Nurses' experiences of impacting factors on hygiene practice and infection control in a rural hospital in India
– an interview study

Sjuksköterskors erfarenheter av faktorer som påverkar vårdhygien och infektionskontroll på ett landsbygdssjukhus i Indien
– en intervjustudie

Therese Browall
Ida Walfridsson

Faculty of health, science and technology, Karlstad University.
Department of health science
Degree Project in Nursing, 15.0 ECTS Credits
Supervisor: Jan Nilsson
Examiner: Anna Josse Eklund
2014-03-26
ABSTRACT

Original Title: Nurses' experiences of impacting factors on hygiene practice and infection control in a rural hospital in India – an interview study

Swedish Title: Sjuksköterskorserfarenheter av faktorer som påverkar vårdhygien och infektionskontroll på ett landsbygdssjukhus i Indien – en intervjustudie

Faculty: Faculty of health, science and technology, Karlstad University
Institution: Department of health sciences
Subject: Nursing

Course: Degree project in Nursing, 15.0 ECTS Credits
Authors: Therese Browall, Ida Walfridsson
Supervisor: Jan Nilsson
Pages: 20

Keywords: Health care acquired infections, Infection Control, Hygiene Practice, Nurses’ experiences, Health care in India

Introduction - Health care acquired infections (HCAI) are a common complication that affects hospital treated patients. Basic hygiene practice is the most important to prevent HCAI. The occurrence of HCAI is a big problem in India, mostly because of a low compliance to hygiene practice. The nurse has an important role because of their ability to inform and motivate the staff to keep a good compliance to hygiene practice. Aim - To illuminate nurses’ experiences of impacting factors on hygiene practice and infection control in a rural hospital in India.

Method - Data was gathered through nine qualitative interviews. Data Analysis – The interviews were tape recorded, transcribed and then analysed through content analysis. Results - Four main categories was identified as important for conducting a successful hygiene practice; Knowledge among health care staff, relatives and patients, Leadership, Resources and Routines. Conclusion – a variety of factors have an impact on hygiene practice and infection control. The nurses experienced that knowledge of infection transmission is vital, as well as a good leadership and implemented routines. It is important having enough staff, sufficient material and facilities in order to prevent the spread of HCAI.
# TABLE OF CONTENT

ABSTRACT ......................................................................................................................... 2
TABLE OF CONTENT ........................................................................................................ 3
INTRODUCTION .................................................................................................................. 5
  Health care in India ........................................................................................................ 5
  Infection control ............................................................................................................. 5
  The nurse’s role in hygiene practice ............................................................................. 6
  Problem definition ......................................................................................................... 6
AIM .................................................................................................................................... 6
METHOD ............................................................................................................................ 7
  Study Design .................................................................................................................. 7
  Sampling ......................................................................................................................... 7
  Data collection .............................................................................................................. 7
  Data analysis .................................................................................................................. 7
  Ethical Considerations ................................................................................................. 8
  Study context and settings ............................................................................................ 8
RESULTS ............................................................................................................................ 9
  Knowledge among health care staff, relatives and patients ........................................... 9
    Educated staff .............................................................................................................. 9
    Maintaining aseptic conditions .................................................................................. 9
    Unawareness among relatives and patients ................................................................ 10
  Leadership ..................................................................................................................... 10
  Resources ...................................................................................................................... 10
    Staffing and hospital beds ......................................................................................... 10
    Material and financial resources ............................................................................. 10
  Routines ......................................................................................................................... 11
    Cleaning of the wards ............................................................................................... 11
    Hand hygiene ............................................................................................................ 11
DISCUSSION ........................................................................................................................ 12
  Result discussion .......................................................................................................... 12
  Method discussion ........................................................................................................ 13
  Clinical value ............................................................................................................... 14
Future research suggestions .......................................................................................... 14
CONCLUSION ..................................................................................................................15
ACKNOWLEDGEMENTS ...............................................................................................16
REFERENCES ..................................................................................................................17

Appendix I – Demographic Information
Appendix II – Interview Guide
Appendix III – Ethical Approval
Appendix IV – Information to participant
Appendix V – Consent form
INTRODUCTION
Health-care acquired infections (HCAI) are defined by World Health Organisation (WHO) as following;

...an infection occurring in a patient during the process of care in a hospital or other health care facility which was not present or incubating at the time of admission... (WHO 2014).

Some of the most common examples of HCAI are surgical site infections, pneumonia, bloodstream infections and urinary tract infections (Emori & Gaynes 1993). According to Burke (2003) about 10 percent of the patients in emergency care suffer from one or more HCAI. These infections mainly affect persons with reduced immune defence generally or locally in a tissue. Other risk factors can be age or antibiotic treatment that affects the normal bacterial flora (Lundblad 2006). HCAI are one of the most common complications that affect hospital treated patients. According to Emori and Gaynes (1993) HCAI results in estimated four days extended need of health care for each affected patient, which in its turn cause high expenses for health care systems around the world. To be infected by HCAI also means a significant burden for the affected patient and also cause morbidity and mortality (Kulkarni et al. 2013). Basic hygiene practices are the most important measure in preventing the spread of infection in health care (Akyol 2005). Therefore adherence to basic infection control in all health and social care situations and of all health professionals is the single most important measure to prevent the spread of HCAI (Tai et al. 2009).

Health care in India
In low-income countries, health care is to a higher degree associated with the risk of being infected by a HCAI compared to high-income countries (WHO 2014). India is a big, multicultural low-income country, with a population of 1.24 billion inhabitants, a steadily growing number. The total expenditure on health care every year goes up to 3.9 percent of gross domestic product (GDP) and the number of hospital beds per 1000 inhabitants are 0.9 (WHO 2014). The quality of health care in India is varying and there is a massive lack of medical staff (Tiwari 2013; Wennerholm 2013). There is a lack of availability to health care that mainly affect people in the rural areas, which represent 70 percent of the population. There are no overall laws which regulate health care for the entire country (Wennerholm 2013). The occurrence of HCAI is a big problem in India, mostly because of a low compliance to hygiene practice among health care staff (Mathai et al. 2011). Mathai et al. (2011) investigated hand hygiene compliance rates among staff in an intensive care unit in India. They could conclude that through multi-modal interventional strategies such as visible reminders and easily accessible hand hygiene products compliance could be distinctly improved.

Infection control
The most important task in the field of infection control is to prevent the spread of HCAI. To be able to accomplish this, compliance to hygiene practice is vital worldwide (Akyol 2005). The most common cause of HCAI is poor hygiene (Hallberg 2012). It has been known for a long time that proper hand hygiene is the most important measure
in order to prevent HCAI. Despite of this, hand hygiene compliance remains low in many parts of the world (Kirkland et al. 2012; Mathai et al. 2011). WHO (2014) has put together a programme called Clean Care is Safer, which specifies five situations when hand disinfection should be performed. Disinfection should be done using alcohol-based rub or hand washing with soap and water before and after patient contact, before clean and aseptic procedures, after contact with body fluids and after contact with patient environment. The aim is to prevent the transmission of infection between patients through hands and clothes as well as between health-care workers and patients.

The nurse’s role in hygiene practice
The nurse’s role in hygiene practice has been emphasised a long time. In the mid-nineteenth-century Florence Nightingale conducted a comprehensive change in the care of wounded soldiers during the Crimean war in 1854 mostly by improving the hygiene standards. This reduced the mortality from HCAI dramatically (Kelly 2012; Swanson & Wojnar 2004). Even today the nurse has an important role in the preventive work against HCAI. The nurse has the most extensive competence in nursing and therefore becomes the natural leader for the co-workers in the daily care of the patient, including the hygiene practice (Björling & Matiasson 2008). An effective infection control relies on nurses’ ability to inform and motivate the staff to keep a good compliance to hygiene practice (Lindh et al. 2013).

Improvement knowledge is considered to be one of the nurses’ core competences, with the vision that patients should have the opportunity to take part of the best possible care that can be provided in each situation (Elg & Olsson 2013; Swedish Society for Nurses & The Swedish Society of Medicine 2013). HCAI contributes to an increased cost to the health care system and to society as a whole (Vandijck et al. 2010). By constantly working to improve the areas that fail it is possible both to increase quality and reduce costs (Thor 2012). The need for systematic improvement methods is great and important in order to achieve a good care quality (Von Plessen & Andersson Gäre 2012). Nurses play an important role in the process of identifying areas for improvement (Elg & Olsson 2013).

Problem definition
HCAI are an important global health problem because they occur frequently, cause morbidity and mortality and represent a significant burden among patients, health care workers and health systems. It has been known for a long time that basic hygiene is of importance when it comes to prevent HCAI. Regardless of this the compliance still remains low in many parts of the world. This is a problem also in India where health care is lacking in many ways. Nurses have an important role when it comes to working preventive against HCAI. Therefore it is of interest to illuminate nurses’ experiences of impacting factors on hygiene practice and infection control.

AIM
The aim of this study was to illuminate nurses’ experiences of impacting factors on hygiene practice and infection control in a rural hospital in India.
METHOD

Study Design
This study aims to illuminate nurses’ experiences and therefore a qualitative approach was chosen. Semi-structured interviews were conducted to collect data.

Sampling
As inclusion criteria it was decided that the nurses had to be registered nurses with at least one year of work experience. A group of possible participants was identified by supervisors at site. All in this sampled group got a brief description verbally about the study and its purpose. Those who then volunteered to participate were included in the study and got further oral and written information when meeting for the interview. Nine interviews were conducted with nurses with varying working experience. Seven of the nurses were staff nurses and two were in charge nurses. Two of the nurses were male and seven were female. The mean age of the nurses was 26 years where the eldest was 54 years old, and the youngest 23 years. The mean of working experience were 11 years, where the one nurse with the most experience had 33 years and the one with the least had 1 year of nursing experience.

Data collection
Data collection was conducted during January and February 2014 through nine semi-structured interviews with nurses at Acharya Vinoba Bhave Rural Hospital in India. Due to language barriers as the nurses first language was Hindi and their English was very poor an interpreter was present at the interviews as a support for the participants as well as the authors. An interview guide (appendix II) with semi-structured questions was developed as a support to ensure that all topics and questions were covered during the interviews (Polit & Beck 2012).

A pilot interview was conducted, but this interview was not included in the analysis. After this pilot interview the authors decided to make some adjustments in the interview guide and the way of using the interpreter. The interviews which took about thirty minutes each were conducted in private rooms at the wards. A tape recorder was used in order to capture the information given in its context, when notes tend to be incomplete and coloured by the researchers own memories and personal views (Polit & Beck 2012). Demographic information about the participants was collected by using a form (appendix I) with questions about sex, age and earlier experience of the profession.

Data analysis
Data was analysed through Graneheim and Lundmans (2004) content analysis. The analysis identifies meaning units and segments which can be developed into a category scheme. Meaning units were thereafter identified from all interviews and condensed without losing its context and content. Each meaning unit was then coded, which means giving short explanations consisting of one or a few words to describe the essence of the unit. These codes were used when creating categories to present the results of the collected data (Graneheim & Lundman 2003). The analysis resulted in four main categories and a total of seven sub-categories which are presented in table 1.
Ethical Considerations
This study was approved by Karlstad University and by the ethical committee of Acharya Vinoba Bhave Rural Hospital (appendix III).
All nurses in the group of possible participants got verbal information about the study and its purpose when recruiting participants for the study. The nurses who volunteered to participate got further information both verbally and by a written form (appendix IV & V) when meeting for the actual interview. Consent was documented by using informed consent forms, and participation was strictly voluntary. The initiated partaking could be terminated at any time without any consequences for the nurse. All information was handled confidentially. The participants got the authors’ contact information and were given the opportunity to ask the authors questions before and after the interview.

Study context and settings

Figure 1 – Map of India and Maharashtra with Wardha district marked (Familypedia 2013).

Maharashtra is one of the biggest of the 28 states in India, and one of the main visions of the public health department of Maharashtra is to provide an improved health-care to the people in rural areas (Government of Maharashtra 2014). In the eastern part of Maharashtra in the district of Wardha (figure 1) the Acharya Vinoba Bhave Rural Hospital (AVBRH) can be found. This is a 1206 bedded teaching hospital in a rural set-up. The fast developing hospital has the motto “Cure with Care” and is the first of its kind in the district. Each ward has between ten and thirty beds, and at each shift there are one or two staff nurses giving care to the patients. Other than the staff nurses, there are nursing students who participate in the daily care of the patients. The staff nurses working at the wards has completed a four year nursing education programme at a university in order to get their bachelor degree in nursing according to the Indian government (Tiwari et al. 2013). Each ward has an in charge nurse who is responsible for management and supervising the staff. This in charge nurse often has responsibility for several wards.
RESULTS
The analyse resulted in four main categories; Knowledge among health care staff, relatives and patients, Leadership, Resources and Routines. All categories and sub-categories are presented in Table 1.

Table 1. Categories and sub-categories.

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge among health care staff, relatives and patients.</td>
<td>- Educated staff</td>
</tr>
<tr>
<td></td>
<td>- Maintaining aseptic conditions</td>
</tr>
<tr>
<td></td>
<td>- Unawareness among relatives and patients</td>
</tr>
<tr>
<td>Leadership</td>
<td>- Staffing and hospital beds</td>
</tr>
<tr>
<td>Resources</td>
<td>- Material and financial resources</td>
</tr>
<tr>
<td>Routines</td>
<td>- Cleaning of the wards</td>
</tr>
<tr>
<td></td>
<td>- Hand Hygiene</td>
</tr>
</tbody>
</table>

Knowledge among health care staff, relatives and patients
The nurses expressed that knowledge of infection transmission among staff as well as common people is important when it comes to prevent HCAI. Their responses centred around three areas which were educated staff, maintaining aseptic conditions and unawareness among relatives and patients.

Educated staff
The nurses talked about the importance of not only protecting the patient but also the staff from being infected. Having educated staff in hygiene matters were considered by the nurses to be an essential part in order to accomplish this. They talked positively about giving lectures in hygiene practice to newly employed nurses. One of the nurses described the staff as lazy when they didn’t use the material like they should. Another of the nurses described that the staff sometimes was lacking education about how and when to use the material and that this could be a reason why the material wasn’t used as supposed.

Maintaining aseptic conditions
The nurses considered it essential to maintain the aseptic conditions when giving care to patients. They expressed that there is an existing lack of education among staff. The nurses talked about that education is important when it comes to maintaining the aseptic conditions. They emphasised the importance of having knowledge about how and why to maintain the aseptic conditions for both the patients and the staff.

But still I have to be strict, because patient will suffer. If I will be a neglected nurse, if I did not give attention to the cleanliness and this all the things. What is the use? If I’m a nurse, if I as a ward in charge if I’m not looking that, only if I will see the patients, and dirtiness is all on the floor, I’m a useless nurse... (nurse 1, age 54)
Unawareness among relatives and patients
The nurses mentioned that relatives are often involved in the daily care of the patient. It was described by the nurses that the number of relatives that was visiting and taking care of the patients sometimes could be a problem when preventing HCAI. Several of the nurses expressed that there is an existing unawareness among patients and relatives about how infections transmit which meant an increased risk for transmission of HCAI. This unawareness about how infections are transmitted was expressed by the nurses to be a challenge in the prevention of HCAI.

...the people doesn’t know about the, they doesn’t know more about the how the patient will get the infection... (nurse 2, age 29)

Leadership
The nurses considered a good leadership to be vital in order to conduct a successful infection control and that a good leadership motivated the staff to maintain the aseptic conditions. In order to accomplish this they meant that there is a need of supervision at the wards. It was expressed that there is an existing need for supervision among staff to ensure that hygiene routines are followed correctly. The nurses talked about that motivating the staff to use the material and to keep the aseptic conditions maintained is a challenge that nurses are facing. One of the nurses talked about motivating staff through getting statistics of how frequently HCAI occurred at their ward or hospital. This would be a help in encouraging the staff to keep a high compliance to hygiene routines and in long-term to be able to see results of their work. Reprimanding and punishment was other suggestions on how to get the staff to follow the routines.

But when I will see this is not done properly, work was not done properly, then I use to punish them. I use to punish them, and they don’t want punishment... (nurse 1, age 54)

Resources
Staffing and hospital beds
The nurses experienced that there was a lack of staff, and that this had an impact on conducting a successful hygiene practice. The nurses expressed that this lack of staff made it hard to find the time for each patient and to maintain the aseptic conditions. It was expressed by the nurses that there are too much patients to manage. They also experienced that there was too many patients in each room which due to the lack of space made it difficult to prevent the spread of HCAI.

Material and financial resources
The nurses expressed that this hospital is located in a rural area of India where many people live in poverty. They talked about that this poverty impacts on the care that the hospital could provide. The nurses talked about the importance of having enough material like gloves and masks in stock. They experienced that sometimes they didn’t get the amount of material that they needed and had ordered from the management, and that this resulted in feelings of powerlessness among the nurses. The nurses also talked
about that there was no tapped water at the wards which was considered to be an obstacle for conducting a successful hygiene practice.

...utensils, it won’t be available all the time for us. Main thing for example gloves and all, mask and all. Sometimes it won’t be there also. Even if you’re having time to use it we don’t have it, like that, it happens... (nurse 7, age 23)

Routines
The nurses considered routines regarding cleaning of the ward and hygiene practice to be important to prevent HCAI.

Cleaning of the wards
The nurses experienced that the routines regarding cleaning of the ward and having special staff responsible for the cleaning as essential for preventing HCAI. They talked positively about the wards being weekly fumigated and on regular basis there was culture checks performed to measure the amount of bacteria in the air and patient environment. Also the nurses talked about the waste management system that was implemented in all the wards with different coloured containers for different kinds of waste. They experienced that this waste management system was a great help in preventing the spread of HCAI.

Hand hygiene
All the nurses considered hand washing to be the most important thing when talking about infection control and hygiene practice. They expressed that the staff often didn’t wash their hands when they should. They expressed that a possible reason for this could be that there was no over-all routines developed regarding hand washing at the hospital, and that this was something that impacted the prevention of HCAI in a negative way.

As a nurse, each and all nurses, they should wash their hands. If I have touched you, suppose you are patient, if I have touching you, after that I have to move to other patient, and then other patient. Every time I have to wash my hands (nurse 1, age 54)
DISCUSSION

The aim of this study was to illuminate nurses’ experiences of impacting factors on hygiene practice and infection control. Four main categories of impacting factors was identified; Knowledge among health care staff, relatives and patients, Leadership, Resources and Routines.

Result discussion

One of the main things that could be identified as important to accomplish a successful hygiene practice was knowledge. This included having educated staff, maintaining aseptic conditions and that patients and relatives were aware of HCAI and how they transmit. Abela and Borg (2012) mean that informational posters at the wards did not increase compliance to hygiene routines. The nurses in this study talked about this and meant that compliance to hygiene routines was low at their hospital because of a lack of knowledge among staff. According to Abela & Borg (2012) posters had to be combined with educational sessions for the staff to impact positively on the compliance to hygiene routines. According to Wu et al. (2013) people that are aware of infection transmission are more motivated to follow hygiene routines and to maintain aseptic conditions than people that haven’t. This is supported by Mamhidir et al. (2010) who mean that having information and knowledge about infection transmission is leading to a higher compliance with hygiene practice and routines. This is in line with the result of this study which concluded that knowledge is an important impacting factor on the presumptions of conducting a successful prevention of HCAI. Skår (2009) mean that the use of experienced nurses’ knowledge in everyday nursing practice contributes significantly to the quality of health care.

Another area that the interviewed nurses considered important was a good leadership and that there is a need of supervision. Lacking leadership affects compliance to hygiene routines negatively while a good leadership shows dedication for hygiene matters and encourages the health-care personnel to maintain the hygiene practice (Ashraf et al. 2010). Takahashi and Turale (2010) point out the need for nurses who are specialized in health-care hygiene who can translate theory into practice and be a leader for the rest of the staff in the daily work with the patients. This motivates the health-care personnel to maintain the hygiene routines. When there are skilled and dedicated nurses in hygiene practice who participate in the nursing care of the patients, this affects the compliance to hygiene routines among the other staff at the ward in a positive way (Lind et al. 2013; Bamford et al. 2013; Akyol 2005).

The nurses talked about the importance of having enough material and financial resources. The availability of resources and material has a direct influence on the compliance to hygiene routines, easily accessible material contributes to a higher compliance among health care workers and the other way around (Sax et al. 2007; Lindh et al. 2013; Akyol 2005). The nurses in this study expressed that sometimes material was not available at the wards, even though the knowledge and will to use it existed. According to Mills (2011) having knowledge is not always enough; financial resources often have a great impact on what material is available. This is a big problem especially in low-income countries where the financial resources to invest in health care is not always present (Mills 2011).
**Method discussion**

Qualitative methods are used to learn more about human properties such as experiences and emotions, lived through situations or attitudes, as well as finding meaning and importance of something (Graneheim & Lundman 2004). Since this study aims to illuminate nurses’ experiences, a qualitative method with semi-structured interviews was chosen for gathering data. Semi-structured interviews allow the participant to speak more freely around the chosen topics instead of having a list of questions to check off (Polit & Beck 2012).

A pilot interview was conducted, but this was not included in the analysis because of the lack of quality. The interview was conducted in the nursing station at a ward with a lot of distraction moments. The interviewed nurse didn’t have the time to participate, there was a lot of people around which made it hard to hear the recording afterwards. The interpreter had misunderstood how the authors wanted the translation to be conducted. When translating the nurse’s answers the interpreter used her own words and added own experiences which made the interview less dependable. After this pilot interview the authors decided to change the order of some of the questions and make sure to conduct the interviews in a calmer place. The interpreter received further information about how to perform the translations so that it would be more in line with the participants own words.

There are some risks associated with using an interpreter; everything that is said cannot be translated and some data may be lost. There is an existing risk that the interpreter unknowingly let his or her own experiences reflect in the answers. The presence of an interpreter may also affect the participant in what information he or she decides to share or not to share. It is possible that the participant could feel intimidated by the number of people involved in the interview situation why it is of importance with proper information (Ny 2014).

The interviews with the nurses started with asking them to describe an ordinary day at work to establish a relation between the nurse and the authors. This opened up for asking questions about which opportunities and obstacles the nurses experienced existed at their respective ward for conducting a successful hygiene practice and infection control. Both authors were present at all the interviews. The recorded interviews were transcribed as exactly as possible and read through several times by both authors before starting analysing any data.

Criterion sampling is a purposive sampling that gives the opportunity to explore experiences about the phenomenon that is of interest. This through selecting participants that meet predetermined inclusion criteria (Polit & Beck 2012). An inclusion criterion for this study was that the participants should have at least one year of working experience as a nurse. Four of the participants had only one year of experience. These four interviews didn’t result in as much material to include in the content analysis as the interviews with the more experienced nurses. This could be seen as a weakness in this study, but it also indicates that there is a relationship between the amount of experience and the ability to reflect around their work in a larger perspective. This observation strengthened by Benner (1993) who emphasize the different levels of
proficiency nurses go through in their way from being a novice to becoming an expert. Benner mean that novices and beginners need guide-lines for their daily work in another way than more experienced nurses who usually can see situations from a broader perspective. It is also possible that a higher number of participants could have increased the validity and trustworthiness of this study though there are no rules for sample size in qualitative studies (Polit & Beck 2012).

In order to conduct successful interviews of high quality it is of help if the interviewers have earlier experience of interviewing (Polit & Beck 2012). The authors’ lack of experience in this study might have affected the data collection and thereby the results of the research (Polit & Beck 2012). A possibility is also that the interviews conducted in the later part of data collection keep a higher quality than the ones carried out in an earlier stage because of the authors’ gained experience.

Informed consent forms were used to document the nurses’ consent to participation in this study. An informed consent is vital for the trustworthiness of the study (CODEX 2013; Polit & Beck 2012). An existing risk was that the nurses could get the feeling of being judged, why it was a necessity to emphasize in the information to the nurses that this study was a part of a learning process in the field of scientific research and that the authors didn’t have any intention of judging the nurses in their line of work (CODEX 2013).

To perform interviews in a language that is neither the authors’ nor the participants’ mother tongue may also result in lost information. The use of an interpreter helps the interviewer to communicate and collect data even when communication becomes an obstacle. It is of great help when wanting to have an as wide range of samples and participants as possible, and not having to exclude participants due to language barriers.

**Clinical value**

This study is of clinical value because it illuminates specific factors that have an impact on nurses’ ability to conduct a successful hygiene practice and prevent the spread of HCAI. This research can be used as a support when starting improvement work regarding infection control in health-care practice.

**Future research suggestions**

It would be interesting to see the same kind of study conducted in other hospitals, both in India and in other countries to catch any differences. Another interesting area and the next step in the process would be to investigate what could be done in practical to improve negatively influencing factors. Also improving knowledge among staff about infection control would be an intriguing topic to investigate and learn more about.
CONCLUSION

This study shows that there are a variety of factors that have an impact on hygiene practice and infection control. The interviewed nurses experienced that having knowledge about how HCAI transmit is vital to conduct a successful hygiene practice, as well as a good leadership and implemented routines. They also described the importance of having enough staff, sufficient material and facilities in order to prevent the spread of HCAI. Since this study was conducted based on only nine interviews with nurses at one single hospital the results cannot be expected to be applicable to all hospitals in India.
ACKNOWLEDGEMENTS

First we would like to express our great gratitude to the management at Acharya Vinoba Bhave Rural Hospital for allowing us to conduct our data collection there. We would also like to thank everyone at Smt. Radhīkabai Meghe Memorial College of Nursing who have assisted us in our data collection, especially dean Mr. B.D. Kulkarni and vice dean Sr. Josy C.M.C. for helping us with identifying and collecting participants for the study. We would also like to thank all the participants for contributing with their time and engagement.

We would like to express our great appreciation to SIDA for giving us the MFS scholarship which made this thesis possible to accomplish. Also a special thanks to Agneta Danielsson at Karlstad University who have helped us with all practical matters. Finally the biggest mark of appreciation is for our supervisor Jan Nilsson for encouraging and supporting us and for giving useful critiques along the way of this research work.

Thank you!
REFERENCES


Appendix I - Demographic Information

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

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

3. How many years has he/she worked as a nurse? ………..Years

4. Which ward is he/she currently working in? ………………………………….

5. Which earlier working experience does he/she have in health care practice?

...............................................................

6. Which shifts is he/she working? Days Evenings Nights
Appendix II - Interview Guide

- Please give a brief description of a typical day at work.
  - What time do you start?
  - Are there different shifts?
  - What is the number of patients at your ward?
  - How many nurses work at each shift?

- Please explain to us what routines you have on your ward to prevent infections?

- Please describe to us what opportunities you feel exist at your ward to conduct a successful hygiene practice?

- Please describe to us what obstacles you feel exist at your ward that can have impact on the opportunity for you to conduct a successful hygiene practice?

- In your opinion what could/should be done in order to improve the infection control in nursing care?

Thank you very much for your participation. Is there anything else you want to tell us?
Appendix III – Ethical Approval

Datta Meghe Institute Of Medical Sciences
(Deemed University)
(Established under Sction 3 of The UGC Act 1956 vide Notification No F-9-48/2004 - U 3 Govt of India)

INSTITUTIONAL ETHICS COMMITTEE
Ref.No.: DMIMS(DU)/IEC/2013-14/535
Date: 04.01.2014

The Institutional Ethics Committee in its meeting held on 30.12.2013 has approved the following research work proposed to be carried out at Smt.Radhiakabai Meghe Memorial College of Nursing & A.V.B.R.Hospital, Sawangi (Meghe), Wardha.

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

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

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Research workers (Guide/Supervision)</th>
<th>Department</th>
<th>Topic of the proposed research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ida Walfridsson Therese Brovall (Sr. Josy CMC)</td>
<td>Child Health Nursing</td>
<td>Nurses’ experiences of hygiene practice and infection control in relation to nursing care in a rural hospital in India.</td>
</tr>
</tbody>
</table>

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

Copy to:-
1. Ida Walfridsson(Karlstad University student) Child Health Nursing
2. Therese Brovall (Karlstad University student) Child Health Nursing
3. Principal, SRMMCON
Appendix IV - Information to participant

Nurses' experiences of impacting factors on hygiene practice and infection control in a rural hospital in India.

You are being asked to participate in the study above. The purpose of the study is to illuminate nurses’ experiences of what impacts on hygiene practice and infection control. Adherence to basic infection control in all health and social care situations is the single most important measure to prevent the spread of infection.

We are two nursing students from Karlstad University, Sweden who will be in Sawangi Meghe, Wardha in India during January - February of 2014 to gather information for our bachelor thesis. The study is supervised by Jan Nilsson, senior university lecturer, PhD, Karlstad University.

Data will be collected through interviews and will last approximately half an hour. With your permission we would like to use a tape recorder in order to capture all information. Data will be strictly confidential, tapes and field notes will be kept in safe storage. An interpreter may be used at the interview if language barriers become a problem. You have the right to decide voluntarily whether to participate in the study or not. You have the right to withdraw from the study at any time. If you choose to participate in the study you will be asked to sign the consent form.

Please call us if you have any questions or would like to know more about the study.

Kind regards

Therese Browall (Karlstad University)  
therese.browall@hotmail.com
+46 76 045 02 51

Ida Walfridsson (Karlstad University)  
idawalfridsson91@gmail.com
+46 73 801 54 01
Appendix V - Consent Form

I have taken part of the given information regarding the study: "Nurses' experiences of hygiene practice and infection control in a rural hospital in India".

I am informed that participation is voluntary and that I have the right to refrain from participation at any time. I am also informed that there will be no consequences if I chose to withdraw from the study. I approve that an interpreter may be used at the interview if needed. With this I give my consent to the interview and that the interview will be tape recorded.

Signature of participant

______________________________

Signature of student

______________________________

Place and date

______________________________

Place and date

______________________________

Name of participant

______________________________

Name of student

______________________________