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# Patient safety and job-related stress: A focus group study

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## KEYWORDS

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**Summary** This study focused on work-related stress among nurses working with critically ill patients. The aim of the study was to examine the effects of work-related stress with regard to patient safety. The study uses a qualitative design based on focus group interviews with nurses who work with acute, critically ill patients in hospitals. Two regional hospitals were chosen. Inclusion criteria for the focus group panels included the following: nurses with advanced training in anesthesiology, intensive care, or operating-room nursing. Twenty-three nurses were chosen and they were divided into four groups. This study shows that a demanding work environment together with minimal control and social support from colleagues results in increased stress that can often have an effect on patient safety.

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## Introduction

The World Health Organisation (WHO, 2002) has put the theme of patient safety on its' agenda by resolving to shed light on and emphasise research and development concerning this area (WHO, 2002). The term patient safety is a relatively recent initiative in health care which encompasses systems of patient care, reporting of mistakes, and the initiation of new systems in order to reduce the risk of errors in patient care (Vande Voorde and France, 2002). In general patient safety refers to the concept that patients in health care settings

are achieving intended outcomes. The international guidelines for nurses, which are developed by the International Council of Nurses (ICN), underlines that patient safety is fundamental for quality care (ICN, 2002). In the nursing profession the term patient safety also encompasses those nursing care functions for which the profession has sole responsibility.

Critical care nursing is that specialty within nursing that deals with human responses to life-threatening problems. Critical care nurses work where critically ill patients are found; intensive care units, cardiac care units, emergency departments, surgical departments and recovery rooms. This study will focus on the experience of work-related stress among nurses who work

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with critically ill patients and its effect on patient safety. Through focus group interviews, the questions addressed were: what principles concerning job responsibilities, control and social support from colleagues have in relationship to the safety of the patient.

Previous studies have shown that the extent of errors in patient care in the emergency room (ER) is relatively high (Cooper et al., 2002; Donchin et al., 2003; Flaatten and Hevrøy, 1999). In an Israeli ER, according to Donchin et al. (2003), an estimated total of 1.7 mistakes per patient were made within a 4 month period. Another study that looked more specifically at the errors affecting preoperative patient care demonstrated that miscalculations, faulty equipment, and errors in medication were the most prevalent (Chappy, 2006).

Nurses working with critically ill patients have unique working conditions. The personnel must be highly qualified and experienced. In addition, the work tempo is very high and the likelihood of errors concerning procedures and medication is always present. According to Meurier et al. (1997) the most important reasons for mistakes in the ER are lack of knowledge and experience followed by work pressure under a stressful environment. A stressful milieu in addition to enormous work pressures can also result in decreased patient safety (Carayon and Gurses, 2005). This has been confirmed in a study by Elfering et al. (2006) that shows a direct correlation between stressful work situations and the safety of patients.

A working environment that is characterised by a rapid pace and stress can unfortunately have negative consequences for the patient. Furthermore, there can also be consequences for the care givers' health. In a review of over 300 empirical studies (Segerstrom and Miller, 2004), it was concluded that there is a direct correlation between stress in the workplace and the health of employees.

Previous studies on patient safety have concentrated on the reporting of errors. There have been no studies which have examined nurses' evaluations and their thoughts and experiences in reference to a stressful work environment and patient safety.

Karasek and Theorell (1990) have developed a theoretical model (job-demand-control model) whereby there is an interaction between the work demands and the employees' influence and control over these work responsibilities. This can play a decisive role in how the employee perceives stress in the workplace. The authors focus on the point that it is the employees' experiences with these dimensions that are important. According to Karasek and Theorell (1990), it is not always the

amount of work that causes the greatest problems. Usually, these problems are multiplied by the employees' lack of control over their work situation. This model has since been expanded and the principle of work-related social support has been included (Johnson and Hall, 1988). Social support is an interpersonal process that involves several forms of support: emotional, evaluation, information and instrumental support. In situations of great stress both social support and employee control over their work situation can act as buffers that can dampen the negative consequences of stress.

Research based on this model has primarily been related to which employee health consequences can be expected due to work-related stress. In a study based on psychiatric nurses, Munro et al., 1998 concluded that this job-demand-control model was a good indicator of both the health of the nurses and their job satisfaction. Furthermore, a study by Cheng et al. (2000) concluded that a highly demanding job, in combination with a low level of control and support, leads to a diminished quality of life among nurses. There have been no previous studies where this theory has been used to study the relationship between work-related stress and patient safety.

On the basis of the job-demand-control model of Karasek and Theorell, this article asks the following questions:

- How can the principle of job demand contribute to the understanding of the nurse's role concerning patient safety?
- How can the principle of control contribute to the understanding of the nurse's role concerning patient safety?
- How can the principle of social support contribute to the understanding of the nurse's role concerning patient safety?

## Method

We have used a qualitative research design consisting of focus group interviews. Focus group interviews were chosen because this is a qualitative method where complex themes can be the topic for analysis and discussion. In addition, we were also interested in the interactions among the participants. Focus group interviews have previously been shown to be an appropriate method to evaluate attitudes, knowledge and experiences in the health-care field (Kitzinger, 1995). A focus group study is a carefully planned series of discussions where one acquires knowledge concerning

a defined problem in an environment of acceptance and support (Kreuger and Casey, 2000). The goal of a focus group is to listen and gather information. It is a method for arriving at a better understanding of how others feel and think about a certain situation. The participants share their experiences and opinions with each other in a group discussion (Kreuger and Casey, 2000). Focus group interviews distinguish themselves from other qualitative methods in that group interactions are also used to provide information to the researchers, thereby giving a broader range of data and information.

## Participants

Two hospitals within the same health-care region participated in the study and both hospitals provide the normal array of health-care services. The hospital administration was contacted to request access to two groups of nurses with six participants within each group. The groups comprised nurses from three departments including anaesthesiology, surgery and intensive care who work on the same level within the organisation. Written information concerning the study was distributed to the nurses. Those who chose to participate gave written consent. Twenty-three nurses (one male) within anaesthesiology, surgery, and intensive care fulfilled the inclusion criteria. These criteria did not exclude male nurses, however there was only one male who wished to participate. Kreuger and Casey (2000) have stated that it is not always wise to blend the sexes since male participants tend to speak more and this can have a negative effect on the female participants. We did not experience that group dynamics were negatively affected by the male participant. Those chosen had similar job responsibilities and characteristics that were relevant to the focus group (Kreuger and Casey, 2000). None of the participants had a leader position which could affect the group dynamics, and most had experience within the discussed themes. The age range was from 35 to 61 years, the mean age was 47 years and their professional experience was from 3/4 to 32 years with a mean of 14 years. In spite of the large spread in age and experience there was concurrence within the discussed themes.

## Data collection

The data collection was conducted in October and November 2002. Four group interviews, two within each hospital, were conducted. The hospitals provided a conference room and the discussions were

held during the workday. The participants were actively engaged and there were often spontaneous discussions within the groups. Discussions were sometimes in half sentences with much support among the participants and statements were often followed up by another participant. The atmosphere was positive with occasional humour and laughter.

The interviews were conducted with the first author alone as a monitor. A background within anaesthesiology nursing and a nursing school lecturer was judged sufficient and a good basis to follow up these discussions. It is advisable for the monitor to have an adequate background in the themes that are to be discussed in order to provide perspective concerning the various comments and to be able to follow up critical areas within the discussed themes (Kreuger and Casey, 2000). The role of the monitor is to ask follow up and additional questions, to make sure that all participants are heard, and to organise the discussion so that the appropriate themes are discussed. At the end of the interviews there was a summary along with an invitation for additional comments. Some of the participants used this time to bring forth that which they thought was important. Nonverbal communication was also noted. Tape recordings were helpful in gathering information on minor voice nuances, tone, pauses and feelings.

The themes for the group discussions were: job demands, control of a work situation and support from colleagues in relation to patient safety within the work place. The emphasis was to ask simple and open questions which were clear, short and one-dimensional (Kreuger and Casey, 2000). Prior to the focus group interviews the questions were discussed among the authors and revised until everyone was in agreement.

## Ethical considerations

This research project was registered with the Norwegian Social Science Data Service (No. 9340). The research application was also sent to the hospital administration where it was approved and written consent was given by the leaders in the administration. It was emphasised that participation was voluntary and not binding. The information given to the administration concerned research questions to be addressed, focus group interviews, aim of the study and anonymity of the participants. There were also discussions concerning ethics and confidentiality in regard to both the researchers and the participants in addition to information as to how the data was to be presented.

## Data analysis

The analysis is based on transcribed interviews consisting of both notes and tape recordings. Taped conversations were transcribed verbatim (Kreuger and Casey, 2000). A qualitative content analysis was also undertaken in order to identify the main themes and the relationships among these themes (Polit and Beck, 2006).

Data analysis was performed by both the first and second authors. Standards of analysis were used in accordance with Kvale (1996): Understanding of self, critical understanding based on common sense, and theoretical understanding. Understanding of self is the participants' commentary while critical understanding is the researcher's interpretations of this commentary. The researcher's interpretation has a broader understanding framework than the participants'. In a theoretical understanding the theoretical framework has to be considered in addition to previous research studies in order to broaden the perspective.

Initial analysis of the transcripts resulted in some temporary themes that originated from the interview guide and the intent of the study (Kreuger and Casey, 2000). Thereafter, a theoretical interpretation was performed so that the transcripts were systematised in order to cover the various themes and sub themes in a meaningful manner.

During the analysis all authors read the transcripts thoroughly. Further discussions resulted in the various themes. Together it was decided which commentaries were to be chosen in order to shed light on the relevant themes that came forth in the analysis.

## Results

In the following section results from the study will be presented.

### Job demands and patient safety

In discussion groups it was revealed that increasing job demands were a problem for nurses. Our impression was that this could have consequences for patient safety in relation to inadequate time to properly test equipment and insufficient time for the preparation of medications. In addition, daily control routines in the morning could not be completed. Nurses expressed that there was a good deal of pressure just to get through daily programmes and that they had no input as to how much time was to be used for each patient. There

are clearly detailed procedures regarding the treatment of patients one at a time; however, they were often pressed to stray from these procedures. Nurses recalled negative comments from colleagues insinuating that they were difficult, sluggish, and slow:

The truth is that we have to admit the patient as quickly as possible and I feel now and again that there is not enough time; and this can have consequences regarding patient safety. . .

Now and then I do not see the point in pressing through such an intense agenda. There are limits to what we can do. . .

Many of the participants pointed out that time pressure is dangerous and can have safety consequences for the patient. They emphasised the importance of experienced nurses allowing the inexperienced nurses, who feel stressed, enough time to complete their routine protocols, even though there was much to do, instead of pressing through in order to please others. One of the participants remarked:

It is most dangerous when everything has to be done at an extremely fast pace. . .

### Control and patient safety

A lack of control and influence was a stressful situation in the nurses' work. Several of the participants gave the impression that there was a lack of control and influence concerning decisions made regarding their work. They felt that other occupational groups did not value their competence. They brought up situations where nurses would have liked more time for preparation in order to ensure patient safety. However, the doctors disagreed. Nurses pointed out that they were loyal to the doctor on duty and did what they were told. When they felt that certain decisions were not responsible, signed written notice was given. In reference to this documentation it was said:

There have been situations where we were not in agreement with medical decisions. . . and we have documented our viewpoints. However, we have not been heard. . . I think it is important to document what you mean, at least you have said it.

Several nurses also mentioned that it was difficult to present new ideas and methodology to those nurses with longer job experience. They felt that their colleagues wanted to stick to the old routines and that the protocols concerning working with patients should not change:

I see that some are open to suggestions while others maintain that it has always been done this way and that is the way it should be.

In contrast to this it was noted that nurses had some influence. One of the participants described a situation where there was a disagreement with a doctor concerning patient safety. It was requested by the doctor that the work was to be done quickly and the nurse reacted to the fast pace:

We discussed this after the fact and it turned out that the doctor was in agreement with me.

### Social support and patient safety

Nurses were preoccupied that social support could have consequences for patient safety and there were many indications that social support was important. Similarly, there were statements indicating that lack of social support can be a problem. In addition, nurses were preoccupied with their relationship to other professions and how this can have a negative effect on their work. The negative effects identified were: a lack of concentration, interrupted thought processes, energy not being used constructively, an increase in errors, lack of time for equipment maintenance, insecurity, an inability to act and verbal abuse. It was also noted that the relationship between co-workers could become so strained that patient safety could be at risk:

Patient safety is affected by an unpleasant work environment. The train of thought becomes interrupted and errors are made.

...the work environment is unpleasant with stressed co-workers. A conflict can easily deteriorate... When you are in a stressed and unpleasant situation the best in you does not come forth. Things stop up and you are unable to act. You just don't know what to do. I do not feel this is beneficial, especially in an emergency room.

Our impression from these discussions was that support, in the form of respect, has a positive effect on the work of nurses. A good relationship with other professions was felt to be important for patient safety. The participants had experienced that those co-workers who worked slower were talked about. They emphasise that one should have an understanding for those who work at different tempos:

It has often been said: yes, she is so slow. We have to pick up the pace. But if there is respect for the

work tempo of others, we can also respect their work. These things affect patient safety.

The nurses meant that time was not the only factor when they were stressed, it was also important how other co-workers reacted. They pointed out that positive interaction among colleagues was important in order to tolerate the fast pace. There was an awareness that they themselves had a responsibility for the work atmosphere. They wished to use their energy for the benefit of the patient and not for unnecessary stress:

I think it is very stupid to use lots of energy for such things when you are at work. I feel that energy should be used positively for the benefit of the patient and not for relationships between co-workers. No one is alike and everyone does not always get along. But respect for each other is very important and possible and I assert that this affects the safety of patients in certain instances.

In discussions it was emphasised that certain people had the ability to work calmly and this was important to the other members of the team. A feeling of calmness resulted in less stress for the nurses:

It is wonderful to work in peace and calmness, then we don't stress either.

### Discussion

The aim of this study was to examine the importance of work related stress in relation to the work of nurses and patient safety. We have found that a work environment consisting of high demands combined with a lack of individual control was perceived as stressful to nurses. Work situations such as this could also effect patient safety (Elfering et al., 2006).

The data from the four discussion groups was extensive and gave a solid basis for our analysis. The themes presented in our results are essentially the same as those that emerged in all the interviews. This indicates that these themes were thoroughly discussed within the groups. The groups had participants from two different hospitals that belonged to the same health care region, and they could be considered to be representative of small town hospitals in Norway. In terms of activity and participation in the discussions, these two hospitals were quite similar. In addition, the group discussion process was described as a positive experience and this was expressed by a number of participants.



In light of this, it was possible for the participants to express opposing viewpoints. On the basis of these relationships the validity of the study was maintained.

In spite of the fact that nurses are in agreement concerning the importance of patient safety (Flin et al., 2006; Kalisch and Aabersold, 2006; Rosenstein and O'Daniel, 2005), national and international literature suggests that there are far too many lapses in routines concerning patient safety within hospitals (Davis et al., 2001, 2003; Flaatten and Hevrøy, 1999; Slonim et al., 2003; Vincent et al., 2001). The Department of Health in England has concluded that this problem is clearly present and serious, however it is difficult to measure precisely. It is a reasonable estimate that approximately 10% of hospital patients are affected by unfortunate accidents (Department of Health, 2000).

Our group participants pointed out several factors in their work environment that compromised patient safety. In the interviews, a hurried work environment was identified as a potential problem. It is clear that working with critically ill patients is very demanding. These patients depend on their nurses making quick and correct decisions concerning their welfare since they are not in a position to take care of themselves (Vande Voorde and France, 2002). According to Karasek and Theorell (1990) there is a risk of psychological stress when demands increase while control and influence decrease. This type of working environment, which is demanding and which the nurses feel they have little control over, is perceived as stressful. A recent study has shown that minimal control over a work situation can increase the risk factors for patient safety (Elfering et al., 2006).

Nurses are a member of an interdisciplinary team in the ER. Many medical interventions occur in close collaboration with both anesthesiologists and surgeons. They must collaborate with other professions that have a higher education and who have the medical responsibility for the patient. In the interviews many of the participants expressed frustration over their lack of contribution and control concerning medical decisions. Nurses felt that their competence was not valued by the other professions. The background for this conflict can lie in the two-sided basis underlying the education of a professional nurse. On the one hand the nurses are responsible for the job responsibilities of their own profession, however, they also have assistant functions in regard to the medical responsibilities of the doctor. According to the Convention for Nurses they must adhere to the responsibilities within their profession and those responsibilities demanded by the workplace (International Labour

Office, 1986). In addition, the nurses must abide by ICN's ethical rules (ICN, 2006), which state that nurses also have a personal responsibility for those duties they perform as professional nurses. It is felt that there is little opportunity for the nurses to resolve this conflict themselves. This is in agreement with a previous study (Cronqvist et al., 2001). Additional findings show that professional discussions and disagreements within an operating room team result in stress and could compromise patient safety (Silèn-Lipponen et al., 2005).

In addition to these interdisciplinary disagreements there are also stressful discussions within the team of nurses. The interviews in this study also uncovered that it was often difficult to present new ideas and methodology, especially to those nurses with many years of experience in their profession.

According to Karasek and Theorell (1990), support from colleagues has a positive influence that can reduce unfortunate consequences resulting from a stressful environment. Our study confirms that lack of support can be problematic for nurses. In the discussions it was noted that when relationships between co-workers was negative it could very well have effects on patient safety. This was due to the fact that the nurse's health itself was affected leading to consequences such as an inability to concentrate, insecurity, and making wrong decisions. In a review article six themes were identified that resulted in a stressful workplace for nurses. One of these themes was the conflict between professions, especially between doctors and nurses (McVicar, 2003). According to other studies (Skjørshammer, 2003), aggressive behavior by doctors is the largest stress factor for nurses. Another study (Rosenstein and O'Daniel, 2005) has found that nurses also displayed poor conduct, nearly as often as doctors, and this had negative effects on both professions. This encompasses stress, frustration, concentration, communication, exchange of information, and relationships within the workplace. According to McGrath et al. (2003), a better understanding of each other's roles will reduce stress and will lead to better relationships between nurses and doctors. Another important measure to decrease stress can be to give health care professionals in the ER courses in effective communication and cooperative work skills (Vande Voorde and France, 2002).

This study demonstrates that nurses can stress each other and not be supportive when they have different backgrounds and levels of experience. A stressful atmosphere is identified to be the strongest factor when errors are made, fol-

lowed by insensitivity of the senior staff (Meurier et al., 1997). The participants emphasised the importance of support from experienced nurses and their willingness to give inexperienced nurses enough time to do their job thoroughly and safely. This concurs with an earlier study (Ebright et al., 2004) that demonstrates the importance of a supportive social climate for inexperienced nurses. Other published studies confirm this conclusion (Mosczyński and Haney, 2002; Sveinsdóttir et al., 2006).

From these data we can see the importance of creating a stable working environment with support from colleagues such that the inexperienced nurses can tolerate their work pressures.

There are limitations to this study. The first author's understanding and experience within anesthesiology nursing could have an effect on the interpretation of the findings. Experience within a particular field can lead to oversight of small nuances in that it may be difficult to maintain neutrality. However, the analyses and interpretations were discussed with the other authors until there was full agreement.

Another possible limitation can also be the focus group interview method itself. If the dynamics within the group are not open and positive, the participants may not feel free to express his or her opinion (Kitzinger, 1995).

In light of the fact that there has been little research concerning work related stress and patient safety in the nursing profession we feel that although the data is 5 years old, it can make a contribution to this field. Patient safety is a new area of research and is an ongoing process.

## Conclusion

This study has shown that nurses assessed that work-related stress is a risk factor when evaluating patient safety. We have shown that stress in the work place is a problem for nurses, especially for those working with critically ill patients. This study has utilised the theoretical framework of Karasek and Theorell (1990), where stress is understood as an imbalance between job demands in the nursing profession and the nurses' opportunity for control and support. In a demanding work environment, such as in caring for critically ill patients, participation in decisions and support from colleagues can have a very positive effect in relation to patient safety. Patient safety has now become a central theme for quality control within the health care system. In light of this study and others it is clear that further research is necessary in this field.

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