Women’s experiences after a myocardial infarction:

A descriptive literature review

Chen Xiayu (Carrie.C) & Lu Yufang (Abbie)

2018

Student thesis, Bachelor degree, 15 credits
Nursing
Degree Thesis in Nursing
Supervisor: Lan Xuefen (Lacey)
Examiner: Annika Nilsson
Abstract

**Background:** Myocardial infarction (MI) is harmful to human’s health. Women with MI are more likely to be ignored than men. Some researcher are about women’s symptoms after MI, but the research on experience of women’s experiences after a MI is less.

**Aim:** To describe women’s experiences after a MI and the data analysis methods included in the articles.

**Method:** The design was a descriptive literature review. Scientific articles with a qualitative approach were searched in PubMed and by manual searching. The inclusion criteria were women who had experienced MI and clearly described their feelings. Selected eight articles that fit the aim and research questions were included in this review.

**Main Results:** Three themes were summarized from eight articles. Women’s experience after a MI includes physical and psychological feelings, changes and coping strategies. The data analysis method of the selected articles were included in the review, two studies used phenomenological hermeneutic method, two studies used content analysis method, and the remaining four studies used stage of analysis, the framework method, grounded theory analysis and Nvivo.

**Conclusions:** The purpose of understanding women’s experience after a MI is as a nurse, provide women with high quality care, reduce their negative emotions, and popularize health education about the prevention and treatment of MI, which would help them to recover and prevent recurrence. The nurses should also help them to cultivate healthy lifestyle.

**Keywords:** Experience, Myocardial infarction, Women
摘要

背景：心肌梗死危害健康，女性心肌梗死较男性更易被忽视，有关于女性心肌梗死后症状的研究有许多，但关于心肌梗死后的生活体验研究较少。

目的：描述女性心肌梗死后的体验，以及纳入文献的数据分析方法。

设计：描述性文献综述。

方法：在 PubMed 数据库中手工检索相关的质性研究。纳入标准为经历过心肌梗死并能清楚描述自己感受的女性患者。本研究根据研究目的和研究问题选取合适的 8 篇文献进行综述。

主要结果：从 8 篇文章中归纳出三个主题。即女性患心肌梗死的经历包括生理和心理感受、改变以及应对策略。文章的数据分析方法包括：两篇研究采用现象解释学方法，两篇研究采用内容分析方法，其余四篇研究采用了阶段分析、框架方法、扎根理论和 NVivo。

结论：护士了解女性的感受，是为了提供高质量护理服务和减轻女性的负面情绪，普及预防和治疗心肌梗死的健康教育，帮助她们恢复和预防复发，同时帮助她们培养健康生活方式。

关键词：体验，心肌梗死，女性。
Table of contents

1. Introduction .............................................................................................................. 1
   1.1 The definition of MI and Experience ................................................................. 1
   1.2 Etiology and diagnosis of MI .............................................................................. 2
   1.3 Risk factors of MI ............................................................................................... 2
   1.4 Treatment of MI ................................................................................................. 3
   1.5 The nurse’s role ................................................................................................ 4
   1.6 Leventhal and Nerenz' self-regulatory Model of illness behavior ............... 4
   1.7 Problem statement ........................................................................................... 5
   1.8 Aim and research questions .............................................................................. 5

2. Methods ...................................................................................................................... 5
   2.1 Design ................................................................................................................ 5
   2.2 Search strategy .................................................................................................. 6
   2.3 Selection criteria ............................................................................................... 7
   2.4 Selection process and outcome of database searches ..................................... 8
   2.5 Data analysis ..................................................................................................... 9
   2.6 Ethical considerations ....................................................................................... 10

3. Result ......................................................................................................................... 11
   3.1 Physical and psychological feelings ................................................................. 11
      3.1.1 Physical experiences .................................................................................. 12
      3.1.2 Lack of knowledge .................................................................................... 12
      3.1.3 Escape and confusion ................................................................................ 13
      3.1.4 Become trouble ......................................................................................... 14
   3.2 Changes .............................................................................................................. 14
      3.2.1 Proactive changes ...................................................................................... 14
      3.2.2 Difficult to change ..................................................................................... 16
   3.3 Coping strategies .............................................................................................. 17
      3.3.1 Relieving symptoms .................................................................................. 17
      3.3.2 Doing some adjustments ........................................................................... 17
      3.3.3 Support ..................................................................................................... 18
1. Introduction

Myocardial infarction (MI) has become a major hazard to human’s health. MI has 32%-48% chances to evolve into heart failure, which is bound to increase mortality of the disease and increase social burden (Yu et al. 2017). A health problem that deserves to be paid attention (Yu et al. 2017). Patients after a MI may experience significant pain, as well as systemic symptoms, gastrointestinal symptoms, hypotension and shock, heart failure, these symptoms greatly affect patients comfort and quality of life, and even increase negative psychological feelings such as depression. According to a 2012 US survey, women are more likely to suffer from depression than men in their lives (Lu et al. 2017; Lau et al. 2016). Compared with men, women have lower serum kinase isoenzymes, Cardiac troponin (cTn) levels, require more precise ultrasensitive troponin testing techniques (Lu et al. 2017). Furthermore, women after a MI are more likely to have no symptoms of chest pain, especially young women, they have higher mortality (Canto et al. 2012). Women who had chest pain often wait for relieved and delayed the treatment due to embarrassment or fear (Lichtman et al. 2015). In brief, MI is a serious problem for women. Some previous studies have investigated the precursor symptoms and feelings of women after a MI, but there were not thoroughly studied the experiences of them (Blakeman & Booker 2016). Therefore, this review attempt to describe women’s experience after a MI more comprehensively, in order to understand the characteristics of women’s experience better, as well as to provide targeted assistance and care services for women.

1.1 The definition of MI and Experience

MI refers to the plaques formed on the walls of the arteries, the flow of blood to the heart is reduced, myocardial ischemia and hypoxia lead to myocardial cell death (Lu et al. 2017). According to the World Health Organization (WHO), the criteria of MI include ischemic symptoms, electrocardiogram (ECG) abnormality and serum myocardial enzyme changes. Then, with the development of more accurate non-invasive imaging technology, researchers found the biochemical marker with sensitivity
and specificity--cTn, which would increase the likelihood of detection of smaller MI lesions. Then according to epidemiological investigation, the development of public health policy clinical research, clinical practice and other aspects to consider, it is necessary to make a more precise definition of MI. In October 2007, the European Society of Cardiology (ESC), American Heart Association (ACC), United States Heart Association (AHA) and the World Heart Federation (WHF) jointly issued a global new unified definition of myocardial infarction (Thygesen et al. 2007). MI was defined as serum myocardial markers mainly refers to cTn, at least over 99% reference values, and accompanied by one or more than one clinical indicators: ischemic symptoms, new onset ischemic ECG changes, ECG formation of pathological Q wave, imaging evidence, coronary angiography or autopsy confirmed coronary artery thrombosis (Bagai et al. 2017).

Experience is a subjective feeling, showing a personal perception of a particular phenomenon, experience cannot be objectively measured, cannot be examined either (Peeranuch & Supaporn 2015).

1.2 Etiology and diagnosis of MI
The most common cause of MI is unstable coronary atherosclerotic plaque rupture, followed by bleeding or intraluminal thrombus, complete occlusion of the vascular lumen. Etiologies of MI in women include: atherothrombotic coronary occlusions plaque rupture, plaque erosion, calcific nodule, spontaneous coronary artery dissection, coronary vasospasm, coronary embolism (Tweet, Best, & Hayes 2017). The diagnosis of MI need to check the patient's physical condition, and electrocardiogram examination, observation of ECG, and blood tests, analysis of white blood cell count and cTn in blood increased or not, whether there are characteristic or dynamic change (Lu et al. 2017).

1.3 Risk factors of MI
In the past few decades, there has been increasing stressed in work, which may have a
significant impact on the risk factors for MI (Ostlin, Klerdal, & Hammar 2008). At work, the gender minority group may have negative psychosocial circumstances, such as pressure, social isolation and inconsistent status, these situations may in turn caused health problems (Kanter 1977). Some of the modifiable risk factors are smoking, physical inactivity, unhealthy diet, obesity, diabetes mellitus, hypertension; nonmodifiable risk factors: age (≥55 years), family history of early heart disease, history of preeclampsia during pregnancy (Lau et al. 2016).

Risk factors for MI are similar for both men and women. But some risk factors may bring greater danger to women. Women should recognize that they need good living habits, including exercise, a good diet and social environment to improve their physical and mental health (Lau et al. 2016).

1.4 Treatment of MI

If someone appear the symptom of acute MI, calling first aid and sending him or her to the nearby hospital, giving the electrical defibrillator if necessary (Lu et al. 2017). It can rebuild the blood flow of the heart and reduce damage to the heart. The patient need to take aspirin immediately because it helps to break the blood clot (Lu et al. 2017). After arriving in the hospital, building a vein access quickly, following the doctor's advice to give thrombolytic drugs, to dissolve the blockage in the blood vessels, such as tissue plasminogen activator (tPA), Streptokinase or Urokinase, and these drugs should be administered within three hours of the heart attack (Lu et al. 2017). Or in the case of hospital conditions, the patient can choose the percutaneous coronary intervention (PCI), to have surgery. If the patient is in pain, give them some painkillers, such as morphine or meperidine to relieve pain (Lu et al. 2015).

Because women haven't got proper treatment in the early time, and other confounding risk factors, women have worse prognosis than men. Compared with thrombolytic therapy, PCI is a more favorable treatment for women and benefits from early invasive strategies, which can give women better therapeutic effects (Mehta et al. 2016).
1.5 The nurse’s role

According to WHO's definition of health, we can understand that health does not only mean that the body is free from disease and infirmity, but also includes good psychological quality and social well-being (WHO 2018). In the International Council of Nurses “Code of Ethics for Nurses” (2012), caring for women after a MI is a basic task of nurses, to communicate with women, and understand the emotions of women, can help nurses have sufficient information to help women to use their autonomy. Provide the corresponding nursing interventions for women's unique emotions, especially some sensitive, vulnerable women, nurses need to give their support. At the same time, the nurses must have sufficient professional knowledge to guide women to treat MI with the correct attitudes and cultivate the women to develop good habits or change some necessary habits. There is no doubt that nurses need treat patients fairly and respect them, regardless of age, race, education, sexual orientation, etc.

1.6 Leventhal and Nerenz' self-regulatory Model of illness behavior

Leventhal and Nerenz' self-regulatory Model of illness behavior put forward a hypothesis about health. When the health of a person is threatened, it will be encouraged to return to a healthy state (Leventhal, Meyer & Nerenz 1980). It is always used to explain and predict the patients to promote health. In other words, when MI patients are aware of that their health is threatened, they will promote health (Petrie & Weinman 1997). This theory has three parts including: interpretation, coping and appraisal. Interpretation can help the patient to understand and cognize the disease, understand causes and consequences, whether it can be cured or controlled, also can improve the emotional state, and the emotional changes are related to the development of the disease (Macinnes 2006). Female patients after a MI have abnormal physical manifestation as nausea, vomiting, or other atypical symptoms that occur in them, but tend to ignore their severity. Thus self-regulatory model can help women to aware the occurrence of MI, and get help as soon as possible (Lockyer & Bury 2002). When MI aggravated the threat to health, patients must take measures to cope, including negative coping such as
ignoring the disease symptoms, and positive coping such as treatment and lifestyle changes. The third stage is to assess the effectiveness of coping, decide whether to continue or use other alternative measures to cope. Leventhal and Nerenz' self-regulatory Model of illness behavior is cyclical, a process of constant assessment and improvement that improves the health of MI patients (Macinnes 2006).

1.7 Problem statement
MI is the sudden decrease of blood flow to the heart, cause hypoxia of myocardial ischemia, eventually leads to heart death. When the MI occurs, it can bring great pain to women, seriously affect the physical and psychological health of women, and burden the family and society. A large proportion of women do not realize that heart disease is a threat to their health. After a MI women are not only facing the pressure of their own disease, but also under the pressure of caring by their family, so it is necessary to pay attention to the experiences of women after a MI. Many researchers have paid attention to the intervention or treatment of MI, but the experiences of women after a MI are not clear enough. As a nurse it is important to know that education and nursing care for women after a MI can alleviate the pain and improve their mental health. So this review collected literature and focused on the issue of women’ experiences after a MI.

1.8 Aim and research questions
The aim of the literature review was to describe women’s experience after a MI, and the data analysis method used in the included articles.

- What experiences did women had after a MI?
- What is the data analysis method in the included articles?

2. Methods
2.1 Design
The study is a descriptive literature study (Polit & Beck 2012).
2.2 Search strategy

The authors used search terms to search the articles in PubMed, with certain limits, see table 1, including “Myocardial Infarction”, “women”, “experience”, “perception”, “reflection”, “view”, superposed of different search terms combination. The authors used the Boolean operator “AND” and “OR” to combine different search terms. In order to get the final search results, the authors marked “#1” as "Myocardial Infarction", marked “#2” as “women”, marked “#3” as “experience OR perception OR reflection OR view”, and combined all results “#1 AND #2 AND #3”. Limitations were “Humans, English”. And primarily search terms have indexed on Mesh in Medline.

In addition, the authors did manual search from reference list, and screened articles with aim and research questions. See Table 1.

<table>
<thead>
<tr>
<th>Database and Limits</th>
<th>Search terms</th>
<th>Number of hits</th>
<th>Possible articles (excluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of search</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Selection criteria

In primary search strategy, the inclusion criteria for articles were: women who got MI, had the experience of MI breakout suddenly, there are clear descriptions of women’s experience, and the results were related to the aim and that qualitative studies were included.

The exclusion criteria were that: women who haven’t suffer from MI, or a male person, there are not clear descriptions of women’s experience.

---

<table>
<thead>
<tr>
<th>Database</th>
<th>Language</th>
<th>Search Terms</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medline through PubMed</td>
<td>English</td>
<td>&quot;Myocardial Infarction&quot;[Mesh] (marked #1)</td>
<td>160279</td>
</tr>
<tr>
<td>Medline through PubMed</td>
<td>English</td>
<td>women[Mesh] (marked #2)</td>
<td>32665</td>
</tr>
<tr>
<td></td>
<td>Humans;</td>
<td>experience OR perception OR reflection OR view (marked #3)</td>
<td>1264039</td>
</tr>
<tr>
<td></td>
<td>2017-09-08</td>
<td>OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Humans;</td>
<td>#1 AND #2 AND #3</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Manual searching</td>
<td></td>
<td>(reference)</td>
<td>1</td>
</tr>
</tbody>
</table>

Total 8
In the manual search strategy, the exclusion and inclusion criteria were the same with this review.

2.4 Selection process and outcome of database searches

In the primarily search, there were 49 articles generated on the following databases: “PubMed”. Then the authors stepped by stepped to screen, see Figure 1. The first step was removing the duplicated literature, 2 were excluded, the remaining 47 articles were screened for following up. The second step was to read the title/abstract whether it meets our needs. The second selection process based on studies’ aim, inclusion and exclusion criteria. There were 6 studies excluded that participants were not appropriate. Afterwards, in the remaining 41 articles, 2 of 41 was excluded because of literature review, and 4 of 39 were excluded because of survey. After reading the full text, 13 of 35 was excluded because of unsuitable subject, 8 of 22 was excluded because of unsuitable research object, 7 of 14 was excluded because of quantitative research, 7 articles were subordinated to results. The authors’ manual search was made by these 7 articles. When the authors did a preliminary screening based on titles, and searched for articles that met the aim and the research questions. Finally, 1 article was found. In total, 8 articles through primary- and manual search were included. The outcome of database searches with data of search, limits, search terms, number of hits and possible articles (excluding doubles) are shown in table 1.
2.5 Data analysis

Data analysis from the selected qualitative articles was extracted independently by the authors using content analysis (Polit & Beck 2012). The results of the selected articles were related to the research question 1, and the method selected has processed in question 2. All the articles were read repeatedly together by the authors, and then discussed according to the content, also exchanged ideas. Articles included in the degree project used matrixs, according to Polit and Beck (2012), the authors have processed data effectively. Screening process carried on the critical review have based on our questions that the women’s experiences after a MI and the characteristics of the participants in these articles. In order to provide an overall and general description of the selected article, the authors used tables and figures to explain more clearly and easily. Appendix 1, Table 2 was an overview of results of ethical considerations of articles. The selected articles’ authors, year/country of publication, title, design and approach,
aim, sample, data collection method, method of data analysis, and results were summarized in Table 3. According to JBI-QARI (The Joanna Briggs Institute Qualitative Appraisal and Review Instrument), the authors coded and categorized the data, the first step of the analysis was to number the subheadings of the selected articles, then classified them according to the contents, bring the categories of the same meaning together, and finally determine the four themes, see figure 2 and table 4 (Joanna Briggs Institute, 2014).

### 2.6 Ethical considerations

The literature review was based on already published articles, which already had ethical considerations. Two studies (Mendes, Roux, & Ridosh, 2010; Macinnes, 2006) had got the participants' approval, two study (Worrall-Carter, Jones, & Driscoll, 2005; Kristofferzon, Löfmark, & Carlsson, 2008) only had got the Ethics Committee’s approval, and other four studies (Svedlund, Danielson, & Norberg, 2001; Svedlund & Danielson, 2004; Higginson, 2008; Kristofferzon, Löfmark, & Carlsson, 2007) had got both participants’ and the Ethics Committee’s approval, see Table 2. In addition, the authors always maintain objective attitude, without personal thoughts and attitudes. The results were reviewed truthfully and entirety without being altered according to own wishes. Thus, the risk of ethical dilemmas in this present study in our opinions is low. And there would be no plagiarizing or falsifying in the degree project.
3. Result

The results are based on 8 articles with qualitative approach. The articles present women’ experiences after a MI and the data analysis that the authors used. The results are presented in text and in Tables 2, 3 and 4. Three themes have been resulted: ‘physical and psychological feelings’ (including 4 categories), ‘Changes’ (including 2 categories), and ‘coping strategies’ (including 4 categories). These themes are presented in Table 4 and described below by the sub-themes. Themes and with sub-themes are presented in Figure 2. The results related to the methodological aspect are presented in content and in Table 3. The adopted articles which used in results have been listed in references.

<table>
<thead>
<tr>
<th>physical and psychological feelings</th>
<th>Changes</th>
<th>Coping strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Physical experiences</td>
<td>-Proactive change</td>
<td>-Relieving symptoms</td>
</tr>
<tr>
<td>-Lack of knowledge</td>
<td>-Difficult to change</td>
<td>-Doing some adjustments</td>
</tr>
<tr>
<td>-Escape and confusion</td>
<td></td>
<td>-Support</td>
</tr>
<tr>
<td>-Become trouble</td>
<td></td>
<td>-Negative coping strategies</td>
</tr>
</tbody>
</table>

Figure 2. The themes and sub-themes of the result

3.1 Physical and psychological feelings

The experience of women after MI includes the sensation of the body, that is, the feeling of the symptoms of the disease. The symptoms of MI, the majority of women would experience 2-3 kinds of symptoms, sudden onset of symptoms, may make the women feel the sense of death, death beckons to herself (Macinnes 2006). And this fear of impending death has become a basic psychological problem for women after a MI, but in addition to fear of death, there are other factors that affect the women’s mental health (Mendes, Roux, & Ridosh 2010). On the contrary, there are some positive attitudes.
towards MI (Kristofferzon, Löfmark, & Carlsson 2008).

3.1.1 Physical experiences

Many female patients failed to notice that some of their symptoms were potential "danger", such as gastrointestinal symptoms, general sweating symptoms, etc. They ignored these symptoms and didn’t associate them with acute myocardial infarction (AMI) (Worrall-Carter, Jones, & Driscoll 2005). Some women, chest pain radiated to the left arm, and thought it was not important to think of the symptoms, they didn't think these symptoms can be linked to MI. Chest pain is the most common symptom, it may not pain, but has the symptom of sweating or restlessness (Macinnes 2006). Some people, thought it due to indigestion and then took some antacids and analgesics: ‘I was so sure it was indigestion. I had some milk and went to bed.’ or ‘I asked my husband to go into the supermarket and get me some peppermint, because we had just eaten a beautiful Chinese meal and I thought it was indigestion’ (Higginson 2008, p12).

Because women felt that the disease was not related to the heart, she did not take it seriously., and did not seek treatment in time, delaying the time to go to the hospital (Higginson 2008, p12). Didn’t seeking medical help when there was a "warn signal" may lead to ineffective treatment (Worrall-Carter, Jones, & Driscoll 2005). Some women who had the experience of chronic diseases in the past, could find the severity of these symptoms, sought medical attention and got effective treatment (Macinnes 2006).

In addition to these symptoms, there were also changes in life. Some women reported that after the illness, their comfort level declines, their activities were limited and their sleep disorders, wear hospital clothes, feel very uncomfortable. A woman who aged 47 said ‘…a mass of tubes… machines, they’re the worst. You can’t sleep….’ (Kristofferzon, Löfmark, & Carlsson 2007, p395)

3.1.2 Lack of knowledge

Because of lacking perceived susceptibility to MI, before making the diagnosis, there
are many risk factors in their life, and they didn't pay attention to the prevention of the disease (Macinnes 2006). What's more, they had a very rigid impression of MI, such as being overweight, smoking, and they think the men are the high-risk groups, they are not in any risk. When they were informed of the diagnosis about MI, they denied it immediately: “I just didn’t believe him, I just couldn’t accept that I could have a heart attack.” (Higginson 2008, p12) Or some women attribute their symptoms to bowel disease (Kristofferzon, Löfmark, & Carlsson 2007). But some people think that they have maintained good habits for many years and don’t think MI happen to them: “I was shocked to find out I had a heart attack. For years, I have been in good shape, no high blood pressure. The doctor showed me the blockage in the cath room. I cannot believe it.” However, after the diagnosis of MI, some women begin to afraid, fear, and even lose control of their emotions. They hesitated, uncertain, unwilling to accept the facts, it may lead to delay their visits to the hospital and affect treatment (Mendes, Roux, & Ridosh 2010, p253).

3.1.3 Escape and confusion
With the advent of MI, there was uncomfortable for women to be women undoubtedly (Svedlund, Danielson, & Norberg 2001). The illness made them feel angry, impatient, restless, and prone to tears, fearing a relapse. They thought they were worthless and afraid to be alone (Kristofferzon, Löfmark, & Carlsson 2008). Women would be confused and puzzled. When women developed symptoms, they tried to ignore them, lived as usual, to escape from disease. Women withheld their experiences of being sick person, they didn’t want to be worried, so they avoided telling feelings to relatives (Svedlund, Danielson, & Norberg 2001). After some women were hospitalized, they refused to admit that they were sick, because that kept them away from normal life. Women also felt pain and stress of collapse, and when the pain disappeared, they might mistakenly think that it was over (Svedlund, Danielson, & Norberg 2001). Because of illness, women had a lot of things that they couldn’t do by themselves, so they had a clear sense of powerlessness which was a kind of "failure". But also because their
partners didn't give them the support they need, and care their feelings, which made them even more depressed (Svedlund & Danielson 2004). Nowadays, women were independent, but MI make them dependent on others for their lives, that caused them feel guilt and powerless (Worrall-Carter, Jones, & Driscoll 2005).

3.1.4 Become trouble
They would rather leave the pain to themselves than to make their families worried. At the same time, they also felt that their family was protecting them too much, and would not let them do any housework (Svedlund, Danielson, & Norberg 2001). Some women were ashamed because of their illness, many of their daily activities need others help, such as need someone to help dress, or walking with the help of others. They get the feeling of being a troublesome person, so they didn't want their families and health care workers to give them too much care (Svedlund & Danielson 2004). Due to the illness, many activities were limited, and they need to find new life value with the help of others (Svedlund, Danielson, & Norberg 2001).

3.2 Changes
Women who have had a MI must learn to adapt to their physical conditions, lifestyle changes, emotional responses, work and social activities (Kristofferzon, Löfmark, & Carlsson 2008). Some women see disease as a "second chance" to positive change, but others find that difficult to change (Kristofferzon, Löfmark & Carlsson 2008).

3.2.1 Proactive changes
Women said they had a tired and uneasy experience before MI. After the symptoms suddenly appeared, they experienced some changes in life and psychology after MI (Mendes, Roux, & Ridosh 2010). Women usually take care of the family, and when they got sick, like a woman said: “…I used to be the strong one and take care of others, and now it was I who needed them” (Svedlund, Danielson, & Norberg 2001, p200), they need help from relatives. Even so, they still worried about the family. But after
receiving the diagnosis of disease, women became more relieved instead, the fear of death have recuperated slowly (Svedlund, Danielson, & Norberg 2001). Women wanted to make their own decisions and do what they want to do. And then, women began to accept the fact that she was sick, began to join the social network and faced life actively. Like a woman said, “…feel like I’m not exactly in shape, generally, so you have to accept it then… the signals that you maybe should take it a little easier.” (Kristofferzon, Löfmark, & Carlsson 2007, p396) When women faced with stress, women used a variety of strategies to reduce stress, including accepting the status quo, relaxing and seeking help from others. It's also a positive way to deal with stress, an example was, “…I’m not at all as picky now – there can be a bit of dust nowadays (woman, aged 52)” (Kristofferzon, Löfmark, & Carlsson 2008, p370). In addition, some women mentioned that they were involved in more activities than before, which increased their happiness. Women have seen it as “a second chance” to change their lives (Kristofferzon, Löfmark, & Carlsson 2008), have been aware of the value of life, take disease as a warning and cherish life more in the future, to live better and enjoy life. For example, one woman said: “I thought it was good that it happened, maybe I can feel better in the future.” (Svedlund, Danielson, & Norberg 2001, p203) The transformation of life has brought many new meanings. Some women want to live a healthy and positive life, one woman who aged 81 said: “…one hopes that one can be as healthy as possible and then, when it’s time, that it goes fast” (Kristofferzon, Löfmark, & Carlsson 2008, p372), some want to stay with their families for a long time, and others want to expand their social circle. In general after MI, the mentality of women have become positive, and more attention have been paid to health and life. Savored life, appreciated things they have never found, and done what they would not regret, they even started talking about emotion, no longer hiding (Kristofferzon, Löfmark, & Carlsson 2008). Women have planned for the future, and were being hopeful and confident that all problems would be improved (Svedlund & Danielson 2004). There were also mentioned that women's early experiences had an important impact on women's psychological transformation. “Ginger, a 66-year-old divorced woman, drew strength from her memories of surviving familial physical and
sexual childhood abuse she had suffered” (Mendes, Roux, & Ridosh 2010, p254). Through her early bad experiences, she encouraged herself to continue to live, ignited their inner power (Mendes, Roux, & Ridosh 2010).

3.2.2 Difficult to change

On the other hand, not all women have positive attitude, and a few feels worthless, empty, and unenthusiastic about life (Kristofferzon, Löfmark, & Carlsson 2007). Women's lifestyles need to change. It is obvious that lifestyles change is difficult (Kristofferzon, Löfmark, & Carlsson 2007). With regard to lifestyle changes, most of women mentioned the problem of smoking and stress, and some of women mentioned food and activities (Kristofferzon, Löfmark, & Carlsson 2008). Quitting smoking is inevitable for women who after a MI, but at the same time, it's pretty hard (Kristofferzon, Löfmark, & Carlsson 2007). Some women believed that forcible cessation sometimes brings them a sense of discord and reduces their happiness. The same as diet, they need healthier products, a healthy and regular diet, which may be a little strict and give women a sense of restraint (Kristofferzon, Löfmark, & Carlsson 2008).

Most women were unemployed and stayed at home, they were looking for work to prove they were healthy, and went back to normal life. but the condition of the body was not allowed. Sometimes they thought:” …working half-time, then you get stuck…will try [to work] as usual…if it works, it works, can’t get stuck into being sick either…drive you mad in the end” (Kristofferzon, Löfmark, & Carlsson 2008, p371). Inevitably, due to a lack of knowledge of the disease, the problem of communication between relatives and women had also become a problem, especially in marriage. Communication problems are considered a serious problem in the social environment. Women were in great need of support from relatives and became the dependent relationship gradually. Women were eager for advice and information, but relatives were lack of disease-related knowledge and similar experiences, resulted in women being unable to get timely feedback after expression. A woman aged 81 expressed, “…she’s also stubborn (the sister)… so, she’s not having any help (home-help). No,
she’ll manage by herself…. Yes, then she’ll get help from me instead.” (Kristofferzon, Löfmark, & Carlsson 2007, p397)

3.3 Coping strategies

3.3.1 Relieving symptoms

Women had different coping strategies when initial symptoms occurred, but the initial purpose of coping was to relieve symptoms, as defined approach coping in Leventhal and Nerenz self-regulatory Model. In the study by Macinnes, Katy (80 years old, widowed): “I thought if I got up and had a glass of water, I might feel better, so that was what I did” (Macinnes 2006, p285). Women have tried to solve their symptoms, but the way they dealt with them was affected by perception cause (Macinnes 2006). When women realized that MI was the cause of these symptoms, they sought help in coping, but the studies (Macinnes 2006; Kristofferzon, Löfmark, & Carlsson 2008) showed that such women were in a minority. When digestive symptoms were considered indigestion, women usually took their own drugs to relieve them, but when they couldn’t distinguish the cause of the symptoms, coping strategies were also diversified and non-targeted (Macinnes 2006). Relatives and friends who had similar experiences affected women’s perceptions, and if symptoms were similar, women were more alert, while differences were likely to be ignored. Helen (48 years old, married) said: “Because both my parents had pains in their arms, I associated heart attacks with pains in the arms. Because I didn’t have pain in my arms, I didn’t think at any one time that I was having a heart attack.” (Macinnes 2006, p284) Over time, women have learned to manage some of the health problems better, and operation helped them, a woman who aged 47 said: “…a whole new life [after the operation]…no pain, nothing of the vascular spasms I’d felt earlier…” (Kristofferzon, Löfmark, & Carlsson 2008, p369)

3.3.2 Doing some adjustments

Over time, women slowly changed from their initial fears and adjusted (Mendes, Roux,
Experienced death threats, let women known that they should face the current situation, the disease brought restrictions and must make the coping responses, such as relaxation, quit smoking, diet and other aspects of the adjustment, considered the future of life seriously (Svedlund, Danielson, & Norberg 2001). In order to make better adjustments, they analyzed the causes of MI, compared their experiences with those of others, improved their enthusiasm for life, and better received treatment and a new life after change (Kristofferzon, Löfmark, & Carlsson 2007). In addition, women developed inner strength from spiritual solace in the process of adjustment. Diane described her experience with achieving a spiritual peace: “I go to church every week. I do have a spiritual book that I read every day...they run for 3 months. I read my prayers and meditate every day. I have a spiritual side that has helped me get through my heart attacks...” (Mendes, Roux, Ridosh 2010, p254) increased their own compassion, self-cultivation, and sought support and meaning in life (Mendes, Roux, & Ridosh 2010).

Although women have undergone many changes since MI, it has to be said that women's coping strategies have improved along with this process, and they were better able to deal with disease problems, including more obesity, chest pain and difficulty breathing after MI (Kristofferzon, Löfmark, & Carlsson 2007).

### 3.3.3 Support

Social support contributes to women's recovery, affects the quality of life of women who after a MI, and reduces the likelihood of depression (Worrall-Carter, Jones, & Driscoll 2005). The carers may be relatives, friends, and partners, etc (Kristofferzon, Löfmark, & Carlsson 2007). The carers not only provide physical support, but also emotional support. Although emotional support is a key aspect of rehabilitation, many women are still reluctant to mention emotion because it is a sensitive topic for them. Emotional support can be expressed not only by words, but also by body language, there is the expression of love and care (Worrall-Carter, Jones, & Driscoll 2005). Some participants said that nurses would give women a sense of security and sympathy through some behavior, such as “a nurse might pat you… on the cheek or…. She patted
my hand just with her finger…. They’re a kind of security… she cares.” (Kristofferzon, Löfmark, & Carlsson 2007, p296) It is worth mentioning that effective emotional support can make women feel safe and secure, however, if the carer were not coping, it will bring more anxiety and sorrow to women (Worrall-Carter, Jones, & Driscoll 2005). In addition, excessive protection makes women feel frustrated by deep dependence and affects the recovery of their daily activities (Kristofferzon, Löfmark, & Carlsson 2007). But overall, the relationship between women and family has become stronger and deeper because of disease (Worrall-Carter, Jones, & Driscoll 2005).

After a MI, the women need different physical support during hospitalization and discharge, and need more rest during hospitalization (Worrall-Carter, Jones, & Driscoll 2005). Women could get information about MI through doctors, nurses, other women, etc., some women have participated in professional rehabilitation programs to share their experiences for get great support, in the programme, “you hear how the others are doing and are feeling and how they’ve experienced it…went on for a year…so as not to go backwards” (Kristofferzon, Löfmark, & Carlsson 2008, p371), a woman said. At the same time, nurses play an important role in providing support, whether in hospital or during discharge, nurses are professional enough to help women and build trust relationships with them, a woman expressed, “She (nurse) was so good at explaining… he (physician) wanted me to ask – I didn’t known what…. She told me things and then she asked me and then I asked her (questions)… very good” (Kristofferzon, Löfmark, & Carlsson 2007, p397). There are also many women who sought help on the Internet, gained knowledge and experience, which provided a great help in improving women's ability to judge disease and promote recovery (Kristofferzon, Löfmark, & Carlsson 2007). However, women need more practical help when they are discharged from the hospital. The understanding of the carers affects the effect of support (Worrall-Carter, Jones, & Driscoll 2005). Some women said that friends and neighbors provide practical physical support, such as “she (the neighbour) does the laundry and organizes everything….Cleaning… she comes in with the food. The freezer’s full…..” (Kristofferzon, Löfmark, & Carlsson 2007, p397), it also includes partners started to
take on more housework, and made the relationship between the couples more intimate than ever before (Svedlund & Danielson 2004).

Nevertheless, because of the need to support the housework, some women's partners feel a lack of freedom. There are also caring family who lacked an understanding of the importance of manual labor which including domestic chores in the disease. (Svedlund & Danielson 2004).

3.3.4 Negative coping strategies

Most women wouldn’t seek professional medical help immediately. They had “stayed in control” and “help themselves” until sought help. For example, a woman said: “I decided not to call the doctor; I didn’t want to bother him. I took two pain killers and went to bed.” (Higginson 2008, p12) When coping strategies have failed, women have been aware that symptoms couldn’t be dealt with themselves, they would sought alternative strategies, including sought help from relatives and friends, also professional help (Macinnes 2006).

3.4 Results regarding the chosen articles’ data analysis methods

After scrutinizing the 8 qualitative articles, it was found that the data analysis method was described in all of them.

In two of the articles (Svedlund, Danielson, & Norberg 2001; Svedlund & Danielson 2004), the articles were interpreted with a phenomenological hermeneutic method inspired by Ricoeur’s philosophy (1976) that involved three steps: native reading, structural analysis, and interpreted whole/comprehensive understanding. This theory combines interpretation and understanding in a constructive dialectical relationship.

In two of the studies (Kristofferzon, Löfmark, & Carlsson 2007; Kristofferzon, Löfmark, & Carlsson 2008), it is made clear that the qualitative content analysis method inspired by Graneheim and Lundman (2004) was chosen.

The remaining four articles have different methods of data analysis. In the studies by Worrall-Carter, Jones and Driscoll (2005) and Burnard (1991). ‘stage of analysis’ was
used to lead to the thematic analysis of transcript, and the components of Lincoln and Guba’s (1985) trustworthiness criteria which consist of credibility, transferability, dependability and confirmability were used in these two articles. In the study by MacInnes (2006), data were analysed by the framework method described by Ritchie and Spencer (1994), which contain five stages: familiarization, identification of a thematic framework, indexing, charting, and mapping and interpretation. In the study by Mendes et al. (2010), Glaser’s (1978) method of constant comparative grounded theory analysis was used. In the study by Higginson (2008), data analysis began with NVivo (Version 2), and line-by-line analysis also was chosen.

4. Discussion

4.1 Main results

Three themes that were summarized from eight articles. Women after a MI experienced physical and psychological feelings, which would make them have to maintain a positive attitude towards disease, and cope with the emergence by different coping strategies, and also seek social supports from medical professionals, relatives and friends, or their faith. Regarding the data analysis method of the selected articles, there was clearly presented on all articles. Two studies used phenomenological hermeneutic method, two studies used content analysis method, and the remaining four studies used stage of analysis, the framework method, grounded theory analysis and Nvivo.

4.2 Results discussion

4.2.1 Interpretation of MI is important for women and their family

Women after a MI could experience pain, uncomfortable, and even some people could have feeling of impending death. Leventhal and Nerenz’ self-regulatory model of illness behavior instructs nursing staff to help these women. The occurrence of MI was not only a serious threat to the health of women, but also some negative feelings of them. So the care of nursing staff was particularly important. Nursing staff could guide women to understand MI, by telling women and their family about causes of MI, risk
factors, treatment methods and prognosis. These could not only make women understand their health situations better, but also increase the predictability of MI. The interpretation from nursing staff would also improve women’s emotion. Knowledge about MI needed to be popularize. Providing theoretical knowledge support, avoiding unnecessary panic, and ensuring that people could cope it as soon as possible when diseases appeared. Meanwhile, the hospital should improve medical equipment so that it could give women better service (Walsh et al. 2004). It was necessary to make suggestions to the government to improve the situation what some area without corresponding medical facilities.

4.2.2 Mutual support between nurse and women when coping with MI
According to Leventhal and Nerenz' self-regulatory model, nursing staff could divert attention by encouraging women to develop new interests and hobbies, to promote change. And this review showed that lifestyle changes and social support were appropriate coping strategies for women after a MI. In order to improve their health condition, coping the effects of MI was inevitable for women and their family. Then nurses could help them to facilitate the communication between patients and their families, gave help for women to express their feelings in a timely and accurate manner (Leventhal, Meyer & Nerenz 1980). Nurses required to guide women through the process of self-adjustment to gradually give up bad habits and developed good habits, by giving education about MI, establishing the great relationships with women, and supporting women to cope with MI. Most of the support came from family and friends, so nurses should not neglect the health guidance to them, and cooperate with the carers to realize the role of support. Besides, some patients may refuse all assistance to her if they were not able to accept their illness (Kristofferzon, Löfmark, & Carlsson 2005). When women refused to accept help and did not cope with disease positively, nurses’ guidance were critical. They had the professional ability and knowledge to know bad consequences of negative coping
strategies. Therefore, nurses need to actively establish cooperative relationships with women, could guide women to cope with, and improve their health.

4.2.3 Appraising the effectiveness of coping strategies

Appraisal was critical in self-regulatory model (Leventhal, Meyer & Nerenz 1980), and continuous assessment was intended to improve the health of women after a MI better, appraise the effectiveness of coping strategies, and determine whether to continue the coping strategies or not, and that could correct some negative coping strategies as early as possible.

The main body of the self-regulatory model was the women themselves. Effective nursing guidance could enable women to develop a positive attitude towards change, to overcome difficulties, to focus on health and to bring about a change in their lives. There was undoubted that women after a MI resisted the disease with negative attitudes, and refused to help were regarded as ineffective coping strategies.

Therefore, emotional support was also an effective self-regulation strategy. Spiritual support could build women's conviction of self-confidence and played a good role in the recovery of disease. This more proactive approach was not explicitly explained by the model, involving "Behavioural strategies" or "problem-focussed coping" (Lazarus & Folkman 1984). In addition, the process of adjustment, self-thinking, seeking support as a coping strategy, and the impact of MI on others, are not fully explained by Leventhal and Nerenz' self-regulatory model (White, Hunter, & Holttum 2007).

Nevertheless, it was not difficult to see that Leventhal and Nerenz' self-regulatory model was basically consistent with women cope with MI, to promote the recovery of physical health, to meet their own comfort and improve the quality of life.

4.2.4 Discussion of the selected articles’ data analysis methods

In qualitative research, data analysis is the process of organizing and summarizing the collected data. Through this process, people can understand deeper meaning from abstract data. With the help of data analysis, various situations can be clearly presented,
and the reasons for the phenomenon can be explained. For example, qualitative data analysis methods such as the phenomenological hermeneutical approach inspired by Ricoeur’s philosophy (1976) and Burnard’s (1991) ‘stages of analysis’, using phenomenological hermeneutics to analyze women’s experience, experience always needs to be explained. And phenomenological hermeneutics can realize the purpose of researches by revealing the essence of the phenomenon which is directly seen and revealing its essential characteristics. It pushes the understanding of the human experience (Polit & Beck 2012).

In eight of the selected studies, there were two articles (Svedlund, Danielson, & Norberg 2001; Svedlund & Danielson 2004) using the phenomenological hermeneutical approach inspired by Ricoeur’s philosophy (1976) to analysis the data. This analysis method, first step is the understanding of the article data after preliminary reading, then dividing the text into several meaningful units, these meaningful units are compressed and abstracted to form sub-themes, themes and possible themes, comparing with the theory. Finally, the text data read again as a whole would understand the themes and meaning well (Lindseth & Norberg 2004). The data analysis method is not to describe or explain this phenomenon, but to understand the experience of expressing good or bad (Lindseth & Norberg 2004). The patient describes their experiences. And through the phenomenological hermeneutics, reader can understand the real needs of people. Through a comprehensive understanding of the text, the author discusses and agrees on these explanations, finally they draw a conclusion. This data analysis method gives the whole text a critical understanding and a deeper understanding.

Qualitative content analysis inspired by Graneheim and Lundman (2004) were used in two Selected studies (Kristofferzon, Löfmark, & Carlsson 2008; Kristofferzon, Löfmark, & Carlsson 2007). This method enables the article to be divided into several units, which can be connected to each unit through content and more convenient to read and understand. The qualitative content analysis method may cover the potential level and the obvious level, as well as the combination of the two (Modig et al. 2012). It's not just focus on the surface of the text, also about the obvious part, the underlying
hierarchy contains explanations, and it have deeper meanings in this interpretation (Berg 2004). In the selected research articles, the interview has been discussed and analyzed many times, and then it got a valid result. And data analysis have been done by reading articles repeatedly and correlate their results, without missing relevant themes. It is helpful for readers to extract the text information and help readers understanding better.

The studies by Worrall-Carter et al. (2012) was use Burnard’s (1991) ‘stages of analysis’ and Lincoln and Guba’s (1985) trustworthiness criteria to guide the thematic analysis of transcripts. Through coding, categorizing similar and concepts together, to build the concept (Heydari, Rahnavard, & Ghaffari 2017). At the same time, the integrity standard is used to construct meaningful data. Because the researchers involved in the study had professional nurses, it also increased the credibility of the study. Burnard’s (1991) ‘stages of analysis’ summarizes the text data in stages and makes the data better presented. At same time, it also combines Lincoln and Guba’s (1985) trustworthiness criteria, improved the effectiveness and credibility of the research greatly.

The framework method as described by Ritchie and Spencer was used in Maclnnes’ article. The first step in this analysis is to repeat the data and listen it again and again. The second stage is to identify key issues and concepts, creating a thematic framework, sorting the data, and then applying the frame system to the data, summarizing the interviewees' opinions and experiences, and then systematically reviewing them and explaining them (Donnelly et al. 2013). The method is to systematize the data and make it easier for readers to see deeper meaning.

NVivo (Version 2), line-by-line analysis was used in Higginson’s article (2008). As an application software, it has great help to researchers to conduct data integration analysis. Software is used for encoding to facilitate the determination of topics and information (Vidot 2011). This is a very useful analysis of data software. NVivo (Version 2), line-by-line analysis was used in Higginson’s article. As an application software, it has great help to researchers to conduct data integration analysis. Software is used for encoding to facilitate the determination of topics and information (Vidot 2011). This software
saves the tedious calculation, also facilitates the data processing, greatly improves the research efficiency. This is a very useful data analysis software.

4.3 Method discussion

A literature review can be used by a research report, also the form of a freestanding publication, like the present study. The literature review is the author's theme around "the experience of women after MI", collecting the relevant original documents, analyzing, screening, and classifying. A literature review can give a more comprehensive introduction to the related topics and understand the trends and trends of the related research fields. A summary of the results of many research studies has been summed up, providing a large amount of information and having a summary and representativeness (Polit & Beck 2012).

The authors in the present study have used detailed and clear inclusion and exclusion criteria, to search for articles that match the topic, which strengthens the rigorism and reproducibility of the present study (Polit & Beck 2012). In the study, the inclusion criteria have included “human” and “English”. Each coin has two sides, the inclusion criteria for selection also has strengths and weaknesses. The inclusion of standards is that human conform to the characteristics of the research object, it echoes the theme of this study that is a strength. But the articles must be written in English, which may lead to the exclusion of some of the relevant articles that were written in other languages. There may be a case of insufficient collection of information. In addition, it must be admitted that there is no special requirement for the published year of the articles, but from the selected articles, the year mainly concentrates on 2001-2010. This shows that there is a limitation in published year of articles. The research in recent 8 years is not known, as well as the research before 2001, this might be lead to missing resources as a limitation. No time limit was used for the search articles which the published years are not uniform, some were early stage and others were the present period, which is a limitation of the present literature review. As a result of the lack of effectiveness of the study, the results may be inconsistent with each other, because the relevant data or
measures might not so suitable at present. But the strength is that differences and improvements following by development can be analyzed.

To ensure the validity of the searches and the reproducibility of the study (Polit & Beck 2012), according to the research program, the authors have carried out the rigorous retrieval process step by step and record the process. The study is a descriptive design, and the aim is to describe the experience of women living with MI, and the data analysis method used in the scientific articles. Of course, the results which found by qualitative articles have correspond to the aim. Described the feelings of the patient as case investigation, is a common method of descriptive research, so it is a good choice to use descriptive research to conform to the study’s aim (Polit & Beck 2012).

Authors have searched Medline database, which can ensure the credibility of the results, that is beneficial to the present review. But authors only use one database, which is a limitation of the present literature review. This might have missed some results related to the topic. Authors in the present studie have used MeSH terms to search and used the Boolean operator “AND” and “OR” to combine different search terms. The purpose is to search articles that are consistent with the theme of the present review. The contents of the articles are related to key words, the aim and research questions, as well as could reduce the outcome of the articles, which were conducive to the credibility of the results (Polit & Beck 2012). Search terms have used synonyms, which is a good decision. Synonyms search could expand the scope of the outcome and meet the aim and research questions, it can also ensure the credibility of the present review.

The present review is finished by two authors. The two authors have completed the descriptive review step by step. During the process of the article screening, the outcome of the articles have been read by two authors simultaneously, and keep objective, have not to disturb each other. To ensure the credibility of the results and avoid leaving out some important contents (Polit & Beck 2012). Partners can help each other, and they may also argue with each other because of different opinions. In the process of obtaining results, the articles were read by both authors which could reduce the risk of omission. In discussion, disagreement can lead to more thinking, which is exactly what discussion
need.
The whole selected articles in the present literature review have informed ethics. Some were approved by the Ethics Committee, and some provided informed consent to participants, and 4 articles were both available. It not only provides informed consent by the ethics committee, but also confidentiality agreements with the participants, which is a very comprehensive manifestation of ethical considerations. The lack of different ethical requirements in some of the articles, and the author couldn’t explore it in depth, different ethical requirements especially in different countries are not clear in the present literature review, which is a limitation.
The studies used in the present review is based on some different countries, such as Sweden, the USA and the UK. There also have strengthens and limitations. The literature of different countries can reflect the current situation of female MI in different countries. It also shows that the issue of female MI is a global concern. But it is also worth noting that there is no Chinese literature, which may not be very representative of the clinical use of Chinese nurses, because there are actually differences in some aspects between the East and the West.

4.4 Clinical implications
According to the results of the present literature review, it is clear that the sensitivity of women to MI symptoms have a significant impact on whether or not to seek help in a timely manner. Not only that, the rehabilitation of MI should not be underestimated. Knowledge and information could help women become aware of their disease as soon as possible. For women who were already suffering from MI, nurses should listen to their feelings and experiences so as to find out what they need, as a nursing goal, to develop appropriate care plans that not only help to deal with women's physical symptoms. They are also comforted and supported them. Women after MI need professional support in the long run to help them recover and to change into a healthy lifestyle and to promote the quality of life. Nurses could help them develop rehabilitation programmes. Let women's relatives and friends join, striving to do a good
job of rehabilitation activities. At the same time, nurse should pay attention to these women's health guidance, encourage them to be more sensitive to the symptoms of their body, seek help quickly, seize the prime time to treatment.

4.5 Suggestions for future research

After working through the material for the present literature review, the authors were studied to provide better nursing care through review women's feelings after a MI, there were some Swedish research that studied women’s experiences. However, the specific nursing measures are still worth studying. Nursing measures include physical nursing, the targeted nursing measures are worth studying, and the individualized nursing measures should be formulated according to the different feelings of the women to meet women's multifaceted needs. The study of women's experiences from different cultural perspectives is also of great significant. The differences between different races and cultures are worth exploring. In addition, nursing measures also includes health guidance for women and their families, in-depth research on methods of guidance, research into pedagogical ways to help with rehabilitation and prevention. There has great significance to women who lack of knowledge, and reduce some panic. Therefore, more in-depth research to prove and use in future clinical practice will be meaningful.

5. Conclusion

The purpose of understanding women’s experiences after a MI is as a nurse provide women with high quality care, reduce their negative emotions, and popularize health education about the prevention and treatment of MI, which would help them to recover and prevent recurrence, also help them to cultivate healthy lifestyle.
References


to describe the experience of women living with myocardial infarction

### Appendix 1

Table 2 Results of ethical considerations of articles

<table>
<thead>
<tr>
<th>Authors + year/country of publication</th>
<th>Title</th>
<th>Ethics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svedlund, M., Danielson, E., Norberg, A. Year: 2001 Country: Sweden</td>
<td>Women’s narratives during the acute phase of their myocardial infarction</td>
<td>The study was approved by the Ethics Committee of the Medical Faculty, Umeå University (§ 96-023). The ten women invited to take part in the study gave their informed consent. The participants were guaranteed strict confidence and anonymity.</td>
</tr>
<tr>
<td>Svedlund, M., Danielson, E. Year: 2004 Country: Sweden</td>
<td>Myocardial infarction: narrations by afflicted women and their partners of lived experiences in daily life following an acute myocardial infarction</td>
<td>The Ethics Committee of the Medical Faculty, Umeå University (§ 96-023), approved the study. The selected women and their partners gave their informed consent, and were guaranteed confidentiality and anonymity.</td>
</tr>
<tr>
<td>Worrall-Carter, L., Jones, T., Driscoll, A. Year: 2005 Country: USA</td>
<td>The experiences and adjustments of women following their first acute myocardial infarction</td>
<td>Ethics approval was granted by the University Human Research Ethics Committee and the Hospital Ethics Committee where the research was conducted.</td>
</tr>
<tr>
<td>Macinnes, J. D. Year: 2006 Country: UK</td>
<td>The illness perceptions of women following symptoms of acute myocardial infarction: A self-regulatory approach</td>
<td>Consent forms and information sheets detailing the purpose and procedure of the study were sent to the participants prior to the interview. Following the interview, participants were given the contact details of the cardiac rehabilitation team counsellor should they wish to discuss any concerns arising from the interview.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Ethics Committee and Consent Information</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Higginson, R.</td>
<td>Women’s help-seeking behaviour at the onset of myocardial infarction</td>
<td>The Local Research Ethics Committee. Study participants who volunteered gave informed, written consent and were also advised that they could withdraw from the study at any time.</td>
</tr>
<tr>
<td>Mendes, B., Roux, G., Ridosh, M.</td>
<td>Phenomenon of Inner Strength in Women Post–Myocardial Infarction</td>
<td>Prior to data collection, each participant provided informed consent and a separate consent for audiotaping her voice. All interviews were audiotaped and transcribed verbatim by a transcriptionist who had signed a confidentiality agreement.</td>
</tr>
<tr>
<td>Kristofferzon, M. L., Rurik Löfmark, M. D., Carlsson, M</td>
<td>Managing consequences and finding hope – experiences of Swedish women and men 4–6 months after myocardial infarction</td>
<td>The regional Research Ethics Committee of Uppsala University approved the study (Dnr 99085-40). The investigation conformed to the principles outlined in the Declaration of Helsinki (25).</td>
</tr>
<tr>
<td>Kristofferzon, M. L., Rurik Löfmark, M. D., Carlsson, M</td>
<td>Striving for balance in daily life: experiences of Swedish women and men shortly after a myocardial infarction</td>
<td>The informants received an introductory letter, containing information about the procedure and purpose of the study, assurance that their narratives were to be treated confidentially and that they could withdraw from the study at any point without any explanations or consequences. In addition, a written consent was obtained from all participants. The regional Research Ethics Committee of Uppsala University approved the study (Dnr 99085-40).</td>
</tr>
</tbody>
</table>
### Table 3: Overview of Selected Articles

<table>
<thead>
<tr>
<th>Authors + year/country of publication</th>
<th>Title</th>
<th>Design and approach</th>
<th>Aim</th>
<th>Sample</th>
<th>Data collection method</th>
<th>Method of data analysis</th>
<th>Results</th>
<th>Study code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Svedlund M, Danielson E, Norberg A.</td>
<td>Women’s narratives during the acute phase of their myocardial infarction</td>
<td>descriptive research; qualitative approach</td>
<td>To illuminate the meaning of lived experiences during the acute phase of an acute myocardial infarction (AMI).</td>
<td>Number: 10</td>
<td>Personal narrative interviews</td>
<td>A phenomenological hermeneutical approach inspired by Ricoeur’s philosophy (1976)</td>
<td>1. oneself as vulnerable with the subthemes: the feeling of being dependent upon others, the feeling of being insulted and the feeling of being a troublesome person. 2. oneself as distanced, with the subthemes: not facing the reality, captive in an unreal situation, and inhibition out of concern for others. 3. oneself as making sense with the subthemes: acquirement of some insight and discovery of a new meaning with life.</td>
<td>A</td>
</tr>
<tr>
<td>Svedlund M, Danielson E.</td>
<td>Myocardial infarction:</td>
<td>descriptive research;</td>
<td>The aim was to illuminate</td>
<td>Number: 9 women</td>
<td>Personal narrative</td>
<td>A phenomenological approach inspired by Ricoeur’s philosophy (1976)</td>
<td>1. The first theme was ‘living in a changed life situation’</td>
<td>B</td>
</tr>
<tr>
<td>Year: 2004</td>
<td>Narrations by afflicted women and their partners of lived experiences in daily life following an acute myocardial infarction</td>
<td>The meaning of lived experiences in daily life after an acute myocardial infarction, as narrated by afflicted women and their partners.</td>
<td>Interviews with their partners narrated their experiences 3 and 12 months after an infarction.</td>
<td>Qualitative approach using hermeneutic method inspired by Ricoeur’s (1976) philosophy.</td>
<td>The sub-themes: ‘showing consideration’, ‘taking responsibility’, ‘living side by side’ and ‘desiring what to do’.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year: 2005</td>
<td>The experiences and adjustments of women following their first acute myocardial infarction</td>
<td>The aims of this study were to explore the experiences of women following their first acute myocardial infarction, and to identify the necessary adjustments.</td>
<td>Interviews with a purposive sample of 6 women were accessed through the hospital cardiac rehabilitation program of a metropolitan public hospital in Melbourne, Australia.</td>
<td>Personal narrative interviews lasting between 25-80 minutes.</td>
<td>Two major themes were identified: 1. ‘the initial experience/event’ which identifies events and emotions leading up to, and during, the hospital admission; 2. ‘support: for who and how’ exploring the importance of support throughout the recovery process.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Author</td>
<td>Title</td>
<td>Method</td>
<td>Number</td>
<td>Age Range</td>
<td>Duration</td>
<td>Framework</td>
<td>Results</td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>--------</td>
<td>-----------</td>
<td>----------</td>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Macinnes, J. D. 2006</td>
<td>The illness perceptions of women following symptoms of acute myocardial infarction: A self-regulatory approach</td>
<td>Exploratory qualitative research; To explore the illness perceptions of a sample of women following acute MI using the self-regulatory model of illness behaviour as the theoretical framework.</td>
<td>10</td>
<td>30-59, 60-79, 80+</td>
<td>1 h (mean 69 min, range 47-49 min)</td>
<td>Framework as described by Ritchie and Spencer.</td>
<td>The results consist of three aspects: 1. Interpretation of symptoms and illness perceptions: Symptom experience and severity, Lack of perceived susceptibility to MI, Past experience of illness, Comparison with the experience of others, Perceived cause. 2. Coping responses. 3. Appraisal— the influence of family and friends.</td>
<td></td>
</tr>
<tr>
<td>Higginson, R. 2008</td>
<td>Women’s help-seeking exploratory research; to explore the female experience of acute illness</td>
<td>Exploratory qualitative research; To explore the illness perceptions of a sample of women following acute MI using the self-regulatory model of illness behaviour as the theoretical framework.</td>
<td>25</td>
<td>39-75</td>
<td></td>
<td>Framework as described by Ritchie and Spencer.</td>
<td>‘Delay in seeking help’ was related to and incorporated...</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>-------------------------</td>
<td>-----------</td>
<td>-----------------</td>
<td>-----------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mendes B, Roux G, Ridosh M. Year: 2010 Country: USA</td>
<td>Phenomenon of Inner Strength in Women Post–Myocardial Infarction</td>
<td>exploratory research; grounded theory research approach</td>
<td>to explore the strategies utilized by women to develop strengths for health promotion and recovery after seeking care for symptoms of MI.</td>
<td>Number: 12 Age: 41-81 years old</td>
<td>Interviews and field notes Lasted from 45 minutes to 2 hours</td>
<td>The component s of Lincoln and Guba’s trustworthi ness criteria Two main aspects were included: 1. the basic psychosocial problem: changing patterns of fear 2. the basic psychosocial process to resolve the conflict: living a new normal. Occurred in 5 stages: uncertainty in seeking help, rapid changing, evolving patterns, reminiscing the past, and spiritual solace.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kristofferzon, M. L., Ruurik, M. Löfmark, M.</td>
<td>Managing consequences and finding hope – descriptive research; qualitative approach</td>
<td>The aim of the study was to describe the Number: 39 Women:20 Men:20</td>
<td>a semi-structured interview method</td>
<td>Qualitative content analysis inspired by Two themes, ‘Managing G consequences of MI’ and ‘Finding a meaning in what had happened’, were</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kristofferzon, M. L., Rurik Löfmark, M. D., Carlsson, M.</td>
<td>Experiences of present everyday life of women and men 4–6 months after myocardial infarction</td>
<td>Age: 47–88 (mean = 65 years)</td>
<td>A semi-structured interview method lasted from 30 to 90 minutes</td>
<td>Three themes were generated from the analysis: ‘Threatening ordinary life’, ‘Struggling for control’ and ‘The ambiguous network’. 1. The informants manage the problems by negotiating with themselves 2. The network was generally supportive but rather often the informants also experienced communication problems when they interacted with their network</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **D., Carlsson, M.** | **Experiences of Swedish women and men 4–6 months after myocardial infarction** | **Age:** Men: 48–90 (mean = 66 years) | **Graneheim and Lundman (2004)** | **Number:** 39 Women: 20 Men: 19 **Qualitative content analysis inspired by Graneheim and Lundman (2004)** |

**Year:** 2007 **Country:** Sweden

Striving for balance in daily life: Qualitative approach

The aim is to describe experiences of daily life of women and men shortly after a myocardial infarction. Number: 39 Women: 20 Men: 19

A semi-structured interview method lasted from 30 to 90 minutes

Qualitative content analysis inspired by Graneheim and Lundman (2004)

Three themes were generated from the analysis: ‘Threatening ordinary life’, ‘Struggling for control’ and ‘The ambiguous network’.

1. The informants manage the problems by negotiating with themselves
2. The network was generally supportive but rather often the informants also experienced communication problems when they interacted with their network.
Appendix 3
Table 4 Synthesized findings, categories and findings from the included studies (Joanna Briggs Institute, 2014)

<table>
<thead>
<tr>
<th>Synthesized findings</th>
<th>Categories</th>
<th>Study findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical and psychological feelings</td>
<td>Physical experiences</td>
<td>Warning signs (C1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Symptoms (C2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Symptom experience and severity (D1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Past experience of illness (D3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not recognizing symptoms (E2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Restrictions (H4)</td>
</tr>
<tr>
<td>lack of knowledge</td>
<td></td>
<td>Lack of perceived susceptibility (D2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engendered perception of heart disease (E3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The basic psychosocial problem: changing patterns of fear (F1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uncertainty in seeking help (F2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rapid changing (F3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uncertainty (H2)</td>
</tr>
<tr>
<td>Escape and confusion</td>
<td></td>
<td>The feeling of being dependent upon others (A1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Captive in an unreal situation (A5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not facing the reality (A4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeling uncertain (B5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeling powerless (B6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss (C3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emotional reactions (G3)</td>
</tr>
<tr>
<td>Become trouble</td>
<td></td>
<td>The feeling of being insulted (A2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The feeling of being a troublesome person (A3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Showing consideration (B1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeling limited (B7)</td>
</tr>
<tr>
<td>Changes</td>
<td>Proactive change</td>
<td>Inhibition out of concern for others (A6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discovery of a new meaning with life (A8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Living side by side (B3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Desiring what to do (B4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feeling hope (B8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reminiscing the past (F5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive consequences of MI (G6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Life values (G7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hopes (G8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changing attitudes and behavior (H7)</td>
</tr>
<tr>
<td></td>
<td>Difficult to change</td>
<td>Lifestyle modifications (G2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limited Work and social activities (G4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changes in body and mind (H1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lifestyle changes (H3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communication problems (H12)</td>
</tr>
<tr>
<td>Coping strategies</td>
<td>Relieving symptoms</td>
<td>Perceived cause (D5)</td>
</tr>
<tr>
<td>Doing some adjustments</td>
<td>Support</td>
<td>Negative coping strategies</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Coping responses (D6)</td>
<td>Psychological (C5)</td>
<td>Comparison with the experience of others (D4)</td>
</tr>
<tr>
<td>Health problems (G1)</td>
<td>The carer (C6)</td>
<td>Maintaining control through self-medication (E1)</td>
</tr>
<tr>
<td>Appraisal--the influence of family and friends (D7)</td>
<td>Emotional support (H9)</td>
<td></td>
</tr>
<tr>
<td>Acquirement of some insight (A7)</td>
<td>Taking responsibility (B2)</td>
<td></td>
</tr>
<tr>
<td>Evolving patterns (F4)</td>
<td>Physical (C4)</td>
<td></td>
</tr>
<tr>
<td>Spiritual solace (F6)</td>
<td>Professional and lay network (G5)</td>
<td></td>
</tr>
<tr>
<td>Negotiating with oneself(H5)</td>
<td>Relying on one’s own capabilities (H6)</td>
<td></td>
</tr>
<tr>
<td>Making one’s own decisions and acting for oneself (H8)</td>
<td>Specific knowledge (H10)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professional and lay network (G5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relying on one’s own capabilities (H6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specific knowledge (H10)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Practical assistance (H11)</td>
<td></td>
</tr>
</tbody>
</table>