are not as strong as other research designs to be generalized to a population of cases, but people can learn much general things out of a case study. The real business of case study is particularization not generalization, says Stake (1995). In a case study new generalizations never happen but the previous generalizations which already exist about the study’s phenomena might be refined or modified, Stake (1995) names this as petite generalization. This is a kind of generalization about a particular case which might not be considered as a whole generalization but is something that regularly occurs all along the way in case study. Inspired by Stake (1995) we do not choose case study design to create new generalizations, but valid modification of generalizations is expected in case studies. Consequently, the weakness of this study is that the results can not be generalized to bigger populations so the result of this study is not directly applicable to clinical context without being tested in bigger target groups. The strength of the study is it’s in-depth view to daily life of the participant and exploring the study phenomena from the patient perspective and by exploring his lived experience of the phenomena. In this study a deeper understanding of how diabetes has affected the lived experiences after open heart surgery in a particular case is obtained, however diabetes may not reveal the same influences in other cases.

The phenomenological hermeneutic method was chosen for this study for it’s strength in describing lived experience of individual as described by the participant and interpreted by interviewer. According to Ricoeur (1976) there is always more than one possible meaning for a text and therefore more than one interpretation could be made out of a text. The researcher is a part of the study during the whole process. The interpretation is always influenced by the preunderstanding of interviewer (Lindseth & Norberg, 2004). The preunderstanding should be broadened by relevant literature. Since the researcher herself is a RN in intensive heart operation unit her own experiences may influence the interpretation. Here it is tried to avoid influence from pre-understanding, although a whole bracketing of pre-understanding is not possible. According to Lindseth and Norberg (2004) in order to refrain from judgment through interpretation bracketing should be accomplished. What should be put in bracket is the researcher’s judgment of the fact and pre-understanding of the phenomena. They suggest that the best way for bracketing is narrating the lived experiences, although a whole bracketing is impossible.

Phenomenological hermeneutic method is a practical method in this study because this study aims to explore experience of a life event. According to Lindseth and Norberg (2004), phenomenological hermeneutic methods can be used for the studies aimed at investigating people perception of reality and help them to become aware of possible ways of being in the world.
The presented interpretation is the one that we found most sensible. The interpretation was made from our understanding of people living with a chronic situation. Our findings are drawn from a single case and are not generalizable.

7.2.1. Validation and trustworthiness
When an interpretative method is used to describe the results of study there is always risk for misunderstanding and misrepresenting, says Stake (1995). He argues that in order to obtain confirmation and validation about findings we need to use one of several methods of triangulation. Inspired by him, investigator triangulation is used in this study to validate the findings. For investigator triangulation, the supervisor as an independent actor who is aware of the study context and aim was asked to take a look at the interpretation context and alternative interpretations were discussed.
According to Ricoeur (1976) validation is an argumentative discipline. The validation in this study is strengthened by the author’s awareness of her preunderstanding and by her discussions with her supervisor through the entirely study.

8. CONCLUSIONS

It is concluded that this study explored the lived experience of an individual and tried to approach the individual by exploring his day to day life or in other word his life-world in order to get a deeper understanding of whether or not diabetes affect the recovery phase after CABG. The participant in this case study didn’t focus specifically on diabetes context but also narrated his experiences of other general complications (physical disturbances, inability to engage in daily activities, stress and....) which are likely to happen for all patients who do heart surgery, however exploring day to day life of the patient and trying to know his world revealed that the meaning of having diabetes become more prominent after heart surgery than before surgery. The patient believed that all his physical and psychological discomforts was connected to stress made by changes in diabetes treatment. It should also be mentioned that as the focus of interview was targeted to the first weeks after surgery where the patient’s concentration is more on physical discomforts like pain and eventual heart dysrhythmia, the patient might be disrupted to focus only on diabetes and narrating his experiences target diabetes.

Consequently, this study gives us a deeper insight about the experiences of a diabetic patient after CABG. It is understood here that the experiences can be influenced by diabetes to some extends, however diabetes was not center of concentration and some general discomforts have been also narrated. This study will increase our understanding about research question but does not answer the question definitely. We will get a general knowledge about how diabetes might affect the experience of patient after CABG however we don’t know if the similar results will be obtained in other patients with similar situations.

It should be considered that as this was a case study the results are not directly applicable to other cases, however general understandings of lived experiences after CABG in a patient with diabetes have been built up. More studies on bigger target groups are needed to explore the experience and feeling of patients with diabetes after CABG in order to reach a broad and definite answer to the research question.
8.1. Clinical implications
This study is a case study therefore the results can not be generalized. The results will motivate and lead health care providers to further studies with larger target groups in order to explore how diabetes would affect the lived experience of individuals on the recovery phase after heart surgery from the patient perspective, so the results could be transferred in clinical settings. However the results may not be generalized in clinical settings but a deeper understanding of patient expectations would be likely to happen. With a deeper understanding of patient’s expectation, nurses would be able to provide better individual support and education to patients about their post-operative well-being. According to Lindseth and Norberg (2004) a phenomenological hermeneutic research aims at affect people’s perception of reality and help them become aware of possibilities and alternative ways of being in the world. It, then, can be useful to improve the care.

Clinical interventions need to be set which address patient’s perspective and enhance their expectation for better recovery following a critical cardiac event and also individualized assessment and related modification in care plan may help to decrease concerns of patients with special needs or comorbidities.

9. ACKNOWLEDGMENT

I would appreciate the supervision of Ann-Britt Thoren in this study and thank her for her helpful comments and guidance in this study. Also the participant of this study is appreciated for attendance
10. REFERENCES


Information sheet for participants

Please read the information in this pamphlet before you decide to take part in the study

Question regarding participation in an interview study regarding experiences of diabetic patients in the recovery after open heart surgery

My purpose of doing this study is to know about your experiences after open heart surgery to see if diabetes is a matter of concern for you after surgery and what knowledge you have or you lack regarding the self management of diabetes and self care after heart surgery.

What it means to participate

- You are welcome to do one single interview in which you are allowed to talk about your experiences after heart surgery.
- Participation in this study is absolutely voluntary so you can refuse to continue at each time that you feel you don’t want to continue anymore. Nothing is obligatory in this project.
- You, who want to attend, are assured that your personal information and your name will be kept secret and only the student and related supervisor have access to this information, information that you give us will be treated confidentially.
- You can choose the place of interview based on your wishes. Even it can be done by skype video chat or a telephone interview.

Neda
Tel. 0760880590
Supervisor Ann-Britt Thorén
Appendix 2.

**Informed consent for participation in student project**

- I understand that I am being asked to participate in a student project at Linnaeus University, department of health and caring science. This study will explore the experiences of diabetic patients in the recovery period after heart surgery. If I agree to participate in the study, I will be interviewed for approximately 60 to 90 minutes about my experience as a diabetic person who had gone under open heart surgery. The interview will be tape recorded and will be take place in .................................................... No identifying information will be included when the interview is transcribed. I understand that there are no risks associated with this study.
- I realize that the knowledge gained from this study may help either me or other people with similar situations.
- I understand that my participation in this study is totally voluntary and I may withdraw from the study at any time I wish. If I decide to discontinue my participation in this study, I will continue to be treated in the usual and customary fashion.
- I understand that all study data will be kept confidential. However this information may be used in nursing student’s presentations.
- The study has been explained to me. I have read and understand this consent form, all of my questions have been answered, I have already read the informing pamphlet for participants and I agree to participate.
- I realize that I will be given a copy of this signed consent form.

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