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Registered nurses' experience caring for patients
subscribed antibiotic treatment in The Philippines
An interview study

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Abstract

Background: Antibiotic treatment of humans was introduced in 1930. The drug improved the living conditions globally due to the fact that bacterial diseases now could be treated. The development of antibiotic resistant bacteria is undeniable and globalization increases the spread of the resistant bacteria. The main reason for the emergence of resistant bacteria are incorrect and excessive use of antibiotics.

Aim: The aim of the study is to investigate registered nurses' experiences when caring for patients that have been subscribed antibiotic treatment.

Method: A qualitative study with a semi-structured interview design based on interviews with eight nurses from one private hospital in The Philippines. The interviews were transcribed and analyzed using a qualitative content analysis.

Result: Three themes were identified in the study, "To increase compliance", "Nurses' knowledge of antibiotic treatment" and "The nurses' reflections on antibiotic treatment". The first theme describes how the nurses provide a safe and open-minded environment for the patients, how to support and encourage the patient during treatment and how to give comprehensible information to the patient. The second theme describes the nurses' knowledge of the emergence of antibiotic resistance, reasons for antibiotic treatment, the manifestation of antibiotic resistance and also the effects of antibiotic resistance. The third theme describes the nurses' reflections and thoughts concerning antibiotics as well as how they perceive the population's knowledge of antibiotics.

Discussion: All of the nurses highlighted the poverty in The Philippines as the main reason for poor compliance. A large part of the population cannot afford to consult a doctor which results in people treating themselves without the proper knowledge. A majority of the nurses therefore request health education provided from the government. A private hospital also strives to please the patient which can result in doctors prescribing a lot of antibiotics to please their patients.

Keywords: *patient education, patient teaching, nursing role, nursing, antibiotics, antibiotic resistance.*

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INTRODUCTION

Antibiotic resistance a worldwide problem

According to The World Health Organization and the public health agency of Sweden the increasing spread of antibiotic resistance constitutes one of the greatest threats to human health (Schelin 2014). Although the problem prevalence varies between regions and countries it is of a global concern (World Health Organization 2015). The Philippines struggles daily with the accelerated growth and spread of antibiotic resistance. The World Health Organization has issued an agenda that clearly indicates the need for information and attitude change among the population linked to antibiotic resistance.

The general health situation in the Philippines has greatly improved over the last 40 years. The average life expectancy has increased to over 70 years, the infant mortality has fallen by 66 per cent and the spread of contagious diseases in the country has decreased. However, there are still large inequities regarding access to healthcare among the population. This is due to the large income inequalities within The Philippines. This has led to the start of a national health insurance agency called PhilHealth. The purpose of PhilHealth is to improve hospital care for all groups in society and make it more equal (Romualdez Jr, Dela Rosa, Flavier, Quimbo, Hartigan-Go, Lagrada & David 2011).

Swedish conditions

The problem with antimicrobial resistance is relatively low in Sweden (Schelin 2014). The reason behind this might be a restrictive prescription policy alongside a conscious population. The spread of resistant bacteria occurs mainly in environments where antibiotic use is frequent such as hospitals and homes for the elderly. The problem with antimicrobial resistant bacteria in Sweden is primarily Staphylococcus and the prevalence of ESBL has recently also increased.

The impact of globalization on the spread of antibiotic resistant bacteria

The spread of antimicrobial bacteria is increasing as the world becomes more globalized (MacPherson, Gushulak, Baine, Bala, Gubbins, Holtom & Segarra-Newnham 2009). The meaning of globalization in this aspect is that countries' health status is not isolated. People are mobilizing all over the world, which means that the spread of antimicrobial drug-resistant infectious diseases and drug-resistant organism increases. The effect is that it is not enough that the rich and well-developed regions have a good health care when all countries are part of the global world. The effect of globalization is that countries and regions are interrelated, this resulting in a great need for global guidelines. The global development is a major threat to public health, since various countries' knowledge and resources differ (MacPherson et. al. 2009).

In the following study we will examine some Filipino nurses' experiences caring for patients that have been subscribed antibiotic treatment.

BACKGROUND

Antibiotic treatment

The name Antibiotics is used for all antibacterials (Nordeng, Spigset & Holmer 2009, pp. 120-121). There is a large variety of antibiotic types due to the large variety of bacteria and resistant bacteria. The antibacterial spectrum differs depending on the antibiotic type (Nordeng, Spigset & Holmer 2009, pp. 122-123). Preferably the subscriber is able to prescribe antibiotics with a narrow antibiotic spectrum to reduce the risk of resistance development. This depends on the bacteria's character. It is of great importance that patients follow the prescription in order for the drug to generate the desirable effect (Nordeng, Spigset & Holmer 2009, p. 122). The administration and the dosage vary between different types of antibiotics.

Antibiotic treatment of humans was introduced in 1930 (Schelin 2014). The drug improved the living conditions globally due to the fact that bacterial diseases now could be treated. The development of antibiotic resistant bacteria is undeniable. The reason behind this is an incorrect and excessive use of antibiotics (Swedish civil contingencies agency 2013). The effects of antibiotic resistance have far-reaching implications for society locally, nationally and globally. A modern healthcare system requires effective antibiotic treatment in order to function. An extensive spread of antibiotic resistance without alternative treatment methods would lead to difficulties in treating infections which today easily can be cured (Swedish civil contingencies agency 2013). Without proper treatment these infections become prolonged and more often life-threatening. Infectious diseases would occur more easily and the spread would increase. A widespread antibiotic resistance would also have consequences for the social fabric, the environment and the economy. The development and spread of resistant bacteria occurs both in humans, animals and the environment. As the world gets more globalized, the spread of the resistant bacteria increases. Through travel, transport and trade across borders the spread of resistant bacteria has increased. The growth of global medical tourism adds to the problem as well. This leads to a demand for a global responsibility and guidelines in order to constrain the resistant bacteria from spreading (Swedish civil contingencies agency 2013).

The development of resistance

In some cases, the resistance of bacteria is connatural, which means that the bacteria already in the formation are resistant. In the majority of cases the bacteria develop various defence mechanisms against substances they have been exposed to during a

longer period of time (Nordeng, Spigset & Holmer 2009, p. 123). An example of a defence mechanism is when the bacteria produce penicillinase which is acting against many types of antibiotics. The Swedish health care system suffers from problems with Methicillin Resistant Staphylococcus Aureus (Swedish civil contingencies agency 2013). These bacteria can for example complicate treatment of wounds. CRE (carbapenem-resistant Enterobacteriaceae) is referred to as a global threat. This bacterium produces Extended Spectrum Beta-Lactamase which makes it very difficult to treat due to the fact that it is resistant to most antibiotics.

Effective and safe principles concerning antibiotic treatment

Prescription of antibiotic must be restrained to avoid development of resistant bacteria (Nordeng, Spigset & Holmer 2009, p. 124). If it is possible to analyse the bacteria before implementing the treatment and thereby find the right type of antibiotic, it is of great importance to do so. The compliance to doses and duration of the treatment is also of importance in order to reduce the resistance progress (Nordeng, Spigset & Holmer 2009, p. 124). Patients treated with antibiotics as prophylaxis for instance before a surgical procedure needs an atypical antibiotic to reduce the risk of resistance development. By using an untypical antibiotic substance, the risk of bacteria developing resistance is reduced.

According to Strama, the Swedish network against antibiotic resistance and the Public Health Agency of Sweden, four out of ten antibiotic prescriptions are written unnecessarily. Many people in today's society believe that antibiotic treatment cures viral diseases and general colds which is a misconception. If antibiotics are used against a virus, the resistant bacteria remain in the patient's stomach up to two years. If the patient within this time suffers from an infection, this infection can be difficult to treat due to the resistant bacteria. Examples of diseases where antibiotic treatment usually do not improve the recovery are respiratory infections, sore throats, ear infections and colds (Strama 2011).

The World Health Organization action agenda for antimicrobial resistance

The World Health organisation has, due to the increasing problem with antimicrobial resistance in The Pacific Region, formed a agenda named Action Agenda for Antimicrobial Resistance in The Western Pacific Region (World Health Organization 2015). This action agenda describes shortcomings in the distribution of antibiotics, lack of information to the public concerning the risks and the challenges they now face in order to reverse the trend. The action agenda presents awareness and attitude changes among the population as the most essential thing in order to slow down the progression of antibiotic resistance (World Health Organization 2015). This results in a great need for information to the public, politicians and health professionals. In order for the information to be of value to the recipient it is required to be anchored.

The Philippines being a part of the Western Pacific Region share the problem with antibiotic resistance along with other countries in the region (World Health Organization 2015).

Nursing research and antibiotic treatment

Patients generally have great faith in antibiotic treatment and comprehend it as a cure for various diseases for example viral diseases. These attitudes and misconceptions can be allowed to grow as a result of the hospital staff's inability to educate patients about antibiotic treatment and the risks associated with the drug. The reasons for insufficient patient education are for example competing demands and stress (Price, Mackenzie, Metlay, Camargo, Carlos & Gonzales 2011).

The health belief model shows that knowledge is the foundation for change in behaviour and attitude. The health belief model was developed in 1950's by Hochbaum and is the oldest of all the health behaviour models (Mullen, Hersey & Iverson 1987). The model describes how individuals appreciate the advantages and disadvantages regarding health measures. In order for the patient to implement well-balanced decisions he or she is required to receive all necessary information before making an educated decision.

The patient's life-world and education

The life-world is the platform for learning, which means that the educator must have knowledge of the patient's life-world to anchor the information (Ekebergh 2009). Many of the everyday choices people make is essentially unreflective and governed exclusively by the life-world perspective. If the individual begins to actively reflect and actively analyse, the life-world can be conceptualized and articulated, this requires the nurse to start a process of reflection within their patients. The meaning of the term is the world as it is experienced by the specific individual (Andersson, Ekebergh, Eskilsson, Hörberg, Holst & Carlsson 2014). The life-world describes a personal and unique experience that is largely based on the lived experience. The patient's perspective and therefore the life-world is essential to caring science.

Historically, information from health professionals lacked adaption to the need of the specific patient (Friberg & Scherman 2005). Beyond this the health professionals were considered to be the experts on the patients and therefore the patients became anonymous. The result of this is an unequal and non therapeutic relationship between the health professional and the patient. This work method and approach had negative consequences for patient compliance. The relation between compliance and the learning- and teaching perspective is of importance (Friberg & Scherman 2005). Compliance demands an open, educative and caring relationship based on the life-world. In the current setting, the goal is a nurturing relationship which is characterized by openness and respect towards the patient's autonomy. To achieve this, it is essential that health professionals are responsive and flexible. Non-compliance within patients

can often be associated with a lack of interest in the patient's life-world from health professionals (Friberg & Scherman 2005).

The Philippines

The Philippines lies to the east of the Asian mainland, and consists of over 7000 islands. The country is one of Southeast Asia's most densely populated countries. For over 400 years the Philippines were colonized by Spain and later by the United States of America (Utrikespolitiska institutet 2015). In 1946 the Philippines were declared independent, although the US still maintained their military bases in the country until 1992. The bond between the two countries is very strong even in the current situation and the United States has had a great influence on the country in many aspects. The Philippines is democratically controlled but have major problems with corruption in both judiciary and politics (Utrikespolitiska institutet 2015). Nearly 10 percent of the country's GDP in 2013 about 26 billion pesos consists of money that emigrants send home to their families. Agriculture is the main economic resource in The Philippines, and the leading products for local consumption are rice and fish. In 2010 the World Bank estimated that 40 percent of the population in the Philippines were considered poor. Their definition of poor is living on less than two dollars per day (Utrikespolitiska institutet 2015).

Health care in The Philippines

The Philippines struggles with infectious diseases as the major cause of mortality and morbidity. The most frequent diseases are pneumonia and tuberculosis. The treatment of tuberculosis mainly consists of antibiotics (Nordeng, Spigset & Holmer 2009, p. 135). The tubercle bacillus has a great mutation tendency which means that the development of resistance occurs rapidly. In order for the doctor to decide which pharmaceuticals to apply, a resistance survey is conducted. In the meantime the patient is prescribed at least four different types of antibiotics (Nordeng, Spigset & Holmer 2009, p. 135). With the result of the resistance survey it is possible to adjust and refine the treatment knowing which substances the bacteria are most sensitive to. The treatment is tedious, from six to nine months because of the slow growth of the tubercle bacillus. Pneumonia is also treated with various types of antibiotics depending on the bacteria (Nordeng, Spigset & Holmer 2009, p. 212).

The expansive emigration leads to a major export of health professionals out of the country (Romualdez et. al. 2011). In 2009 13,000 Filipino nurses emigrated in order to work abroad. The health care standard in the country differs depending on the location for example rural and underprivileged areas suffer from critical shortages (Romualdez et. al. 2011). This creates a critical demand for the Filipino government to make the healthcare professions more attractive.

Drug prescription in The Philippines

Arriving to Olongapo City in the Philippines the authors knew little about the antibiotic prescription or how to get access to the drug. Talking to the registered nurses it was understood that a law came into force 2014 which prohibited pharmacies to sell antibiotics over the counter. This means that the buyer now by law needs a prescription in order to get antibiotics. In 2012 25, 2 percent of the Filipino population was considered poor in according to national poverty lines (The World Bank 2015). The population of The Philippines was in 2014 estimated to 107,668,231 people (CIA World Factbook 2015). This means that over 27 million people living in poverty. Medical facilities in the Philippines are expensive and therefore a large part of the population is left out regarding health care possibilities. This fact made the authors to questioning the level of compliance with the new law. Over 27 million Filipinos is left with no other choice but to self-medicate. The authors talked to the local citizens who confirmed our suspicions. We were also successful in purchasing antibiotics from six out of the six pharmacies we visited without any prescription.

PROBLEM STATEMENT

This study aims to investigate the Filipino registered nurses' experiences concerning antibiotic treatment and antibiotic resistance. Antibiotic treatment is necessary in order for the society to function at the same time incorrect and excessive use of the drug is a threat to humanity. The World Health Organization (2015) describes antibiotic resistance as one of the greatest threats to human health. The resistant bacteria are a global problem and effects all countries. In order to prevent the development and spread of resistant bacteria nurses need to educate and increase patient's compliance. The Philippines is located in the West Pacific Region which struggles with antibiotic resistance on a daily basis within the health care system (The World Health Organization 2015). The authors have examined the Filipino nurses' knowledge concerning antibiotic treatment and antibiotic resistance. Which strategies the nurses use to implement knowledge within their patients regarding antibiotic treatment and compliance has also been of interest. In order to reach a conclusion regarding this, the authors needed to learn about the nurses' work experience, their perception on antibiotic treatment and if they identified any risks related with the drug. Compliance and the caring relationship are additionally in focus due to the fact that the compliance is essential during an antibiotic treatment. What is the patient's opinion on antibiotic treatment according to the nurses? The patient's knowledge on antibiotic is also valuable to investigate. Do the registered nurses themselves identify any risk with antibiotic treatment?

AIM

The aim of the study is to investigate registered Filipino nurses' experiences when caring for patients that have been subscribed antibiotic treatment.

METHOD

The method used is a qualitative design named content analysis which is used for interpreting and analyzing texts, usually from interviews (Granskär & Höglund-Nielsen 2008, p. 159). The reason for choosing this method is to comprehend and understand the Filipino nurses' experiences concerning antibiotic treatment. During the interview, the aim is to discover meanings or phenomena (Svensson & Starrin 1996 p. 55). The interest lies in trying to determine what the reality is. Qualitative research is characterized by understanding the person who is being interviewed (Kvale, Brinkmann & Torhell 2014, p. 17). The qualitative interview is non-standardized, which means that the importance of the interview questions can not be determined before the interview is conducted (Svensson & Starrin 1996, p. 56). This results in requirements for the interviewer to adapt, develop and follow up during the unique interview situations in order to answer the problem statement. An interview is characterized by an interaction between at least two people, where both the interviewer and interviewee reacts to and affects each other (Svensson & Starrin 1996, p. 58). The result of the interview is therefore a product by both the interviewer and the interviewee. The interview questions were of a semi-structured design and suited this study because they investigate the nurses' own experiences. Semi-structured questions are based on the life-world perspective, it is not an open conversation or an enclosed questionnaire (Granskär & Höglund-Nielsen 2008, p. 45).

The main goal for the researcher is to understand and comprehend the material from the interview (Kvale, Brinkmann & Torhell 2014, p. 17). In order to succeed with a qualitative design the life world of the interviewee is of great interest. The interviewer has to have an open-mind to reduce the risk of impact on the conversation (Kvale, Brinkmann & Torhell 2014, p. 45). Preconceptions can influence the result of the interviews but with a constant reflective approach and analysing the original text, the authors will try to reduce that influence. Still, preconceptions are subconscious and something the interviewer needs to be aware of.

The focus of qualitative studies with content analysis is to identify differences and similarities in the content. These are then expressed in categories and subcategories' to create a context for interpretation, therefore, knowledge of the context and an understanding of the living conditions of those that are being interviewed (Lundman & Hällgren Graneheim 2012, p. 161). Ten open questions were formulated with various themes that accounted for the moral consequences of the investigation.

Respondents

In order to get in contact with the hospital the authors had to have a contact person in Olongapo City who could institute contact between the authors and the hospital and provide the hospital management the letter of consent (See Appendix 1). The participating nurses were asked to participate in the study by the supervising nurse, the criteria were that they had minimum two years of experience. The authors wanted to cover various departments to get an accurate result. The departments represented in the

study are one general ward, the dialysis department, the operation room, the clinic and the emergency room. The nurses were given a letter explaining the study before they agreed to participate. No one of the asked nurses had any objections to being apart of the study. The interviews were performed with eight nurses from a private hospital in Olongapo City from five different departments to get a variety. There were three men and five women in the ages from 22 to 31 years, with different experiences and backgrounds in health care.

The chosen hospital is a private hospital with high standards compared to many other Filipino hospitals according to both nurses and local citizens. This must be taken in consideration in relation to the result of the study. The participants were chosen from the various departments and those who could spare time during their shifts. All the people who were interviewed could speak English so there was no need for an interpreter.

Data collection

The participants for this study were chosen from the various departments and from persons who could spare time during their shifts. The interviews were conducted with one nurse at a time and was recorded with a Dictaphone and lasted about 40 minutes each. The interviews consisted of ten written questions supplemented by follow-up questions (See appendix 2). The locations for the interviews were private rooms in all five departments. The only requirement from the authors was a quiet setting to minimize distractions during the interview.

The division of labor between the authors during the interviews was consistent. S.H conducted the interviews while K.D.K was taking notes. The transcribed material was 24 pages long. Then the material from the interviews was transcript to writing in order to understand the context. After the transcription the content was analyzed with most appropriate analytical method, which in this case was content analysis.

Data analysis

Lundman and Hällgren Graneheims (2008) qualitative content analysis was used for transcribing and analyzing the interviews. To get a totality and see the differences and similarities the authors discusses and read the interviews several times. The next part of the process was to find meaningful units from each interview and code these condensed meaningful units to determine differences and similarities. The authors transcribed half of the material together and two interviews each after that. The same structure was used during the text analysis. This structure allowed the authors to discuss the material and come to an understanding concerning the interpretation of the material. The authors were always involved in all the material during the process, discussing and analyzing.

In qualitative nursing research the content analysis is used for reviewing and interpreting texts, as well as transcripts of recorded interviews. The content analysis

involves an inductive approach and an analysis of texts based on people's experiences. Interpretation of the texts should be made with an awareness of human history and culture (Lundman & Hällgren Graneheim 2012, p. 159).

Table 1. Example of text analysis.

Meaningful Unit	Condensed meaningful unit	Code	Subtheme
“We immediately establish a good relationship by talking to the patient. I like knowing the things they like or that they expect from us.”	The nurse is responsible for a good relationship which is the base for fulfilling the patient needs and expectations.	The nurse role in building a good caring relationship.	Providing a safe and open-minded climate
“We also tell them that their privacy also are practice over our area. What ever they tell us we do not discuss it with other patients or relatives”	The nurse need to ensure the patient that everything they say is confidential.	The nurse role in building and providing a safe and open climate.	Providing a safe and open-minded climate
“I think we explain it in a very detailed way, in a way that they can really understand, anything that we are going to do to them. Usually we tell them what to expect. Actually just take away their doubts and make them feel secure and to tell them, tell them what to except”	By informing the patient their expectations get realistic and they are a part of their treatment. A patient in treatment is also in need of security, this is provided thru knowledge.	The nurse role in providing a true and realistic picture concerning the patients care and treatments.	Providing a true and realistic picture concerning treatments

Trustworthiness

According to Lundman & Hällgren Graneheim (2012, p. 161) the trustworthiness of qualitative studies is judged through reflection and discussion between the authors, it is essential to reach a consensus of the interpretation of the texts. The design of the interview questions is based on active choices to reach a representative and truthful result in relation to the aim of the study. The interviewees were from different departments to increase the trustworthiness. The trustworthiness is based on how useful

and transferable the result is (Lundman and Hällgren Graneheim 2012, p. 198). If the result of a study can apply to other groups and situation the result is considered to be of good transferability. By covering different departments this study has variety and covers different types of work experience among the nurses. Throughout out this study the authors explain the detail analysis process which empowers the reliability of the study.

Ethical considerations

The study was conducted with respect to the code of ethical considerations in international nursing research (Olsen & Working Group for the Study of Ethical Issues in International Nursing Research 2003). The interviews were conducted with nurses of a private hospital and the director of the hospital and the nurse supervisor approved the study as well.

RESULT

Conducting the content analysis three main themes emerged from the interview transcripts. These three consists of “To increase compliance”, “Nurses’ knowledge on antibiotic treatment” and “The nurses’ reflections on antibiotic treatment” were additional subthemes.

Table 2. Presenting themes and subthemes

Theme	Subtheme
To increase compliance	<ul style="list-style-type: none"> • Providing a safe and open-minded environment • Support and encourage patients during the treatment • Give comprehensible information to the patient
Nurses’ knowledge of antibiotic treatment	<ul style="list-style-type: none"> • The emergence of antibiotic resistance • Reasons for antibiotic treatment • The manifestation of antibiotic resistance • The effects of antibiotic resistance
The nurses’ reflections on antibiotic treatment	<ul style="list-style-type: none"> • The need for antibiotic treatment • The nurses’ view on antibiotic medicine

- | | |
|--|---|
| | <ul style="list-style-type: none">• The population's knowledge of antibiotics |
|--|---|

To increase compliance

This theme illustrates how nurses can increase compliance supporting and encouraging the patients throughout their treatments. The first subtheme "Providing a safe and open-minded environment" describes how the nurses using different techniques ensure the patients' privacy along with how the registered nurses forms the encounters and dialogue with the patients' to achieve a trusting relationship along with compliance. The second subtheme describes how the nurse should function as a support to the patient during treatments by answering questions and always being present when the patient needs further encouragement to complete the treatment. The third subtheme describes how to give comprehensible information to the patient so that the patient can be committed and fully understand their treatment.

Providing a safe and open-minded environment

All the interviewed nurses brought up the importance of a good first meeting with the patient. This meeting and the patient's perception on that meeting is essential in assuring the patient of a safe and open environment. The methods for a successful first meeting differed but was characterized by the importance of a good rapport in order for the nurse to answer the patients questions or concerns and thereby creating a safe environment. Others spoke of emphasizing confidentiality to ensure the patient that they can trust the nurses with sensitive information. In order to convey trust the nurses need to be sincere towards their patient's as well. Honesty and openness needs to be woven into the dialogue and this are the responsibility of the nurses.

"Of course you have to make them feel that I am sincere and and want to get honest answers from them the same that I give honest answers of course. If they have any concerns I address every question, I address every concern so they feel that they could open anything with me." (nurse 6006)

The area of the hospital where the interviews were conducted was a former United States navy base. Within the remains of this navy base there is a widespread prostitution. This leads to a high prevalence of sexual transmitted diseases in the area. These kinds of diseases are perceived as shameful which requires an even greater need for the nurses to enforce openness and confidentiality. To attain this the nurses inform the patients about the confidentiality policy at the hospital. They also try to be open-minded and sincere in their relations to their patients in order for the patients to do the same.

Support and encourage patients during the treatment

Several nurses explained how they always try to answer any questions the patients have, if they can't answer they will consult a doctor. All agreed that the patient has to understand their treatments, procedures or examinations. The importance of informing the patient about side-effects related to their treatment was highlighted by all the nurses. Knowledge about the design of treatment, how long and how much was also described as something of great importance. This education forms the basis for personal responsibility within the patients during treatments. In order to achieve compliance the knowledge mediated from the nurses need to increase motivation. If the patients understand the reason for their treatment this could alleviate discomfort. To convey realistic expectations of treatment is also of importance for the nurses to obtain the patient's confidence in healthcare.

“Actually we just take away their doubts and make them feel more secure and to tell them what to expect”. (Nurse 1001)

The lack of medical records sometimes results in patients having severe allergic reactions during treatments. In the event of this, the nurse needs to restore the patient's faith in getting better and finding a new suitable treatment. The encouragement can be designed in different ways, sometimes in form of conversation or other times in form of physical contact.

“We just give them comforting words; this is for you, just bear with us for a while. Sometimes a simple touch, at least that comforts them for now”. (Nurse 1001)

Interviewed nurses describe that many patients lack faith in healthcare and treatments. In those situations there is a great need for education and information. The patients need confidence in order to obtain compliance.

Give comprehensible information to the patient

The registered nurses all stressed the importance of answering any questions the patient might have. The goal is to verify the patient while the nurse's competence and professionalism is made visible. Depending on the patient the education and information needs to be adjusted to the specific patient. In most cases the information needs to be simplified in order for the patient to understand the essence. If the patient understands the reason for a treatment the compliance and motivation increases.

“Actually here in the hospital the premises is the compliance is great because we have to give it to them and they have to take it, but once they are in their homes they forget it.

They have very low compliance here. The biggest obstacle here in the Philippines is the price of the drug". (Nurse 2002)

While the patients are hospitalized the compliance is high since the nurses bear the medical responsibility. According to a majority of the interviewed nurses the difficulties start when the patients return home and need to continue the treatment themselves. Foremost the lack of compliance is related to financial problems. When the patients start to feel better they stop their treatment in order to save money. By educating the patients and increasing their knowledge the nurses can improve their motivation to follow through with the treatment. The financial situation is still a threat to patients compliance, regardless of the provided education. A big part of the Filipino population struggles to survive and therefore they can't prioritize medications. Half of the nurses also highlighted the problem with patients forgetting to take their medications. One of the nurses links this to a lack of support and reminder from somebody else.

Several of the registered nurses describe the importance of education in relation to the consequences of going against treatment recommendations. While educating their patients the nurses provide them with responsibility for their own healthcare.

Two of the nurses explained that if the patients were not in a position to receive information about treatment, it was the family's decisions; often they talk with the family even if the patient is conscious. According to one of the nurses the main reason for this is that many of the patients have a family member who pays for their healthcare. This makes the benefactor involved since all treatments cost money.

Nurses' knowledge of antibiotic treatment

This theme describes the registered nurses' knowledge concerning antibiotic treatment: how the nurses reflect and administrate antibiotics in their daily work. The first subtheme "The emergence of antibiotic resistance" describes the development of antibiotic resistance according to the nurses. The following subtheme is "Reasons for antibiotic treatment". Here the nurses from all of the different departments explain the most common reasons for antibiotic treatments. The next subtheme is "The effects of antibiotic resistance", where the registered nurses describe how the antibiotic resistance reveals itself and affects their work with their patients. The last subtheme is "Prevention of antibiotic resistance" where the registered nurses explain how to prevent the spreading of antibiotic resistance by implementing knowledge and increasing compliance within their patients.

Reasons for antibiotic treatment

All the registered nurses describe antibiotics as necessary in order to practice proper health care; simultaneously half of the nurses define the excessive antibiotic use as a

problem. In the emergency room and in the operation ward they use antibiotics as a prophylaxis to prevent the occurrence of for example pneumonia.

In the emergency room they mainly treat urinary tract infections, helicobacter, meningitis and pneumonia with antibiotics. Although the surgery has problems with respiratory diseases such as pneumonia, streptococcus, tonsillitis and bronchitis the two nurses working in surgery highlights the problem of the tropical climate related to wound infections. The bacteria thrive here and the wounds easily become infected. Infected wounds require antibiotic treatment. Nurse 4004 from the operating room also describes that antibiotic sometimes are used to treat viral diseases even though this is incorrect use of antibiotics.

The remaining registered nurses are talking about pneumonia, cough, urinal tract infection, tuberculosis and bronchitis as common diseases treated with antibiotics in the Philippines. The nurse from the open clinic at the hospital highlights sexual transmitted diseases as one of the most common reasons for antibiotic treatment.

A majority of the registered nurses disclose that many of the patients expect an antibiotic treatment when seeking care at the hospital. In these cases, it is foremost intravenous treatments that are of interest.

“Based on my experience the patients that come here usually ask the doctor to start an antibiotic treatment already. Because that is the main reason they are here.” (Nurse 8008)

The emergence of antibiotic resistance

All but one of the nurses highlights antibiotic resistance at some point during the interview. A majority of the nurses address the subject repeatedly. Nurse number 1001 has six years of experience as a nurse, but does not understand the connection between poor compliance or over excessive antibiotic use and antibiotic resistance. The awareness about the existence of antibiotic resistance is there but the understanding about the emergence is not. The lack of compliance and knowledge is the main reason for the widespread resistance according to six of the registered nurses. The lack of compliance is primarily linked to the difficult economical situation of many Filipinos. All nurses talk about the population's economical struggle; the strained economical situation forces the patients to end the treatment early in order to prioritize basic things such as food.

” They have very low compliance here, we have a more resistant population because of the low compliance. One of the problem in the Philippines is the prices of the drug. That is one of the most obstacles” (nurse 2002)

According to all the registered nurses a majority of the Filipino population can not afford to consult a doctor or go to the hospital. This results in a need to self-medicate. This reinforces the need for health education in order for the population to make educated decisions regarding their health. The lack of knowledge has also a negative effect on the compliance of the patients. Not knowing why, it is important to follow through with the treatment the motivation to pay for the drugs when you already feel healthy is non-existent.

“You must always provide information. They can’t stop if they feel better, not stop the antibiotic. Always remind them of resistance and do not take the antibiotic for future use and infections” (nurse 5005)

Three of the registered nurses also speak about the problem related to the fact that the doctors do not take blood samples to determine the bacteria culture before starting the antibiotic treatment. This results in a need to often have to change the antibiotics due to resistance or choosing the incorrect type which also adds to the emergence of antibiotic resistance. Nurse number 2002 also highlights how doctors use more than one antibiotic type even though there is no need to do so.

*“Sometimes the doctor using three antibiotics just sometimes that doctor just could just have used one. For me the best is using the least amount of antibiotics to cover all that strewn that the patient has because for me the poly use of antibiotic can cause some microorganisms to resist or resistance to that antibiotic for a for use of long use.”
(nurse 2002)*

Only two of the registered nurses talk about the fact that antibiotic resistance is contagious and can spread from human to human.

The manifestation of antibiotic resistance

Several of the nurses explained that the laboratory results are the only thing that confirms antibiotic resistance. At the hospital they examine urine; blood and mucus, the results of the samples are available after five days. Six of the nurses highlight that antibiotic resistance is also discovered during antibiotic treatments when the patient is not getting better due to resistance. This forces the doctor to end the ongoing treatment in order to try another antibiotic. This problem arises because patients get antibiotics straight away while the laboratory results takes five days. The result of this is that at least two kinds of antibiotic types are used. One of the nurses describes the problem with “poly use” of antibiotics which results in the patient is using different types of antibiotics at the same time. In many of these cases it is unnecessary to use several types. The expression “antibiotic shopping” is brought up during three of the interviews with the registered nurses. This expression is used by the nurses to describe some doctors who prescribe a lot of antibiotics.

“For example this is the antibiotic that they started, first day of hospital and they had a repeated blood count, they order cultures blood, for example flam. When the result come, we can see for example, the medicine that he was given was resistant. That’s our only basis, the lab results are our only basis”. (Nurse 1001)

In the Philippines they struggle with tuberculosis and the treatment for this illness is six months of antibiotics. This in addition to bad compliance leads to increased levels of resistant tuberculosis bacteria. One of the nurses is expressing a fear of getting infected by resistant bacteria while working. There are only two registered nurses who describe that the resistant bacteria can spread from human to human.

“We also had a resistant staphylococcus you see so it is really hard for me even though we are all on the personal protective equipment we are so scared that we could get that and it is still scary because one you got that infection, you have it.” (Nurse 2002)

One of the nurses points out that many of the hospitals staff blame the patient for taking excessive amounts of antibiotics when it comes to resistance. Therefore, it is of importance to educate patients and hospital staff about how the resistant bacteria easily can spread between humans.

The effects of antibiotic resistance

Seven of the registered nurses describe difficulties treating patients due to antibiotic resistance. This leads to a demand to change antibiotic type in order to find the proper one. The effects are longer hospitalizing, prolonged disease and more severe infections. During the interviews all registered nurses were asked “If you encounter ten different patients, how many of them would you estimate have antibiotic resistance?”. The result of this question from all eight nurses is that four out of ten patients are infected with resistant bacteria. The registered nurses stated that it differs between departments. In the emergency room the asked nurses estimated it to be seven out of ten while the numbers in the general departments were lower.

If a patient has developed a resistance towards the common antibiotic types, it is difficult to treat them and the doctor needs access to unusual antibiotic types. A result of this is that the patient often gets transferred to an infectious disease ward with more resources. One of the nurses that worked in the emergency room expressed the difficulties with having a patient that is resistant and also has sensitivities to antibiotic medicine. If they can’t find a suitable medicine that works they will send the patient home without treatment. Three of the registered nurses also describe the fear related to antibiotic resistance and having no alternative antibiotics or options left for their patients.

“So we have already used all the things we had and sometimes we could say it is terminal. Because we can’t give anything. If we give him something it would cause him more harm than good”. (Nurse 2002)

The nurses’ reflections on antibiotic treatment

This theme describes the registered nurses’ reflections and thoughts concerning antibiotic treatment. “The need for antibiotic treatment” is the first subtheme which explains the nurse’s view on the necessity of antibiotics and why it is a common treatment when hospitalized. The second subtheme “The nurses view on antibiotic medicine” explains the nurses positive and negative reflections on the medication itself. The last subtheme “The population’s knowledge of antibiotics” describes how the nurses perceive the Filipino populations opinion on antibiotic treatment.

The need for antibiotic treatment

Several of the nurses think that antibiotics are necessary when hospitalized due to the many severe airborne diseases that can contaminate a fragile patient. According to a majority of the nurses many doctors in the hospital prescribe antibiotics as a prophylaxis the first time he or she meets the patient.

“The doctors give antibiotics as prophylaxis for prevention. That’s what I usually encounter. For example because the patient is exposed to different kind of diseases they are already prescribing antibiotics”. (Nurse 1001)

The reason for this is to control the spreading of diseases within the hospitals walls. Half of the interviewed nurses also describe how antibiotics are used as a prophylaxis in relation to surgery to avoid diseases and wound infections. This antibiotic treatment continues after the operation until the patient is fully healed. The tropical climate is also highlighted by registered nurse number 4004 as a main reason for bacterial problems in The Philippines.

The nurses’ view on antibiotic medicine

All of the registered nurses administrate antibiotic on a daily basis. Three of them describe that in their opinion the hospital administrates more antibiotic then necessary. All of the registered nurses believe that antibiotics are vital and life saving. Apart from antibiotic resistance, allergic reactions and negative liver and kidney effects, all the nurses describe antibiotics in a positive way. The help the drug provides often outweigh the risks.

“Everything has risks, sometimes we have to outweigh the risks and the benefits. Number one is drug resistance. The patient has to be aware of the risks but often the benefit is greater” (Nurse 2002)

Several of the nurses point out the patients’ need of knowledge, in combination with antibiotic treatments. It is the responsibility of the nurse and the doctor to provide this knowledge. The hospitals do not use computers for medical records so it is the patient’s responsibility to know and inform any allergies, sensitivities and what kind of medicine the patient has been taking before. When it comes to antibiotics the information is of great significance and demands that the patient understands the reasons for the treatment along with the importance of compliance. Two of the registered nurses describe how they sometimes need to talk to the doctor in relation to him prescribing the wrong antibiotic or a dose that is considered higher than recommended. Most of the time the doctors do listen to the nurses.

“Doctors are giving broad antibiotics; sometimes they do not check the cultural differences. But they give it first before they know the microorganism. Because many patients treated get cured but sadly many get resistant after that”. (Nurse 7007)

Half of the nurses believe that health education is important when it comes to antibiotic treatment. By knowledge of how to avoid getting sick people can be responsible for their own health. This can be achieved by for example raising awareness around personal hygiene and the risks related to smoking. When ill, the patient is further more in need of education in order to get well and avoid further risks. When it comes to antibiotic treatment all the nurses describe the importance of telling the patient why they are receiving antibiotics and if possible how they can prevent getting sick in the future. A majority of the registered nurses also stress the important of talking about the risks with no compliance and supporting the patient in order for them to be compliant.

The population’s knowledge of antibiotics

According to all the nurses it is very expensive to go to the doctor for a consultation. Many people in the Philippines usually ask their friends, family or neighbors for advice when feeling sick. This results in people choosing the same type of antibiotic that their family member or neighbor got prescribed because it worked for them. After consulting with friends and family they buy antibiotics over the counter. The education from the pharmacies is in most cases non existent because the staff lack qualifications.

” They think they will be cured. They just take what other persons take, they do not consult with a doctor” (Nurse 7007).

A majority of the nurses speaks of the new law from 2014 that forbids pharmacies to sell antibiotics over the counter, still almost all of the nurse's talk about poverty and people buying antibiotics over the counter as a problem related to antibiotic resistance. Six of the nurses describe the population's view on antibiotic as positive, they see antibiotic as a cure to many diseases.

“Positive in a way, they know that they are going to be okay taking the antibiotics but negative because they do not know how to take the antibiotic drugs without consulting the doctor”. (Nurse 4004)

Many of the patients stop taking their medicine if they feel better without knowing the consequences. All of the nurses agree that the price of antibiotics impairs the compliance of the patients. With all the symptoms gone many patients stop their antibiotic treatment due to financial aspects as well as a lack of knowledge. Most of the people do not feel the need to consult a doctor or a nurse due to the faith in the power of antibiotics. One of the nurses explained that a lot of the patients are asking for an antibiotic prescription themselves when arriving at the hospital.

DISCUSSION

Methodological discussion

Before travelling to The Philippines the authors collected data on antibiotic resistance in Asia and conducted a literature research on the background before leaving. It was difficult to find information on antibiotic resistance in the Philippines. This forced the authors to broaden the focus on the whole Western Pacific region which is the part of Asia where The Philippines is located, in order to gain knowledge about the antibiotic resistance. Due to the fact that The Philippines is a former colony of the United States the population speaks good English, but it is neither their or our first language. This leads to a risk that some words and meanings have been misunderstood or modified, although the risk is reduced because no interpreter was used. A third party involved in the interviews adds an additional step of interpretation to the material which can affect the results in a negative way.

The authors tried to create a comfortable and open environment by using small talk in the beginning of the interview asking the nurses about themselves and their work as well as telling them about ourselves. The authors tried to have a reflective approach during the interviews and a consideration of the relationship between us and the nurses. One reason that the answers from the nurses could be modified was the thought of damaging the hospitals reputation as the interviews were conducted at the hospital while the nurses were working. The authors explained the reason for this study and guaranteed privacy so that the nurses could feel secure to talk openly. The interviews were executed in the hospital in different private rooms in order to minimize interruption. After the first interview and the word got out what kind of questions that we were going to ask, there is a possibility that the nurses' talked amongst each other and there by they might

have influenced other participants answers during the interviews. There is also a risk that the management after approving the questions talked to the nurses about them before the interviews were conducted.

Result discussion

Three major themes are identified as a result of this study "To increase compliance", "Nurses' knowledge of antibiotic treatment" and "Nurses' reflections on antibiotic treatment". The outcome shows that the nurses use different techniques to increase compliance, but they are all aware of the importance of compliance. Knowledge and attitudes among the population effects the nurses' work concerning increasing compliance amongst their patients. A well educated population does not require the same amount of education on order to make proper health decisions. The knowledge amongst the nurses is the basis for the patient's education. If the knowledge is inadequate, the education also will be. Patient's preconceptions and attitudes will affect the compliance. Patients who do not believe in a treatment or the nurse are likely to be noncompliant. The nurses have to adapt the information to the patient and consider the patient life-world to implement knowledge. If the nurses do not consider that every patient is unique and have different perspectives on treatments, the nurse cannot expect compliance. According to Ekeberg the nurse needs to encourage the patient to actively reflect and actively analyse in order for the life-world to be conceptualized and articulated (2009). All the nurses describe the importance of an open dialogue and climate, these two things form the basis for patients to articulate their own life-world and there by also the basis for the nurse to adapt the education in order to anchor the information.

A majority of the nurses highlighted the difference between patients' compliance while being in the hospital compared to in their own homes. The main reason for the big difference is according to the nurses that they have the medical responsibility at the hospital. The patients get their drugs at specific times and the payment is included in their hospital stay. When returning home patients easily forget and also prioritize other things financially. This problem can be reduced through patient education. By educating and involving the patients in their own care they gain knowledge to make proper decisions alongside with a greater responsibility to their health. This creates high demands on the nurse's ability to anchor knowledge with in their patients. Due to the financial situation in The Philippines, patient education is not a guarantee for compliance. A large part of the population does not have economic resources to seek medical attention which constitutes a big problem. The effect of this is that the knowledge about health and treatments in a large part of the population is very poor. A majority of the nurses therefore request health education from the government in order for the population to avoid getting sick and also in order to recover from illness. This suggestion is valuable and could perhaps contribute to increasing the public health situation.

Another problem regarding poverty that all the nurses pointed out was that people consult with the pharmacist and buy antibiotics over the counter instead of seeking

medical attention. Accordingly, to local residents as well as some of the nurses, a majority of the people working in the pharmacies have no education, which increases the risk of wrong treatments. Several of the nurses spoke of the new law from 2014 that prohibits a person from buying antibiotics without a prescription. Two of the nurses said that the law was not implemented in some of the pharmacies around the country yet. The authors wanted to investigate if the law was enforced or not. The result was that in six out of six pharmacies in both Olongapo City and Boracay did not ask for a prescription. The design of this minor investigation was that the authors went into the pharmacy and asked to buy antibiotics. Two of the pharmacies asked for a prescription, although when explaining that we forgot it at home we could still buy antibiotics. The antibiotic sold is not only for oral use but also for intravenous use. One must keep in mind is that the rules for the Filipino population sometimes differ from the treatment of foreigners.

The main problem with this situation is that the pharmacists can't diagnose the people due to the lack of education. This can result in a life-threatening scenario but many people have no choice because they cannot afford going to the doctor. They will do what they can with what they have. The nurses can only help the patients in the hospital by giving them health education, when they leave to go home it is out of their hands. Even if the nurses have explained the importance to follow through a treatment and revisit the doctor to follow up the disease development, the patient can not follow through if they do not have any financial resources. Half of the nurses explain that they think the patients want to be compliant but in some cases there is nothing to do because the patient cannot afford the medication they need.

In order for the nurses to give the patients proper education concerning antibiotic treatment the nurses themselves need to possess that knowledge. This study shows that this knowledge sometimes is deficient. All of the nurses knew that patients can develop resistance but only two of them knew the cause for the development of resistant bacteria. Nurse 1001 did not grasp the connection between antibiotic use and the development of antibiotic resistance. If the nurses lack knowledge of the emergence of antibiotic resistance they can't prevent it through patient education. Two of the nurses said that antibiotic resistant bacteria can transfer between patients. This knowledge is essential to protecting patients, but also the nurses themselves from getting infected. The lack of awareness about can result in the nurses actually spreading the resistant bacteria. As described in the background The Philippines struggles with tuberculosis, one of the nurses described the fear of getting infected by the resistant tuberculosis bacteria during work. The fear within the nurses in their daily work constitutes a big problem and calls for further education and recourses. If the nurses do not follow the basic hygiene routine, like using hand sanitizer between patients or gloves when handling fluids it is a possibility through direct contact to spread the bacteria around the whole hospital. If the nurses themselves have wounds the bacteria can infect both the nurses and the patients in their care.

The hospital does not have a computerized patient data record of the patient's medical history or current status. This leaves the patient with a huge responsibility to know their own medical history. The nurses therefore have to support the patient and furthermore get the information necessary to treat the patient. This places high demands on good communication and trust, in order to get the patient to reveal their medical history.

All the nurses describe antibiotic as necessary for an effective and safe care. An excessive and inaccurate antibiotic use complicates the daily work of the nurses, resistant patient's leads to more advanced treatments and longer hospital stays. They also describe a lack of confidence in their doctors regarding antibiotic treatments. This adds demands on the nurses to possess the right knowledge in order to help correct the doctor. A majority of the nurses describe that almost all patients seeking hospital care expect an antibiotic treatment. The private hospitals in The Philippines is expensive and the patients can always choose another hospital if they wish. If the hospitals lose patients they also lose money, which means that the hospitals strive to please their patients. This might lead to doctors prescribing antibiotics to please the need of the patients. As well as for many health professionals emigrating abroad the hospitals can leave the hospitals short on staff. That leads to longer waiting time as well as short on staff which can create problems for both existing and new patients.

CONCLUSION

All the interviewed nurses highlight the importance of proper patient education in combination with antibiotic treatment. The design of that education differs between the nurses but the goal is mutual and constitutes of involving the patients in their own care along side with increasing the compliance. The financial situation in the Philippines complicates the work of the Filipino nurses daily. A large part of the Filipino population cannot afford to seek medical care and those who can afford to consult a doctor might not be able to prioritize buying medicine in order to be compliant. This is why a majority of the nurse's demand health teaching from the government. This study also shows that the level of knowledge differs between the nurses. A lack of knowledge from the nurses can lead to problems concerning the patient education.

The fact that the hospital is losing money if patients choose to go elsewhere may also be a contributing factor to doctors prescribing a lot of antibiotics. This complicates the nurses' daily work and also jeopardizes the nurses' trust in the doctors. The lack of documentation regarding the patients medical history, allergies or previous medication, place high demands on the nurses to establish a good relationship with the patient.

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APPENDIX 1

Consent letter to whom it may concern

We are two Swedish nurse students, Karin Dahlin Kretz and Signe Harlen at the age of 25. In September we begun our final semester in nursing school. The 19th of October we will travel to the Philippines in order to execute a study concerning nurses experience in terms of antibiotic treatment. We really look forward to see and 'learn more about the routine and experience at your hospital.

We will arrive in Olongapo City on the 20th of October. The study is founded by Sida. Sida is a government agency working on behalf of the Swedish parliament and government, with the aim to through out their work contribute to a global development. Our academic plan has been approved by representatives at the University of Borås and institution in Sweden.

We would be honoured if you would consider letting us interview 10 nurses at our hospital. The interviews will take approximately 1 hour. Our wish is to interview nurses with at least 2 years experience in nursing and also have experience of antibiotic treatment for example at a department focused on infections, besides this we have no other requirements. We wish to do the interviews between the 21th of October until the 31th of October. If this does not work for you we can postpone it some days as well. The result of our study will naturally be sent to the hospital management and other interested parties.

We would be honoured to execute our interviews at your hospital and hope that our Minor Field Study will be of a benefit to you as well as to us.
Looking forward to hearing from you.

Best Regards

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APPENDIX 2

Interview guide

The aim of the study is to investigate nurse's experiences when caring for patients that have been subscribed antibiotic treatment.

Age?

Gender?

How long have you worked as a nurse?

How long have you been working at this hospital?

Tell me shortly about a normal day at work?

-
- 1: How do you get an open and honest conversation with the patient?
 - 2: What do you think is the best way to give information?
 - 3: What is your opinion of antibiotic treatment?
 - 4: Which diseases do you treat with antibiotics at this hospital?
 - 5: What do you think the average person's view on antibiotic treatment is?
 - 6: What kind of information is important to give before starting an antibiotic treatment?
 - 7: In what way can the nurse be a help to the patient during the antibiotic treatment?
 - 8: What do you think can improve the patient's compliance regarding antibiotic treatment? And what can be obstacles?
 - 9: Are there any risks with antibiotic treatment in your opinion? And what are the risks?
 - 10: Have you during your time as a nurse come across antibiotic resistance?

LAST QUESTION;

Is there anything more you would like to add to this interview?