Bachelor nurses’ experiences of working during a natural disaster
The earthquake in Yogyakarta, Indonesia, May 27th 2006

JOHAN NORMAN
JOHAN SJÖNELL
Summary

This is a Minor Field Study (MFS) which is a scholarship financed by the Swedish International Development Cooperation Agency (Sida). The study was held in 2007 in Yogyakarta, Indonesia and is based upon retrospective qualitative interviews with five Bachelor nurses who experienced the disaster work during the earthquake 27th of May, 2006. The aim of the study is to explore the experiences, feelings and thoughts of Bachelor nurses who were involved in this natural disaster. The interview, transcription and analysis work were made one year after the earthquake were a qualitative content analysis method was used. Two group interviews were held at the University of Gadjah Mada. The result is based upon the respondents’ stories from these group interviews. In the result are the respondents’ experience, feelings and thoughts presented in themes which are put in three phases: before, during and after the earthquake. Previous studies are based on western disaster work and they are of a quantitative aspect. Finding qualitative studies from a helper’s view and especially from developing countries are difficult. This Minor Field Study increases the understanding for helpers’ feelings and thoughts during a natural disaster. It can easily be used by rescue personnel and hospital staff as a preparing literature of what they might experience before, during and after the work of a natural disaster.

Keyword: Disaster, earthquake, experience, interview, qualitative, rescue personnel, hospital staff, helpers, developing countries.
# TABLE OF CONTENTS

**BACKGROUND**

- Introduction ................................................. 4

**Facts about Indonesia**

- Geography .................................................. 4
- Religion ..................................................... 4
- Language .................................................... 4

**Natural disasters**

- The ring of fire ........................................... 5
- Earthquakes ............................................... 5

**Description of the area hospital and Ismangoen**

**FORMULATION OF THE ISSUE** ........................................ 7

**AIM** .......................................................... 7

**METHOD** .................................................... 7

- Search information ....................................... 8
- Participants ............................................... 8
- Ethical considerations ................................... 8
- The interviews ........................................... 9
- The transcription ......................................... 9
- The analyse work ......................................... 10

**RESULT** ..................................................... 11

**Before the disaster work**

- Not being prepared ...................................... 11

**During the disaster work**

- When the resources are not enough .................... 12
- Ingenuity .................................................... 13
- Triage for thousands ..................................... 13
- Empathy for the victims ................................ 14
- Emotions when children are victims .................. 15
- The importance of knowing that your family is safe 16
- Fear for a new earthquake while working ............ 16

**After the disaster work**

- Emotional reminders ..................................... 17
- External stimuli make them remember ............... 17
- Changes in their daily life .............................. 18
- The respondents’ critics and suggestions for improvement till the next time 18
- Positive emotions and nursing skills ................. 19

**DISCUSSION** .................................................. 19

- Discussion of the method ................................ 19
- Discussion of the result .................................. 20

**ACKNOWLEDGEMENT** ........................................... 23
BACKGROUND

Introduction

This is a Minor Field Study (MFS) which is a scholarship financed by the Swedish International Development Cooperation Agency (Sida).

“For many years Sida has been giving scholarships to Swedish university students. The aim of this scholarship is to raise the level of knowledge and the interest of Swedish students in international development. And to give them the opportunity to learn about other countries, thus promoting international understanding and cooperation” (Personal letter, Ågren, 2007)

A study visit abroad of approximately two months is intended to be covered from the scholarship given by Sida and would result in a Bachelor’s or a Master’s thesis. The cooperation will hopefully be of benefit to both countries.

Facts about Indonesia

Geography

Indonesia is a republic in Southeast Asia, south of the equator, which became independent in 1945 after being a Dutch colony. The country consists of no less than 13000 islands and the biggest are Sumatra, Java, Sulawesi, Borneo and New Guinea. The two previously mentioned islands are only to the half Indonesian. The other half is Malaysia and Papua New Guinea. With a population of 230 million people, Indonesia is the fourth largest country in the world considering population. Two thirds of the population live on Java, which is the biggest island (wikipedia, 2007).

Religion

During history there have been several different faiths in the country that have influenced the religion of today. There are still many religions in Indonesia as Hinduism, Buddhism, Islam, Christian and Confucianism. Freedom of faith is accepted as long as it is one of the religions mentioned. The statute says that every Indonesian has to believe in a God, which makes Atheism prohibited (landguiden, 2007).

About 86 to 90 percent of the whole population are Muslims, which makes Indonesia the largest Muslim country in the world. The Christian minority is approximately ten percent (wikipedia, 2007, landguiden, 2007).

Language

There are hundreds of different languages in Indonesia. The majority of the citizens speak their own local language but in school the education language is Bahasa Indonesia, which makes Bahasa Indonesia the second language for most Indonesian
people. The biggest native language in the country is Javanese which approximately 70 million people speak. The most citizens at least speak two languages and Bahasa Indonesia works as the communication link between people with different native languages (landguiden, 2007, wikipedia, 2007).

Indonesia suffered like several other Asian countries 1997 of an economic collapse. The bad economic situation did not seem to affect the public health, but the crisis did slow down the development in health and medical services (plansverige, 2007).

Natural disasters

The ring of fire

Indonesia has experienced several natural disasters and is therefore often called “the ring of fire”. The meaning of this phrase is the geological location that makes the country exposed to natural disasters like earthquakes, volcanic eruptions, tsunamis, floods and droughts. This exposure to disasters makes Indonesia vulnerable (Personal communication Alim, Widyawati, March 2007). Factors which play an important role and increase the damage and injuries are the dense population, the lack of warning systems and routines for earthquakes and the poor standard of buildings (plansverige, 2007).

Earthquakes

In the north-western part of Sumatra there was an earthquake which marked 8,9 on the Richter scale, which resulted in the tsunami on the 26th of December 2004. An earthquake that occurred on the 27th of May 2006 in the Bantul area, which is a part of Yogyakarta, measured 6,3 on the Richter scale; with two post-quakes on 4,8 and 4,6. This is the earthquake that our Minor Field Study and Bachelors thesis is based upon. Approximately 7000 person were killed, 45000 wounded and 1,8 million were homeless. Not to mention the several complications that affected the many survivors like acute infections in respiratory passages and diarrhoea due to lack of fresh water. This was a major disaster for the citizens of Indonesia. In August 2006, 231 000 people still did not have roofs over their heads (plansverige, 2007).

There are several explanations to why there were so many injured and killed during this earthquake. It happened early in the morning and it was a holiday in Indonesia which means most people were inside their homes. But the main cause was the fact that the Indonesians have build their houses from bricks, which is not as flexible as wood (lecture 30 March, Alim, 2007).

When travelling through Yogyakarta and the different areas affected by the earthquake ten months later, it was hard to understand that an earthquake of this force so recently had affected the area. After the disaster houses that were completely destroyed or were uninhabitable because of all the cracks in them thus make them highly dangerous to enter, had been rebuilt. The few traces still to be seen were cracks in some buildings and
walls, and old construction materials from the destroyed houses lying in piles on the ground.

**Description of the area hospital and Ismangoen**

The Sardjito’s hospital is the largest hospital in Yogyakarta and is situated just 100 metres from the Gadjah Mada University (UGM). During the first time after the disaster the pressure on Sardjito’s hospital from all the injured and sick was very high. The hospital was more than overcrowded. For example there were patients lying in all corridors, treatment rooms and also outside the hospital. Many of them wanted to stay in the open out because they feared for another earthquake. One of the responsible persons for the coordination for disaster and acute medicine in Yogyakarta and also a teacher for these subjects at the UGM, quickly realized that the Sardjito’s hospital would not have enough space for all the victims. Therefore he decided to borrow tents from the Military. These tents could unfortunately only be used for a short period because a heavy rain came and water poured in (lecture 30 March, Alim, 2007).

The UGM were asked by the Sardjito’s hospital to work as temporarily mini hospital. At the university there is, apart from other faculties, the faculty of Medicine, which holds the Bachelor’s nursing programme. In this faculty’s buildings there are nursing practicing rooms that together with the schoolyard and corridors worked as a temporarily hospital during the disaster time. This is called the Ismangoen (lecture 30 March, Alim, 2007).

**Great stress for the rescue personnel and the hospital staff**

Especially during a multi-injury situation, when an event far beyond the normal or expected occurs, the hospital staff and the rescue personnel will suffer from extreme psychological stress. Lundin (1992) mentions a series of ten events that can lead to great stress beyond the normal. These are mentioned below. Six of them are marked with bold text because our respondents expressed these stress events during the interviews:

- Multi-injury situations
- Children that dies because of adults’ neglect, time pressure and lack of human resources
- Family members among the victims
- A series of accidents with losses
- Severe injury or death caused by hospital staff or rescue personnel
- Events with strong emotional contents
- Suicide
- Severe physical threat
- Events with intense supervision from the media
- Protracted event with losses
We found that all our respondents had experienced at least one of the bold-marked psychological stress events and this will be further described in the result.

**FORMULATION OF THE ISSUE**

Previous studies are based on western disaster work and they are of a quantitative aspect. Finding qualitative studies and especially from developing countries is difficult. Also the available literature is focused on the post-reactions of the helpers (Dyregrov, 2002). Indonesian studies mostly describe the patients’ experiences and writing from a health care providers’ perspective is unusual (personal communication, Widyawati, March 2007). There is a lack of studies concerning the helpers’ view in disaster work with focus on a qualitative aspect in developing countries. More knowledge is needed in this subject to be able to illustrate the experiences among helpers’ emotions during disaster work.

**AIM**

The aim of this study is to explore the experiences, feelings and thoughts of Bachelor nurses involved as helpers in the earthquake in Yogyakarta, Indonesia May 27th 2006.

**METHOD**

The framework for our analysis is based on the interviews with the respondents’ stories, where we have used a qualitative content analysis method.

The literature about natural disasters and disasters caused by humans are rarely based on helpers’ view of feelings and experiences but rather come from the victims’ point of view. This has made it difficult to find relevant articles about this subject (Dyregrov, 2002).

A pilot interview was held a month before the interviews. The pilot interview lasted for one hour with a Bachelor nursing student, who had been working during the earthquake in Yogyakarta. Doing this we got practice in the interview process, from the way of proceeding an interview to the following transcription and finally the analysis work. The pilot interview gave us the opportunity to change the preliminary questions to reduce misunderstandings.

The interviews were done in groups of three respondents in the first interview and with two respondents in the second one. In both interviews an interpreter was used. Our reason for choosing group interviews is, according to our coordinator in field (personal communication, Widyawati, April 2007), that Indonesian people normally do not speak
about feelings and especially not in front of a stranger and a foreigner. Interviewing in group would make it easier for them to express themselves. For example Thomsson (2002) writes that participants have difficulties to express themselves when they do not know the interviewer and have different ethnical backgrounds. The reason for using an interpreter was the nursing students’ difficulties of speaking English and our lack of knowledge in Indonesian languages. By speaking their own language Bahasa Indonesia, the respondents could express themselves more freely.

**Search information**

To find literature that was up to date, we searched articles and studies in Cinahl, Academic Search Elite, MedLine. The Key words we used were natural disaster, earthquake, helpers, developing countries, experience. The result of the search gave little studies from these key words and thereby modest literature useable to our thesis.

**Participants**

Eighty Bachelor nurses in one class were asked to participate in the study and all eighty were interested. The inclusion criteria was that they had felt the earthquake, they should be Bachelor nurses who did their major state for three months to become Registered nurses at the UGM in Yogyakarta, Indonesia, and that they had started working voluntarily as a nurse at the Sardjito’s hospital or at the Ismangoen, only hours after the earthquake.

Of the eighty asked, six respondents were randomly chosen. Unfortunately one of the respondents could not participate because his child got sick. Of the remaining five respondents one was a man. The framework of this study was limited in time therefore were these six respondents chosen. Their nursing backgrounds varied a lot both in years of experience, which differed from one to twenty-four years, and in the nursing profession, such as emergency care, intensive care, midwife, psychiatric, medical, surgical and orthopaedic nursing.

**Ethical considerations**

Before each interview the respondents were told about the purpose of the study and that it was voluntarily, so if they did not want to answer a question or if they changed there mind and did not want to continue the interview, we would not question their decision. The respondents were informed about the professional secrecy and that no person not directly involved in the study would know which person who said what. We also told them that we were going to use a tape-recorder, which nobody protested against. When we write about the respondent in the following text we have decided to name them all randomly after numbers. We have decided to do this to increase the anonymity for the respondents because there was only one man among them. Kvale (1997) has in one of his own studies chosen to remove data that could have revealed any of the respondents. By doing this he did not jeopardize their personal integrity.
The interviews

It is important to show empathy for the respondent by trying to understand the person’s situation. To get as fruitful data as possible from the respondents, it is necessary to try to build a relation to each other (Trost, 2005) and to inform them about the fact that they are the ones with the knowledge, not we. Our intention is to learn about their experiences and emotions. Kvale (1997) points out that the respondents should know the background to why the interview is held and what the purpose of the study is. He mentions further on that the first minutes are crucial to how qualitative the result of the interview will be. Before each interview we gave a short presentation of ourselves and informed the respondents about the purpose of the interviews. We then asked the respondents to tell us about their nursing skills, where they had worked and for how long and where they came from. By doing this we hopefully created a relation that made it possible for the respondents to feel safe and be able to speak freely.

The room where the interview took place should be chosen to get a calm and safe area to create the best possible relation between interviewer ↔ respondent. As foreigners we have different cultures and traditions that made it possible for us to ask “stupid” questions, which also could result in good laughs and a relaxing atmosphere of the interview (Trost, 2005).

We started the interviews with an open question which was: Could You please tell us about your experience, feelings and thoughts about the disaster work, during the whole scenario from when you felt the earthquake until today. To be able to get more information from the respondents we gave questions during the interviews such as: explain further about the subject, or could you tell us how you felt at that time.

After the interviews we asked the respondents if they had anything else to add, something that they had forgot to tell or if they had any questions. Kvale (1997) is of the opinion that interviews should end with final questions like these, to increase the knowledge of the data and to give the respondents the opportunity to ask questions to the interviewers.

The room that was used for the interviews was a reception or a meeting room and it had a quiet atmosphere. The interviews were held in their university and in their language and they varied between 60 and 75 minutes, depending on when the respondents had finished answering the questions and had nothing more to add and when we were satisfied.

The transcription

The place for the interviews was of a reception room type where it was quiet compared to other rooms at the UGM. During the interviews we made notes in the order the respondents answered and we tried to see if the respondents for example gave a nod of assent, when another respondent spoke.
Directly after the interviews we sat down with the interpreter and clarified the respondents’ statements, for example adding the knowledge about the distance between a respondent’s village and Yogyakarta. Then we discussed the quality and the meaning of the respondents’ stories, which worked as feedback for our understandings. This is something that Kvale (1997) recommends after an interview.

The same day and during the following days, we listened through the interviews several times and transcribed them on our laptop, word by word with pauses, sobbing and crying. This was very time-consuming. After that we discussed what had been written to get a deeper understanding. By transcribing the interviews so shortly after they had been done, we retained much of the unspoken words showed by the respondents. During the interviews we had made notes of the respondents’ body language, such as laughter and crying, which gave a better understanding when we transcribed the respondents stories.

The analyse work

Trost (2005) means that the data analysis is a procedure that happens subconsciously at all times, for example when you are cycling or when you are training. Especially in the cases when the same person is responsible for the whole procedure from interviews to transcription and finally the analysing process. During our time of analysing we have found that the evenings, when we had finished the work and tried to relax from the writing, was the time when most of the respondents’ statements become clear to us. We discussed the issue back and forth and wrote down the notes on a piece of paper. These notes were used the following day in the data analysis.

To find themes we have listened through the interviews together, and also on our own, and made notes about the things we found important. Then we printed out the interviews in one copy each, read through and marked statements that had been particularly interesting where feelings and thoughts had been described. We then compared our marked statements and notes from the recordings and discussed them back and forth to agree in which statements feelings and thoughts were best described. Later on we wrote down the statements on post-its, which we put on a wall. Together we observed them and tried to place the different respondents’ statements within joint themes. When we finally had agreed we had our themes.
RESULT

On the following pages the analysed data from the interviews is described with themes in three phases; before, during and after the disaster work.

<table>
<thead>
<tr>
<th>Before</th>
<th>Not being prepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>During</td>
<td>When the resources are not enough, Ingenuity, Triage for thousands, Empathy for the victims, Emotions when children are victims, The importance of knowing that your family is safe, Fear for a new earthquake while working</td>
</tr>
<tr>
<td>After</td>
<td>Emotional reminders, External stimuli make them remember, Changes in their daily life, The respondents’ critics and suggestions for improvement till the next time, Positive emotions and nursing skills</td>
</tr>
</tbody>
</table>

Before the disaster work

Not being prepared

The hospitals in Yogyakarta and in the nearby areas were all waiting for Merapi (the world’s most active volcano) to erupt and they were expecting a small number of deaths and patients with burn injuries (Alim, 2007). The hospital staff and the rescue personnel were in a state of alert but not for injuries such as fractures, spinal trauma and cut wounds, and especially not for thousands of wounded.

Many thousands victims lay down in the corridors of the hospital because the hospital doesn’t have enough of bed to all of the victims. (Respondent 1)

When it became clear that the earthquake had caused so many casualties and injured, the respondents, other Bachelor nurses and the employers of hospital and rescue personnel were asked to come and assist voluntarily. Lundin (1992) describes that hospital staff and rescue personnel are often totally unprepared in what conditions they possibly will be exposed to in a natural disaster. When the respondents came to the Sardjito’s hospital and the Ismangoen they were met by unreal impressions:

..never imagined an earthquake could cause so many victims. (Respondent 2)
I went to hospital and there where so many victims. So I felt very shocked of it. (Respondent 3)

Lundin (1992) describes this, as the helpers in other words do not have time to mobilise their psychological defence strategies in a correct way, which can lead to the feelings of being “naked” and being powerless against their emotions. This can lead to inefficiency and to not making the correct decisions. Factors that also can contribute to the stress on hospital staff and rescue personnel can be the size of the accident, especially if there are many children among the wounded or dead. The hospital staff and the rescue personnel are indirectly affected by disasters through their work and because they are exposed to
many wounded and dead people. In some cases they are directly affected, which means that they are both victims and survivors of the disaster or that their own family is among the victims.

It was a great chock for the respondents to see many thousands of victims lying injured everywhere but even that the respondents did not have that much experience of disaster work and nursing skills in these situations they tried and started treating the victims.

**During the disaster work**

**When the resources are not enough**

All of the respondents talked about the very strong feelings that arose when they came to the hospital and saw so many victims in very bad conditions. The strong scenes of seeing patients lying around in the corridors crying for help and that there were not enough human resources to help all of them, were circumstances that caused a lot of empathy and powerlessness to the rescue personal and hospital staff. One respondent has described it like this:

*I felt very very sad and shocked about the victims, that the victims were crying for help and that I couldn’t treat all of the victims very well, because of my limitation.* (Respondent 4)

If there are not enough of material resources or that the helpers feel insufficiency in their knowledge, that they can’t do more for the victims, feelings of helplessness can rise in them (Dyregrov, 2002). An emergency situation can lead to unrealistic expectations and a constant demand for a high performance among the helpers. Together with the lack of resources (not uncommon the first time after the disaster) and the risk to the emergency workers it makes the situation even harder to cope with (Kowalski & Vaught, 2001). The feelings and scenarios that the above-mentioned authors describe are the experiences that the respondents most often have expressed in their stories.

*And the children had abdominal trauma and also concussions. And they should have had surgery, emergency surgery on that day and so many children died that day because of the conditions.* (Respondent 5)

*It was very critical time for the victims to be treated. We only have a golden period in the emergency situations. So if we don’t have good human resources the victims will be dying.* (Respondent 2)

There were respondents that commented the time pressure in the hospital and how they had to act quickly to save lives. But there were also feelings that they were too few in the hospital staff to be able to save all the patients.
Ingenuity

When there was lack of material resources for all the patients the respondents came up with own ideas how to make temporary solutions of the given resources. One respondent said that there were no plaster casts available to help people with fractures on the extremities, so she modified pieces from a cardboard box to stabilize the limb. Even if it was not enough she thought that it was better than nothing.

*On that day I convinced myself that what I did was for the patients...although with some limitations...* (Respondent 1)

A constantly recurrent theme in the respondents’ stories is that they convinced themselves that their nursing profession was the basis helping the patients in the best possible way. Dyregrov (2002) explains a description that fits for the respondents’ experiences. He says that through finding a meaning with the help work, the rescue personnel and the hospital staff can continue their work with the awareness that what they are doing is for the patients’ best.

Triage for thousands

In the emergency unit the hospital staff tried to divide the different grades of injuries of the wounded. Different zones were organized in the normal triage colours; red, yellow and green, but it was not possible to take appropriate care of the patients that day, because of the lack of human resources and due to the many thousands of victims all of whom wanted help first.

*...on the first day at Sardjito’s there was a chaos to manage the patients.* (Respondent 4)

All respondents have emphasized the lack of skills in triage and especially with so many victims that they did not know whom to help first. They have also mentioned insufficient knowledge in basic life support skills. The respondents were not prepared for these conditions:

*So many patients were crying for help, but I didn’t know the priorities to handle the condition.* (Respondent 1)

When the first day passed into night many of the patients had left the hospital due to the fact that many of them had minor injuries, which did not need immediate hospital treatment and that many were tired and went home. After one day the triage slowly started run more smoothly. The victims classified in the red zone were treated at the Sardjito’s hospital and the victims in the yellow and the green zone were treated at the Ismangoen. The Ismangoen did also function as a ward unit but there were not enough beds here either, so the victims lay in the corridors and outside on the schoolyard.
Empathy for the victims

Good caring starts with a genuine interest to ease the sufferings for the patient and guard about this person’s dignity (Dahlberg, Segesten, Nyström, Suserud & Fagerberg 2003).

Health and suffering can easily be seen as two extremes of a persons’ mood and feelings, but it is possible to feel health and well-being even in cases of severe suffering. To be able to feel health demands that the suffering is possible to bear for the patient. It is at this point the role of the caregivers is of vital importance, to feel for the patient and make it clear for him that I as a nurse am going to do my utmost to help you and relieve your suffering (Wiklund, 2003).

I convinced myself that it was good for the patient. (Respondent 1)

Through the interviews the respondents repeated the fact that they felt great empathy for the patients. All of them have also explained the emotionally hard experience of seeing the victims in the bad conditions and knowing that they cannot do their best for the patients due to the great overwhelming of victims and the lack of medicine, instruments and other hospital material.

I felt very sad for the victims. (Respondent 5)
On that day I couldn’t resist my emotions because I was so affected by the victims. It was very very sad. (Respondent 2)

There was an enormous pressure for the respondents on the first days. The working hours were extremely long and hard because there were so many more patients that needed help. Knowing that there were so many injured and so few people on the hospital staff and the rescue personnel, made them put their own health aside in favour of the needs of the patients.

Wiklund (2003) describes this as caring for another fellow-being is to show consideration and sacrifice for that person’s sake, which means to put your own comfort aside and put the patients’ best in front of your own needs.

I felt very very sad but I could control the emotions because the victims needed help, so I had to do the work for the victims. After that I got chest pain. (Respondent 3)

Apart from the many sad feelings two respondents expressed that they were thankful to be able to practise the nursing profession and help the victims. The respondents found that their knowledge increased whilst they were working:

I felt very fortunate that I have skills to use the small things to do to help the victims. (Respondent 3)

This is something that Dyregrov (2002) has found and he describes that the helpers can find a purpose in their work, that they can draw advantage of the knowledge they have gained in their future profession.
Emotions when children are victims

Lundin (1992) writes that during disaster work the hospital staff and the rescue personnel suffer from extreme psychological stress and this is especially difficult when they see children die because of time pressure and the lack of human resources.

In the cases when children were involved in a disaster, the rescue personnel and hospital staff have informed about emotions as hopelessness and feeling weak and vulnerable. Usually the caregivers can distance themselves from emotional situations but when children are involved this normal strategy to cope with the situation breaks and they get both emotionally and psychologically involved (Dyregrov, 2002).

Without disaster I can control my emotions but on that day, the earthquake day I saw so many children are dying and so many children felt painful. I couldn’t control my emotions. (Respondent 4)

The respondents have explained why it is extra difficult when there are children among the victims and have given examples that the children are persons who are not able to take care of themselves and survive on their own. All rescue personnel and hospital staff in some way has personal relations to children, which is why they often can relate to themselves in the situation and believe that it could just as well have been their children. These reactions make it even harder for the helpers as mentioned by Dyregrov (2002).

It was very very terrible and very very sad for me to see the victims because so many victims and also many children... it felt like the children were my own. (Respondent 2)

The paramedics in Regehr, Goldberg and Hughes (2002) article emphasized that it was hardest for them when children were hurt. They could recall in detail the victims and the environment. Dyregov (2002) mentions that during critical situations the senses are wide open for impressions. Kowalski and Vaught (2001) describe different studies in which the authors suggest that the number one stressor for emergency workers is when children have been injured or killed. The respondents’ opinion were also that it was even harder for them when children were affected. Children were lying in the corridors waiting to be operated, but unfortunately many children died waiting for medical treatment.

(Starts to cry) ...on that day so many children died because of the conditions. And I cannot resist to continue my duty on the emergency unit. (Respondent 1)

Experiencing these conditions was emotionally difficult for the respondents. One of the respondents explained that despite her own long personal experience of working with children she could not resist being too emotionally involved and had to change ward unit. She therefore decided to leave the children ward to take care of the adult victims instead.
The importance of knowing that your family is safe

When the earthquake came some of the respondents were with their families and some had their families in other more safe areas that had not been so severely affected by the earthquake. Because of cracks and damages on the buildings, it was not safe to be inside the houses.

*After the disaster my family wouldn’t stay in that house, they preferred to stay temporarily in the tents in the open area.* (Respondent 4)

The respondents whose houses were not damaged by the earthquake, decided to stay and sleep there, but there was an uncertainty among the respondents who feared for another earthquake.

...*after the earthquake I convinced myself that all of my family were safe and I continued my practise.* (Respondent 5)

The first priority for the respondents was to make sure that they and their families were safe and would not be in danger of the damage from the earthquake. After that they went to the hospital and started their nursing profession. All of the respondents’ closest family members were safe while they were working in the hospital. A close relative to one of the respondents was physically affected, all the other respondents knew affected people through their work, relatives and friends.

Fear for a new earthquake while working

When there has been a natural disaster or a catastrophe caused by the human factor, the rescue personal and hospital staff can be forced to work under dangerous and insecure circumstances, which can cause fear. This has been reported in different studies. In one small study based on Red Cross personal who were working with a landslide accident in Vassdalen in Norway, there were 91 percent who feared for a new slide during their work. In another study of firemen who were working during a massive forest fire in Australia, 20 percent among them thought that they were not going to make it alive (Dyregrov, 2002). Palm, Polusny and Follette (2004) also write about fear for ones personal safety and that this increases the vulnerability among the helpers, which may also affect their professional work.

*I was afraid that the earthquake would come again while I was working...* (Respondent 1)

...*afraid of that the earthquake would happen again.* (Respondent 2)

*I couldn’t sleep well because I feared for a new earthquake would come again.* (Respondent 4)

The respondents have expressed thoughts about fear while they practised their nursing profession at the hospital. It was not only fear for oneself but also for their closest relatives. When the respondents finally had a chance to relax from the emotionally and physically hard work and get some sleep, the earthquake reminded some of the respondents, which interrupted their sleep. Several post-quakes could be felt the hours
and days after the earthquake. During the first twenty-four hours as many as 300 post-
quakes were measured up (Alim, 2007).

After the disaster work

Emotional reminders

For survivors of a disaster it is not unusual to have strong and recurrent memories. These can arise to the survivors through smells, visual impressions, noises and by
seeing a place or reliving a situation again (Dyregrov, 2002).

I will never forget that condition, that situation of the victims because when I pass the
corridors of Sardjito where the patients were dying or crying for help. (Respondent 5)

Lundin (1992) writes about the changes in the victims’ behaviour, both in indirect and
direct victims, in disaster. He mentions unpleasant feelings caused by different
reminders. He calls the memories emotional and describe them as if the victims have
powerful visual pictures of that time.

If someone asks me to tell the story of the earthquake I get sad like now. (Respondent 2)
... I don’t want to remember again. (Respondent 3)
We will always remember it. It is difficult to forget. (Respondent 4)

Some of our respondents have expressed that they still dislike visiting some places that
especially made a hard impression during the disaster. For example when they pass
some corridors of the hospital they remember the conditions from that day when all the
victims were lying there severely wounded and so many were dying. Another reminder
that is emotionally hard to bear and sometimes even worse, is when someone asks them
to tell about that time and that day when the earthquake struck. The respondents have
expressed that they never will forget those conditions and the impressions from that
day.

External stimuli make them remember

Dyregrov (2002) mentions that the victims after a disaster sometimes suffer from great
anxiety if they are exposed to different stimuli. These stimuli are associated with the
disaster, such as high noise caused by a telephone ringing, firecrackers or sirens. Lundin
(1992) calls these “startle reactions” which he describe as overreactions caused by
sudden light and sound impressions that the survivors experience because of an
increased muscle and mental tension.

I don’t feel anxiety if I know where the sound comes from, but if I didn’t know where the
sounds came from then my thoughts would be that maybe it was an earthquake.
(Respondent 4)

When the earthquake came there was a very loud noise. In the trafficked Yogyakarta
there are a lot of noisy busses and motorcycles, which sometimes remind the
respondents about the sound from the earthquake. Therefore one of the respondents always keeps a bottle or a glass of water in her house to make sure when she hears a high noise it does not create waves on the water surface and she can in that way eliminate that it comes from an earthquake.

**Changes in their daily life**

It is very common that the victims after a disaster change the attitude to themselves and their surroundings (Lundin, 1992). The respondents have expressed that they have made changes in their daily life after the earthquake and they nowadays are worried and feel fear and suspiciousness that it could happen again.

...*still very anxious that an earthquake will come again so I don’t lock the door.* (Respondent 2)

One respondent said that she moved back to her hometown when the disaster work was finished, partly to avoid the risk of earthquakes. Another one doesn’t lock the door to be able to run out quickly if the ground starts to shake.

The respondents have expressed that they are more prepared now if a new earthquake or another type of disaster should happen. One respondent said that she keeps a map in her house so she knows in what direction she will go if a new earthquake would come.

**The respondents’ critics and suggestions for improvement till the next time**

During the interviews many of the respondents have claimed that there has been a weakness in the curriculum of the Bachelor nursing program. Among other things the respondents expressed that during the disaster work they felt that they did not have enough skills in basic life support. They also mentioned the lack of knowledge in triage and that this can increase through more practice in basic life support. This is crucial in those cases where patients are deadly wounded, unconscious or are falling into unconsciousness. Robbins (1999) describes in his literature study that the hospital staff and the rescue personnel are often inadequately prepared for the massive work an earthquake causes. Further on he mentions that it is almost impossible to prepare anyone for this kind of situation and he emphasizes the importance of, for example, looking at films and photographs from previous disasters to get a better preparedness. Rescue personnel and hospital staff have expressed that it has been of great value with previous experience, education and training. They probably would be even more prepared for disaster work if they should receive a more target-oriented education (Dyregrov, 2002).

*We hopefully have learned also because there are so many disasters here in Indonesia we have to think about it.* (Respondent 3)

To increase the knowledge one of the respondents said that she has taken a short course in basic life support. Now she feels that she has a better understanding in what to do in emergency situations to help the victims and also if there comes another disaster. The
The faculty of Medicine at UGM has, after the earthquake, listened to the demands from the nurses and has now decided to add a disaster and acute medicine course to the Bachelor nursing program.

**Positive emotions and nursing skills**

The respondents can see the advantages they gained from the work following the disaster. During the work it was hard for them to think that the earthquake, with all the victims, could bring something positive. The difficult and stressful situation with the terrible working conditions and the time pressure has given the respondents new knowledge in their nursing profession. Among several positive experiences could be mentioned that they have learned how to prioritize the patient that for the moment need most help. Some of the respondents have expressed that they now can work as coordinator for the hospital staff and also collaborate directly with the doctors.

...got many experiences, many advances, more skills and knowledge from the earthquake. I can identify what I must and must not do from the last one so I will be prepared to the next disaster. (Respondent 5)

If the respondents have to face another disaster like the earthquake they now know how to manage triage under conditions with thousands of victims. They can recognize “typical” injuries after an earthquake and how to use their nursing profession skills in best way to treat the victims.

**DISCUSSION**

**Discussion of the method**

Our coordinator in field is also a teacher at UGM and she has worked as an interpreter during the interviews. In our personal communication before the interviews, we emphasized to the teacher that it was highly important that the students should not feel any pressure during the interviews because of her status as being a teacher. We do not think that the quality of the result has been negatively affected by using a teacher as an interpreter because she also worked during the disaster at the Sardjito’s hospital and thereby had personal experience from the difficult time, which possible made the respondents feel safe and able to talk about their emotions. Our interpreting during the interviews is that the respondents have been comfortable and able to speak freely and even criticise the curriculum of the Bachelor Nursing Programme at the UGM.

We have carried through the interviews together and that helped us a lot during the analysing process. Thomsson (2002) mentions that it often can be an advantage to use two interviewers. When there are two interviewers it is possible to focus on different aspects during the interview, one can for example figure out the next question while the other observes the respondents. The respondents can also feel more secure that there will be two that can interpret and try to understand what was said during the interview. As disadvantage she mentions is that the interviewers can interrupt each other in their
thinking. There can also be misunderstandings for instance if one believes that the other has understood but he might not have grasped the content. In these cases it has been advantageous to have our tape-recorder and also the help from our coordinator in field to make the data clearer.

When the analysis of data was done the answers could have been affected by the different culture and different norms of our countries (Thomsson, 2002). Through dialogues with our coordinator in field we have both before and after the interviews discussed the content of the respondents stories and clarified cultural aspects and norms that are different from our country.

The literature about natural disasters and disasters caused by humans is rarely based from a helpers' view of feelings and experience but rather from the victims' view, which has made it difficult to find relevant articles about this subject. This is something that Dyregrov (2002) also has found and that studies based on the helpers view are mainly about the post-reactions.

**Discussion of the result**

Factors that have contributed to the high numbers of casualties from this earthquake are that most buildings are made of bricks, and that the earthquake happened early in the morning and that it was holiday so that many people were still at home. Earthquakes usually happen early in the mornings, which it also did in Yogyakarta the 27th of May 2006. If the buildings had been built of wood, which is much more flexible than bricks, the number of wounded and dead would have been reduced. Like a teacher at the UGM told us: “an earthquake does not kill people, houses do” (Alim, 2007).

Our respondents were lucky not to have any close family members that were directly affected by the earthquake, which must have helped them during their work. From our own experiences we know that if there has been an accident like a car crash on the road close to ones home, the thoughts go directly to our nearest family members. The uncertainty of not knowing if ones family is affected is emotionally hard for anyone.

All of the respondents said that it was extra hard for them to work with the injured children. This is something that is confirmed by literature (Lundin, 1992, Kowalski & Vaught, 2001, Dyregrov, 2002, Regehr et al. 2002). Children cannot take care for themselves and that makes them extra vulnerable and exposed. The common view is that children should not be sick or injured, they are innocent and have their whole life in front of them. During the interviews the respondents at several occasions showed strong emotional reactions especially when talking about children. It was hard for us to witness the strong emotions among the respondents when they spoke about the wounded children and that so many children died during the first days due to the bad conditions. It has been frustrating for the rescue personnel and the hospital staff to work under these circumstances with the stress factor that people were dying and there were not enough of human resources to treat them all. On top of this the respondents expressed fear for new earthquakes while working at the hospital. The first day as many as 300 post-quakes could be felt and this must have contributed to make the emotional stress even
worse. When we heard their feelings and thoughts about these conditions it felt unreal and we were amazed how the respondents could be able to work under the severe pressure and chaotic situation that the earthquake caused. The respondents’ mentioned that despite their relatively small knowledge in disaster work they were able to cope with the situations and treat the victims and could convince themselves that their actions were good for the victims.

When the respondents started their nursing duties the day the earthquake struck Yogyakarta, they experienced that their nursing education was very useful and thanks to it they were able to help the victims. They felt that they had something to give to the wounded and that they were able to treat them properly. The nursing profession is to be willing to help another person and that was exactly what these Bachelor nurses did. They felt empathy for the victims and they suffered with them. We think that it is amazing that the respondents during the disaster work could feel that they were learning so much from it. This positive thinking helped them continue their work even through the great stress. Another positive feeling was ingenuity. Even if the respondents did not have the adequate material to treat the victims such as plaster casts, they did what they could and took advantage of their ingenuity to use whatever material were available in the best possible way.

Several months later some of the respondents still think about and are afraid of a new earthquake when they hear loud noises. Here also the respondents have been ingenious coming up with indicators such as a bottle of water to eliminate a high noise from one being caused by an earthquake. Other changes are that they fear of being locked in when they sleep. Today the respondents can appreciate all the new nursing skills they learnt which after the disaster they can use in their daily and future nursing profession. They will never forget the impressions from that day and they will always fear for another earthquake. If one will come, they are better prepared for what to do both considering their own security and the skills in triage and first aid which enables them to help as many victims as possible in best ways.

The result in our study is generalized since our respondents have given quite similar detailed answers about their feelings and thoughts. We have also found that earlier research (Dyregrov, 2002) in disaster work have described the same emotions among helpers in disaster work that our respondents have mentioned. Almost all literature on this subject has been based on feelings and thoughts of rescue personnel and hospital staff in industrialized western countries. It has been interesting to witness that our respondents in Indonesia have experienced similar emotions as described in the literature (Lundin, 1992, Kowalski & Vaught, 2001, Dyregrov, 2002, Regher et al, 2002). It is noticeable that the literature written in this field is so overall based on industrialized countries though there are more natural disasters in countries like Indonesia. We hope that this field study will increase the interest in all countries about disaster work from a helper’s view and lead to further studies also based on experiences from developing countries. Hopefully this will lead to an increased knowledge which will be useful to hospital staff and rescue personnel globally. When countries provide aid in form of human resources to areas struck by natural disasters, it will be of great value to have knowledge about different nationalities’ way of coping with these extreme
situations. Further more it will prepare helpers better for what kind of feelings and thoughts that they might expect during their disaster work, and how to cope with them.

Our study brings the literature a new understanding based on helpers’ work in a developing country during a disaster. Further more it gives an increased understanding about the helpers’ feelings and thoughts before, during and after the work of a natural disaster.

The world is changing due to global warming but nobody can definitely know what will happen in the future. But we know that this wasn’t the last natural disaster or disaster caused by human’s. We think that more practice and knowing about disaster work can be a valuable factor for all helpers’, and by that means also for the victims.
ACKNOWLEDGEMENT

We would like to thank the staff at the School of Nursing, Faculty of Medicine, Gadjah Mada University, Yogyakarta, for being so friendly and hospitable and for all the practical help during the time we spent in Indonesia. Special thanks to Mrs Widyawati, RN, Magister in hospital management, Specialise in Maternity Nursing and a teacher at the UGM, for being our coordinator in field and translator during the interviews. Without her it would not even have been possible to carry out the interviews and thereby making this Bachelor’s thesis. We would also like to give special thanks to Mr Syahirul Alim, RN, Specialist in Cardiology and a teacher at the UGM, for increasing our understanding through his detailed lectures about “the ring of fire”, earthquakes in general and the disaster work after the earthquake in Yogyakarta in particular. Last but not least we would like to give warm thanks to Ingrid Horner for all the linguistic help.
LIST OF REFERENCES

Literature


Internet references

http://sv.wikipedia.org/wiki/Indonesien

www.landguiden.se

www.plansverige.org
Other references

Alim, S.; RN, Specialise in Cardiology Nursing, Teacher at School of Nursing, Faculty of Medicine, Gadjah Mada University, Yogyakarta, Indonesia (2007).

Widyawati; RN, Master in hospital management, Specialise in Maternity Nursing, Teacher at School of Nursing, Faculty of Medicine, Gadjah Mada University, Yogyakarta, Indonesia (2007).


Dictionary