

# International Journal of Nursing and Midwifery

Volume 6 Number 2 April 2014

ISSN 2141-2456



*Academic  
Journals*

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*Full Length Research Paper*

## Expert midwives' experiences of security in their professional practice: I'm the captain of a jet

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Received 3 October, 2013; Accepted 15 January, 2014

Obstetric units have become larger, with patients being knowledgeable and demanding. Also, established team works at maternity wards require that midwives are secure in their role. A descriptive study with a phenomenological approach was used. A maternity unit in a hospital located in Western Sweden was chosen. Five expert midwives with vast experience of obstetric care who worked in a maternity unit were interviewed. Data were collected by audio-taped interviews. The data were analysed by means of Giorgi's phenomenological method. The results showed that security was constituted by an inherent sense of security as well as confidence in self and in life. Education and practical group training in the workplace provided theoretical knowledge and practical experience. Support for others in the working team and open communication also constituted security. Also, clear leadership, guidelines and routines provided a framework and had a positive effect on expert midwives' sense of security. When security was absent, midwife became worried, the joy and harmony diminished. In order to ensure midwife security and ultimately safe patient care, it was important to allow time for rest, to reflect on and evaluate their work. Expert midwives can create the prerequisites for their professional security. Several constituents combine to shape midwives' sense of professional security; an inherent sense of security, own knowledge and experience, team collaboration, visible and clear leadership.

**Key words:** Expert clinicians, midwifery, phenomenology, professional practice, safety and qualitative studies.

### INTRODUCTION

The area of responsibility for midwives includes a great deal of collaboration with doctors and assistant nurses, resulting in joint decision-making (Larsson et al., 2009; Olsson and Adolfsson, 2012). Good teamwork is a prerequisite for optimising patient care, and team collaboration should allow midwives to take advantage of their fellow team members' different competencies and experiences as well as contribute to a holistic view of the

patient (National Board of Health and Welfare, 2006).

Team coaching in clinical settings (Crofts et al., 2006, 2008) pertaining to emergency situations has increased noticeably in recent years (Crofts et al., 2011; Olsson and Adolfsson, 2011) and indicates greater knowledge of the management of such obstetric situations on the part of midwives and doctors (Crofts et al., 2007). Practical team coaching has a beneficial effect on neonates (Draycott et

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al., 2006, 2008). Being part of a team consisting of relationships where one is allowed to take autonomous decisions, initiative and responsibility provides a sense of security, which Individuals who experience fear but who take a positive outlook, acknowledging it instead of trying to escape, can continue to encounter persons in genuine and close relationships (Carlsson et al., 2004). Jangsten (2010) reported that midwives communicate and share experiences reflections and knowledge in order to resolve issues and increase patient safety. In Sweden, the Board of Health and Welfare (SOSFS, 1995) stated that midwives need time for collegial reflection in order to deepen professional experiences.

The transition from being a novice to become a qualified health professional is stressful (Park et al., 2011). Novices lack experience of situations in which they are expected to act, thereby they need to be guided by regulations. Routines and instructions are necessary for dealing with the work, as they are unable to grasp the whole situation. The expert assesses, understands and interprets situations based on her/his experience without solely taking rules and guidelines into account, in addition to acting as the patient's advocate (Oberle and Allen, 2001). Good midwives have communication skills, supportive, knowledgeable, skilful and also make major contributions (Nicholls and Webb, 2006).

In a meta-synthesis, maternity care was termed to an expert with wisdom, knowledge, confidence and have clinical skills (Downe et al., 2007). The experienced midwife acts as an adviser and coach for inexperienced colleagues, which creates security for both the midwife and the team (Berg and Dahlberg, 2001; Larsson et al., 2009). Midwives work independently based on confidence in their own knowledge and experience as well as the decisions they take (Jangsten et al., 2010). The professional knowledge and experience gained over the years allows experienced nurses to take joint decisions and carry out interventions independently (Larsson et al., 2009; Olsson and Adolfsson, 2012). Berg (2005) described the midwife's embodied "knowledge" as deep-rooted, integrated within her and perceived through all her senses. The midwife is knowledgeable. Knowing which intervention to take is the most important in any given situation and this can be defined as practical wisdom (Halldorsdottir and Karlsdottir, 2011). Experience means a well-developed sense of practical wisdom. An experienced person goes further, beyond that which is well-known (Oberle and Allen, 2001).

Midwives encounter prospective parents that sometimes have a high level of Internet access, which increases their opportunity of obtaining new knowledge, resulting in greater demands on the care provided by midwives (Larsson et al., 2009). To meet these demands, it is important that the midwife feel confident in the role. The midwife's presence is essential for the patient and it

is desirable with a mutual trust between the midwife and patient. Continuity and presence when caring for women giving birth increase the possibility of understanding their everyday world and meeting their needs. However, the phenomenon of security among staff members has not been explored to the same extent. Given that obstetric units have become larger, parents being knowledgeable and demanding as well as established team work at maternity wards require that midwives are secure in their role. But what is security of the midwife? To clarify the phenomenon of security and its importance from a professional perspective has relevance, not only for the midwife but also for those she encounters in her profession. What is it that makes a midwife secure in her profession? The aim of this study was therefore to describe expert midwives' experiences of security in their professional practice.

## METHODOLOGY

The study adopted a qualitative approach. A descriptive phenomenological method was employed. Giorgi (2009) stated that the aim of the method is to clarify the meaning of the phenomenon under study. Data were collected by means of interviews. Phenomenology is a life-world theory about the everyday world that we all live in and in which we gain experiences. It is the lived world with all its variations, a world of perceptions that we assess based on our experiences (Husserl, 1970). Studying the life world involves striving to see the invisible and eliciting that which is tacit. The phenomena are explored in the way they manifest themselves to us and described in a fashion that is as structured and comprehensive as possible, free from interpretations. Intentionality is central to life world theory and means that towards which our consciousness is directed. We endeavour to create meaning and content, and concentrate on that which can shape and increase it. Every experience adds to it, increasing understanding and creating wholeness (Dahlberg et al., 2011).

Reduction is an essential element of descriptive phenomenology that distinguishes it from other qualitative methods. The aim of reduction is to produce a description of a phenomenon that is as exact as possible, just as it presents itself to our consciousness. Reduction demands critical reflection, which means that the researcher has to set aside previous knowledge and preconceptions. The description should only include that which is presented to the researcher and should be as close as possible to the phenomenon, as it is the essence or core that is sought. The structure of the phenomenon should be described and for this purpose, free imaginary variations are used, which means seeking variations and nuances and looking beyond that which is stated in order to reveal the core. However, personal reflections and descriptions, based on the logic of the methodology, are permitted (Giorgi, 2009).

The first author made personal contact with midwives recruited for the study and no other person was aware of which midwives were to be interviewed. The author personally selected the participants, as midwives with many years of experience and ability to express themselves were required with oral and written information. Five midwives with median age of 59 years and median 28 years of experience in maternity care and employed at a delivery unit participated. They had all worked as registered nurses

for an average of 2 years before specialising as midwives. Four of the five interviews took place at the hospital where they worked. The interviews were carried out after the duty. One interview took place at the midwife's request in her own home. As Dahlberg et al. (2011) who highlighted the importance of conducting interviews in a calm and pleasant environment free from disturbing noise or risk of being interrupted, thus the location was carefully chosen. Open-ended questions were posed during the interview, the intention being to ensure flexibility and allow reflection (Dahlberg et al., 2011). The Open-ended questions include: What makes you secure in your profession? Confidentiality was guaranteed by coding the interviews and storing the audio-tapes in a locked cabin, thus they were not accessible to unauthorised persons.

Ethical approval was obtained from the Ethical committee of University West in Sweden (No. 2012/170 B22). The head of the clinical department concerned was contacted by letter requesting permission for the interviews. Due to the fact that the author had been employed at the clinic where the participants worked, ethical aspects involved in the choice of workplace were discussed with the supervisor. As the phenomenon to be studied was not considered sensitive, it was not deemed unethical to interview the midwives despite the fact that they were known to the author. The study participants were voluntary and that they could withdraw at any time without providing an explanation. The interviews were transcribed verbatim and the texts analysed by means of Giorgi's (2009) method exclusively on the basis of that which was presented in the material. Phenomenological reduction was applied throughout the process, using the following four steps:

**Step 1:** All interview texts were read through in order to become familiar with the content. In many cases, several readings were required, which provided a preparation for the next step. Any ambiguities or contradictions were reduced or not interpreted but described as such.

**Step 2:** The whole text material was divided into meaning units. For each change in the meaning of the text, a note was made in the margin. This was a practical step, as the meaning units cannot stand alone but are always part of a whole.

**Step 3:** The meaning of each unit was developed through imaginary variations. The meanings that had become visible in the meaning units were elucidated by means of language, descriptive in character and termed transformations. Everyday language was employed and theoretical formulations avoided. The transformations often meant an expansion rather than a reduction of the text and helped to identify the constituents of the phenomenon. Table 1 illustrates the analysis of steps 2 and 3.

**Step 4:** The constituents and imaginary variations were used to develop the general structure of the phenomenon. Its structure could be described due to the author's understanding of the interrelationship between the meanings of the units. Finally, the constituents were described as well as their relationship to each other, thus constituting the phenomenon. There was a back and forth movement between the whole and the parts of the material and nothing was left out. This result gives examples from the various interviews; informants' statements are numbered from 1 to 5.

## RESULTS

The midwives' inherent sense of security was a platform for their professional security. Security was evident when the midwives had a good sense of self, were sure of their

views and had confidence in self and in life. Theoretical knowledge and practical experience constituted a basis for professional security and were utilised in their clinical practice. The midwives knew their own strengths and who to contact if they needed help.

Further education and practical training in groups at the workplace provided them with tools and created understanding. A strong team with good knowledge and experience served as support and help for the midwives. It was vital that the team members had the will and ability to communicate and collaborate. Memos, care plans and routines provided midwives with a framework and guidelines. When leadership was visible, present and communicative, this confirmed the midwives and made them feel secure. The phenomenon became visible with the help of the constituents that emerged during the analysis process; an inherent sense of security, own knowledge and experience, team collaboration, and visible and clear leadership. In order to increase clarity, the constituents are described. Quotations from the participants have been included to exemplify and illustrate the statements.

### An inherent sense of security

An inherent sense of security means having belief in oneself as a human being and the person one is. Experience of life provided a firm foundation in the form of trust in one's own values, in oneself and in relation to others, leading to security. Private life was secure in terms of personal relationships and the midwives were able to cope with any situations that arose. Self-esteem was high. "A sense of security must be derived from oneself. If one is not secure in oneself one will never be secured." (no. 2). A will and ability to communicate with other people was evident. People around them perceived their ability to help and protect. The midwives experienced joy, balance and longing. "It feels good, it's a really wonderful feeling. I feel calm and happy. I feel a great sense of well-being." (no. 3). An inherent sense of security constituted a good foundation for their professional practice but was not an explicit requirement. There was no clear boundary between security in private and professional life as they were interwoven.

### Professional knowledge and experience as a source of references

The midwives' knowledge and experience were important in their professional practice. They knew how to deal with situations, when to ask for help and who to turn to. They were open, flexible and listened in the encounter with colleagues, other health team members and patients.



**Table 1.** Illustrations of the analysis, steps 2 and 3.

Example of meaning units	Transformed meaning units
It's obvious that the teamwork itself plays a role in the department. It goes without saying that one cannot cope without the support of competent colleagues when things are getting out of control	In serious acute situations, the midwife is dependent on colleagues with adequate knowledge and long experience. The fact that the team is made up of different professional categories provides the preconditions for a good outcome.
There is a framework, a really secure framework around us; the pieces of the jigsaw are in this frame. I know exactly, I put that particular piece into it, it fits.	Memos, care plans and routines form a framework for the midwife's work and generate a sense of security. She knows which interventions are necessary and how to use them.

The other team members had trust and confidence in them. "If you are secure, your team members can sense that you are a resource they can consult. I have so many years of experience. You can talk about various cases and such like..." (no. 2). They had the ability to between the normal and the complicated and adapt the care accordingly. "... but when we have (knowledge about) risk factors it is easier to distinguish the normal, if you are aware of the risks involved." (no. 5). Having experience is to be able to remain calm in critical situations and make use of their knowledge without it being obstructed by fear. "It's extremely important that I feel sufficiently secure to avoid getting into a panic in a really precarious situation. It's as if one switches over to autopilot in such circumstances, even if your pulse is racing at 200 and your hands are shaking." (no. 3). When caring for patients, the midwives created security and assumed responsibility for the baby and its delivery. "I'm the captain of a jet. They can relax and concentrate on the birth and not worry unnecessarily." (no. 3).

### Competence development and practice in the team

Theoretical competence development as well as becoming aware of new research and knowledge both by actively searching for it and learning from the students was a source of security. When the midwives were responsible for the training of team members, it was necessary for them to read up on the subject, which in turn increased their own knowledge. Playing an active part in the process of creating increased security and better care enhanced their own knowledge. "Having a solid education, of course that's the basis and after that you continue to take part in training in order to maintain your level of knowledge." (no. 2). Practical training in the workplace led to security. Group training led to assurance that all members of the team had the same knowledge and management of acute situations. A high level of knowledge and experience on the part of the team members formed a chain in which all the links were

strong, thus creating security for the midwives. "When you repeat the training sessions you become more confident and more certain each time. You are no longer so afraid. If we had no education, how would we think? Would we think the wrong things or not think at all? The risk is that we would not think at all, leading to chaos." (no. 4).

### Regularity in team collaboration

Collaborating on a continual basis with the other team members during shifts led to security and it took place when the midwives planned their shift schedule together with colleagues, assistant nurses and doctors but also in the planning of individual births and care interventions. The will, ability and possibility to communicate were prerequisites for security. Ordinary conversations about private life and leisure time had a beneficial effect on communication in emergency situations, as the feeling of knowing each other underpinned collaboration. "Good communication is necessary for security. It applies to midwives and the team." (no. 5)

When the team was composed of individuals with a high level of knowledge and experience, the midwife felt secure and an awareness of that they could count on support in difficult emergency situations. They had confidence and trust in the other team members. "It's obvious that the teamwork itself plays a role in the department. It goes without saying that one cannot cope without the support of competent colleagues when things are getting out of control." (no. 4). Collaboration was a source of security when there was openness, participation, tolerance and respect for each other's knowledge. "Being surrounded by colleagues who allow you to ask questions and who repeat instructions because you are a bit inexperienced. You can laugh about it, stupid things that one actually knows." (no. 1).

Knowing that other team members spoke to them before informing the patient about planned treatment gave a feeling of controlling the situation as well as

security. "The doctor asks and listens. What do you think? What is your opinion? What do you usually do? The younger doctors act like that all the time, not only with me but all those who have experience." (no. 2).

### **A communicating and distinct leadership**

The midwives affirmed leadership that was present, visible, communicated and gave them feedback. This created a feeling of being in control and participation as well as a chance to influence their work. A leadership that was transparent and characterised by an allowing atmosphere while at the same time setting boundaries provided the midwives with freedom and space to work. The midwives were aware of the expectations placed on them and what they were expected to do. "...being acknowledged for something you did, you did this really well, not only when you are subject to a deviation report! It leads to something... confirmation... It also provides security, as it's only natural to want confirmation all the time." (no. 1). When management selected a team with a high level of knowledge and experience, the midwives could assume responsibility. The patients obtained the care they needed and medical safety was not at risk. The midwives felt secured when the leadership exhibited understanding for their situation and created the right prerequisites with regard to staffing, knowledge and experience. They felt respected and that their work was valuable. "I know who is safe to turn to when I need help...they are competent, knowledgeable, experienced and have the ability to communicate ..." (no. 4).

### **To have control over workload**

There was time for the patients when the shift was fully staffed and the workload in the department not too heavy. Then they had control and could plan and organise their work. There was a sense of calmness and joy when responsibility was reasonable and time was sufficient. They experienced this as an opportunity to do a good job. "Fun! You can feel it, you are calm and secure... because I'm aware of my abilities." (no. 4). The midwives experienced their work as a jigsaw puzzle with many pieces. Surrounding the pieces was a frame that held them together. The frame gave the midwives space to act but also set boundaries to their authority, where their freedom ended. The pieces of the jigsaw were memos, care plans and routines that created clarity, structure and security. Some pieces of the jigsaw concerned tasks such as documenting, scheduling and managing medication. "There is a framework, a really secure framework around us, the pieces of the jigsaw are in this frame. I know exactly, I put that particular piece into it, it

fits." (no. 1).

## **DISCUSSION**

The interviewee provided a rich and detailed description of the phenomenon of security. It was initially difficult for the midwives to narrate about security. It was such a matter of course to them that they found it hard to express. However, they found it much easier when asked to narrate about lack of security and how it occurred, which they described in a very clear and distinct way. In this way, they became aware of how and when they experienced the phenomenon of security.

A descriptive phenomenological method comprises open interview questions aimed at probing deeply to encourage the participants to narrate about professional security (Dahlberg et al., 2011). The constituents emerge and form the essence. The interviews conducted by the first author, were performed with a conscious effort to curb her own experiences, opinions and preconceptions. This is in order to ensure high quality results (Polit and Beck, 2012). The analysis process, with a constant awareness of the need for reduction, that is to describe the phenomenon as accurately as possible and exactly as it presented itself there was an endeavour to be aware of our own pre-understandings according to Giorgi (2009). He argues that descriptive studies are safer than interpretative ones, as the results can be directly verified.

A midwife who has an inherent sense of security radiates security, wisdom and calm. These are attributes that provide stability in professional practice and that contribute to building team. An inherent sense of security is formed during childhood, adolescence and by previous experiences in life (Dahlberg and Segesten, 2010) and cannot be influenced to the same degree as the other constituents. The midwives expressed the opinion that it is difficult to distinguish between the private person and the profession. According to Berg (2005), the midwife is the knowledge she possesses, she is one with her profession. The midwives in the present study had many years' experience, which afforded them great security. They possess vast experience and have a repertoire of situations that they can draw upon, all of which served as an autopilot in emergency situations. Unlike theoretical knowledge, professional experience cannot be gained from books (Halldorsdottir and Karlsdottir, 2011). The midwives reported that newly qualified midwives turned to them for help and support in the care of women giving birth. This is in line with van der Putten's (2008) description of how midwives who had just passed their examination perceived that they had good theoretical knowledge but turned to experienced colleagues for help with practical issues and dealing with difficult cases. Midwives have a solid knowledge base (Jangsten et al.,

2010) and the participants continued to develop their knowledge in order to maintain their sense of security. The midwives also participated in ongoing professional education provided by their employer, which further strengthened their sense of professional security. Regular practical team training leads to a sense of security, as all team members share the same knowledge about how to manage acute situations and provide appropriate treatment. Dekert et al. (2010) hold that practical training improves learning and increases self-confidence.

Pehrson et al. (2011) found that training can improve knowledge of cardiotocography (CTG), leading to better quality care. Team training courses (Beasley, 2005) improve the maternity team's knowledge and practical skills, resulting in greater structure in acute situations as well as security. Cass et al. (2011) claimed that practical training can contribute to improved maternal and neonatal outcome. Secure team members mediate a sense of security, in turn leading to more secure midwives, which also reflect on their colleagues. According to Alharbi et al. (2012), the most important task is setting goals and how they would be achieved in order to maintain the sense of solidarity in the team. The team members learn to collaborate in groups as well as to communicate through problem-based learning (Haigh, 2007). Effective communication and team work are the foundation of high quality care that is safe and secure (Leonard et al., 2004; Olsson and Adolfsson, 2012).

The midwives reported lack of security when the team members had a low level of knowledge and experience. Responsibility becomes overwhelming and they are obliged to deal with and take responsibility for situations that surpass their competence. Moreover, if the workload in the unit is too heavy or there is a shortage of staff (Larsson et al., 2009), the midwives are expected to be available for all staff members at the same time. This results in failure to meet patients' care needs as well as midwives losing their sense of security. Frequent cutbacks, low staff levels and more duties created territorial thinking among the team members, leading to individuals protecting their own interests. Communication was poor or non-existent and the ability to listen to others was absent. The team members turned against each other instead of collaborating. Trust in the team became weak and was replaced by distrust.

The midwives in the present study stated that clear leadership, a well-structured unit and sufficient time for patients were essential for the experience of security, which agrees with the study by McCutcheon et al. (2009), who revealed that the style of leadership and size of the unit have an impact on the work environment. According to Kay (2010), midwives want a job description with clear boundaries indicating where their responsibility ends and that of the leadership begins as well as the opportunity for

dialogue with management about the factors that impact on their sense of professional security. Tomey (2009) wrote that nurses who received clear guidelines from the care manager found it easier to identify and utilise care-related knowledge to change and improve routines in the department. The participants in the study by Bishop (2009) wished for open communication and a good relationship with the leadership. They were of the opinion that this is vital for patient care.

The midwives described memos, care plans and routines as pieces of a jigsaw puzzle that provided support and security in their daily work and served as a frame that set boundaries but also allowed freedom. It is compared with Downe et al. (2007) who describe a knowing when to step in and when to let it be. The midwives experienced lack of security when the pieces were too many or very complex, as they no longer knew how to fit them all in. Previous knowledge and experience were jeopardised and the midwives lost control and made it difficult to make use of what Oberle and Allen (2001) call practical wisdom. The same sense of insecurity emerged when there was not enough time to perform all their duties and had less time for the patients. The results show that human relationships (Hunter et al., 2008) can be likened to the threads that bind a fabric together. Good relationships between different professional categories and with patients are of fundamental importance for high quality maternity care (Olsson and Adolfsson, 2012).

During longer periods characterised by a heavy workload, the midwives reported divided feeling and often doubted their ability. Goodwin (2007) described rest as a phenomenon that influences human health and makes it possible to become aware of and satisfy basic needs. Rest offers release from mental stress and work. When recovery occurs, it provides a sense of balance, harmony and zest for life as well as a feeling of being whole. Rest is an existential part in human life due to its fundamental importance for creating meaning in life. It is important for new midwives to have the opportunity to work at a maternity unit where they can be supported by an experienced colleague (Hughes and Fraser, 2011) and to allocate time to enable the latter to provide assistance.

## Conclusion

Expert midwives can create the prerequisites for their professional security. Several constituents combine to shape midwives' sense of professional security; an inherent sense of security, own knowledge and experience, team collaboration, visible and clear leadership Experience, in addition to taking advantage of the competence training offered. A platform for security was when management ensured competence and experience among

team members and adequate staffing on the shifts. When security was lost, the midwives became afraid and joy and calm disappeared. In order to safeguard midwives' security as well as patient care time for rest is essential, as it permits reflection and evaluation. In future studies it would be interesting to investigate how newly graduated midwives experience security and what kind of support they needed.

## ACKNOWLEDGEMENTS

This study was supported by the Department of Nursing, Faculty of Health and Culture, University West, Trollhättan, Sweden; Research and Development Unit at "NU- sjukvården" Sweden.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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*Full Length Research Paper*

# Spontaneous abortion among women admitted into gynaecology wards of three selected hospitals in Maiduguri, Nigeria

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Received 29 June, 2013; Accepted 11 March, 2014

Abortion is considered not only a major reproductive health matter, but also as a health risk factor for mothers' well-being which also threaten mother's lives and comfort. This study seeks to assess the incidence of abortion with particular reference to factors responsible for spontaneous abortion among women admitted into gynaecology wards of three selected hospitals in Maiduguri, Borno State, from January to June, 2012. This study involved 126 women admitted into gynaecology wards of University of Maiduguri Teaching Hospital (UMTH), State Specialist Hospital and Nursing Home in Maiduguri, Borno State from January to June, 2012, respectively. Data were collected using questionnaire items that comprised open and close-ended questions items. Women who were illiterate were interviewed during their hospitalization period and their records were also used for more data. The data were analyzed using frequency distribution count. The study shows that of 126 women, 65 (51.6%) were between the ages of 31 to 40 years, the Gravida status of women that presented more were Gravida 3 to 4 (40.5%) with 51 women. On the causes of present abortion, maternal causes presented more with about 26 (20.6%) of the women. On the management of spontaneous abortion, it is managed expectantly, medically (use of prostaglandin and uterotonic drugs) and surgically by the use of manual vacuum aspiration and dilation and curettage were found to be in us. Based on the information obtained from the study, it was recommended that efforts should be concentrated on providing quality services for the management of post abortion complications.

**Key words:** Abortion, spontaneous abortion, recurrent spontaneous abortion.

## INTRODUCTION

Abortion is commonly misunderstood outside medical circles. Medically, abortion means loss of the fetus, for

any reason, before it is able to survive outside the womb (Annas and Sherman, 2007). The term covers accidental

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or spontaneous ending, or miscarriage, of pregnancy as well as deliberate termination. The terms 'spontaneous abortion' and 'miscarriage' are synonymous and are defined as loss of the fetus before the twenty-eighth week of pregnancy (The Royal Society of Medicine Health Encyclopedia, 2000). Abortion is the termination of pregnancy by the removal or expulsion from the uterus of a fetus or embryo prior to viability (Grimes et al., 2006). An abortion can occur spontaneously, in which case it is usually called a miscarriage, or it can be purposely induced. The term abortion most commonly refers to the induced abortion of a human pregnancy. However, miscarriage is the spontaneous loss of a fetus before the 20th week of pregnancy (Pregnancy loss naturally or on its own after the 20th week are called preterm deliveries) (PubMed Health, 2013). A miscarriage may also be called a "spontaneous abortion." It also refers to as naturally occurring events, not to medical abortions or surgical abortions. The expulsion or removal of a fetus from the womb before it is capable of independent survival is termed as abortion (World Encyclopedia, 2008).

Spontaneous abortion is defined as pregnancy loss before 24 completed weeks of pregnancy. The occurrence of a spontaneous abortion is a tragic loss for a couple trying to have a child and can be associated with significant psychological problems for women, their partners and families in general. For most women, spontaneous abortion is a stressful event and they as well go on to have successful pregnancies in the future. About 1% of couples will experience recurrent spontaneous abortion (Patricia, 2001), as most spontaneous abortion occurs within the first 14 weeks of pregnancies. Maternal age and previous number of spontaneous abortions are independent risk factors for a further spontaneous abortion (Patricia, 2001). Vaginal bleeding is the most common symptom of a spontaneous abortion; the bleeding may be slight spotting but it could sometimes be heavy with clots. The bleeding is usually followed by cramp in the lower abdominal area (Medline Plus, 2004). Only 30 to 50% of conceptions progress beyond the first trimester. The vast majority of those that do not progress are spontaneously aborted before the woman is aware of the conception, and many pregnancies are lost before medical practitioners could detect the presence of an embryo. Between 15 and 30% of known pregnancies end in clinically apparent spontaneous abortion, depending upon the age and health of the pregnant woman (Royal College of Obstetricians and Gynaecologists, 2003).

Spontaneous abortion is a matter of concern because of its impact on maternal morbidity and mortality in public health. Spontaneous abortion is not only an important issue of reproductive health, but also a health risk factor for mothers' well-being. Women who experience a miscarriage are more likely to sustain another unless they have a medical condition that is likely to cause recurrent spontaneous abortions. Up to 97% of women who experience spontaneous abortion will continue to have a

healthy baby with a subsequent pregnancy and up to 75% of women who have had 3 or more spontaneous abortions have a subsequent normal pregnancy and baby (Petrozza et al., 2006).

The clinical presentation of a threatened abortion describes any bleeding seen during pregnancy prior to viability which has to be assessed further. At investigation, it may be found that the fetus remains viable and the pregnancy continues without further problems (Gracia et al., 2005). Alternatively, the following terms are used to describe pregnancies that do not continue.

### **Threatened abortion**

Threatened abortion could be any vaginal bleeding during early pregnancy without cervical dilatation or change in cervical consistency. Usually, no significant pain exists, although mild cramps may occur.

### **Inevitable abortion**

Inevitable abortion is an early pregnancy with vaginal bleeding and dilatation of the cervix. Typically, the vaginal bleeding is worse than with a threatened abortion, and more cramping is present, no tissue has passed yet.

### **Incomplete abortion**

Incomplete abortion is a pregnancy that is associated with vaginal bleeding, dilatation of the cervical canal, and passage of products of conception. Usually, the cramps are intense, and the vaginal bleeding is heavy.

### **Complete abortion**

Complete abortion is a completed spontaneous abortion. After the tissue passes, the patient notes that the pain subsides and the vaginal bleeding significantly diminishes. The ultrasound demonstrates an empty uterus.

### **Missed abortion**

A missed abortion is a nonviable intrauterine pregnancy that has been retained within the uterus without spontaneous abortion. Typically, no symptoms exist besides amenorrhea, and the patient finds out that the pregnancy stopped developing earlier when a fetal heartbeat is not observed or heard. Spontaneous abortions can occur for many reasons, not all of which can be identified. Some of these causes include genetic, uterine or hormonal abnormalities, reproductive tract infections, and tissue rejection.

### Chromosomal abnormalities

These are found in more than half of embryos miscarried in the first 13 weeks. A pregnancy with a genetic problem has a 95% probability of ending in spontaneous abortion (Bukulmez and Arici, 2004). Up to 15% of pregnancy losses in the second trimester may be due to uterine malformation, growths in the uterus (fibroids), or cervical problems. Pregnancies involving more than one fetus are at increased risk of spontaneous abortion. The most common cause of spontaneous abortion during the first trimester is chromosomal abnormalities of the embryo/fetus, accounting for at least 50% of sampled early pregnancy losses. Other causes include vascular disease such as lupus, diabetes, other hormonal problems, infection, and abnormalities of the uterus (Gracia et al., 2005; Bukulmez and Arici, 2004). Advancing maternal age and a patient history of previous spontaneous abortion are two leading factors associated with a greater risk of miscarriage (Everett, 1997). Spontaneous abortion can also be caused by accidental trauma; intentional trauma or stress to cause spontaneous abortion is considered induced abortion or feticide (Lok et al., 2010). The overall percentage of pregnancies that end in spontaneous abortion lies between 10 and 15%, while spontaneous abortion accounts for about 50,000 in-patients admitted to hospitals in the UK annually. Recurrent spontaneous abortion affects 1% of all women (Royal College of Obstetricians and Gynaecologists, 2003).

Spontaneous abortion is greater than that expected by chance alone (0.34%). The incidence of spontaneous abortion is high in Nigeria and was found to be one of the leading causes of maternal and fetal mortality. Out of 5 million pregnancies, it is pathetic that 54,000 result into abortion, out of these 54,000 maternal deaths estimated to occur in Nigeria annually, nearly 20,000 are attributable to complications of unsafe abortion, 7,000 results in spontaneous abortion, and prematurity in Nigerian women (Ladipo, 1999). Okonofua (1994) observed that typically, the distribution of spontaneous abortion rates by age occurs among women younger than 35 years old, 15% spontaneous abortion rate; 35 to 39 years old, 20 to 25% spontaneous abortion rate; 40 to 42 years old, about 35% spontaneous abortion rate; and older than 42 years old, about 50% spontaneous abortion rate. Many women who have had spontaneous abortions, however, object to the term "abortion" in connection with their experience, as it is generally associated with induced abortions (Everett, 1997).

Several factors have been identified as general risk factors to spontaneous abortion, among which are uncontrolled diabetes and polycystic ovary syndrome (PCOS) with 30 to 50% of pregnancies in women with PCOS are miscarried in the first trimester. Preeclampsia also known as high blood pressure during pregnancy, is sometimes caused by an inappropriate immune reaction

(paternal tolerance) to the developing fetus, and is associated with the risk of spontaneous abortion. Hypothyroidism severe cases increase the risk of spontaneous abortion. The presence of certain immune conditions such as autoimmune diseases is associated with a greatly increased risk of spontaneous abortion. Other attitudinal factors such as tobacco (cigarette) smoking, cocaine and caffeine consumption, physical trauma, exposure to environmental toxins, and use of an intra uterine device (IUD) during conception has also been linked to increased risk of spontaneous abortion (Armenian Medical Network, 2005). Antidepressants drugs especially paroxetine and venlafaxine can lead to spontaneous abortion (Broy and Bérard, 2010).

The risk of spontaneous abortion increases with advancing maternal age from about 9% at age 20 years to 80% at age 48 years. It is worth noting that this increase is observed irrespective of a woman's reproductive history. The incidence of spontaneous abortion is higher in the developing country with Africa ranking number one in the list (Everett, 1997; Pollack et al., 2009). The Gravida of the mother is a significant risk factor, as spontaneous abortion rates increase steadily with increased gravid, with more substantial increases after the 4th pregnancy (Pollack et al., 2009). Study by Merziah (2003, 2004) on the incidence of spontaneous abortion in selected institutions, revealed that out of 2470 women who participated in the study, 230 of them have had spontaneous abortion. 95 (41.4%) of the women affected were older than 45 years of age, 32% were between 20 and 44 years and the remaining 26.6% were aged less than 20 years. Another study showed that the increased risk of spontaneous abortion in pregnancies of older women is mainly seen in the first trimester (Slama et al., 2005). Yet another study by Andersen et al. (2000) showed an increased risk in women at the age of 45 years, of the order of 80% (compared to the 20 to 24 age group in this study), 75% of pregnancies ended in spontaneous abortion. Bongaarts and Westoff (2004) in their study on 456 clients admitted to a public hospital in Ardabil district (Alavi Hospital). Data were collected by interviewing women during their hospitalization period, the study shows that from all deliveries by woman attended to (456), 96 (21.1%) have experienced abortion/miscarriage in their last deliveries, and the rest (78.9%) did not have such an experience. From those who have experienced an abortion/miscarriage, 13.5% have been classified as induced, while the rest is spontaneous.

Based on the aforementioned prevalence and incidences of abortion, this study seeks to assess the incidence of abortion with particular reference to factors responsible for spontaneous abortion among women admitted into gynaecology wards of three selected hospitals in Maiduguri Borno State, from January to June, 2012. Specifically, the study examined the age and the Gravida status of women who presented more with spontaneous abortion in gynaecology ward. This study



also examined various management of spontaneous abortions among women in the three selected Hospitals.

## METHODOLOGY

### Design

A non-experimental descriptive design was used to examine the factors responsible for spontaneous abortion among women admitted into the gynaecological wards of three selected hospitals in Maiduguri, which are the University of Maiduguri Teaching Hospital (UMTH), Maiduguri Nursing Home and State Specialist Hospital Maiduguri, respectively. A self-designed questionnaire was used to collect data from literate women while, the same questionnaire was translated into Hausa and Kanuri languages for majority of women who cannot read nor write in English language. Folders were obtained from the record department of the three selected Hospitals and information concerning the diagnosis, possible causes or associated risk factors responsible for the abortion were collected using a researcher's designed checklist.

These questionnaires and the researchers designed checklist were used to obtain information on the socio-demographic variables, Obstetric History, Cause of previous abortion, Causes of present abortion and information on the Management of spontaneous abortion. The questionnaire and a researcher's designed checklist developed were shown to obstetricians and gynaecologist in the University of Maiduguri Teaching Hospital for both content and face Validity. The instrument was pre-tested on women admitted in a gynaecology ward of Umaru Shehu Ultra-Modern Hospitals Maiduguri for its consistency. The adjustment and modifications of the instruments were made based on the findings of the pre-test. Copies of introductory letters were submitted to the Ethical Research Committees of the three selected hospitals for consideration and approval for the conduct of the study. The Committees issued permission letters to the Chief Nursing Officers in-charge of Gynaecology wards, medical and record departments of the three mentioned hospitals for permission to conduct the study (Table 1).

## RESULTS

The analysis of this study was based on the total number of 126 women admitted from January to June 2012, that is, 16 on admission and 110 women treated and discharged. The finding of this study shows that University of Maiduguri Teaching Hospital (UMTH) has the largest number of abortion cases 53.2%, compared to other health facilities in the study.

Tables 3 shows higher prevalence of threaten abortion among women who attended University of Maiduguri Teaching Hospital compared to women who attended other health institutions by types of abortion.

The study further revealed that little above half (51.6%) of women were between 21 and 30 years, signifying that these women were in their early adults age who constituted higher percentage (75.4%) of women admitted as compared to other categories (Table 2).

57.9% of women were married Muslims and about 38.9% and 27.8% were predominantly Kanuris and Hausas, respectively. Quite significant numbers () of women had their primary education, while 28.6% attended

attended tertiary institutions, respectively. The highest number 51 (40.5%) of women are Gravida (3 to 4), closely followed by Gravida 7 women and above (37.5%). Among 39 (31%) of women who have had spontaneous abortion before, infection/malaria, typhoid, and maternal cause were found to be responsible for 9(23.1%) their abortion are responsible for 9 (23.1%), respectively. On the causes of present abortion, 20.6% of the women reported that maternal factor was responsible for the spontaneous abortion. Table 5 revealed the distribution of abortion by types of management at different hospitals. The management of abortion in almost all the hospitals is similar based on the type of abortion and the condition in which the case was reported

## DISCUSSION

### Research question 1: What is the incidence of spontaneous abortion among women admitted into the three selected gynaecology wards in Maiduguri?

Out of 718 (17.5%) women admitted into gynaecology ward with history of abortion in the three selected hospitals in Maiduguri, the incidence of spontaneous abortion is high with a total number of 126 women diagnosed of spontaneous abortion. The State Specialist Hospital has the highest 38 (30.2%) cases of threatened abortion followed by University of Maiduguri Teaching Hospital (UMTH) with 19 (28.3%) of the women and Maiduguri Nursing Home 21 (16.7%) of the women also had threatened abortion, 8 (38.1%) as the highest diagnoses of spontaneous abortion. This shows that the incidence of spontaneous abortion is high and this corresponds with the reports of Okonofua (1994) in which he observed that out of 54,000 maternal death that is estimated to occurs in Nigeria annually, about 7000 of this death are due to spontaneous abortion and nearly 20,000 are attributed to complications of unsafe abortion. This is similar to the study conducted by Bongaarts and Westoff (2004), who reported that from all deliveries by woman attended to (456), 96 (21.1%) had experienced abortion/miscarriage in their last deliveries, and the rest (78.9%) did not had such an experience. From those who have experienced an abortion/miscarriage, 13.5% have been classified as induced, while the rest were spontaneous abortions. These findings both from this study and the previous findings showed that there was an increase in the prevalence of spontaneous abortion as compared to other types of abortions among multiparous women.

### Research question 2: What is the Gravida status of women admitted who presented more with spontaneous abortion in gynaecology wards of hospitals in Maiduguri?

It appears from this study that the status of women

**Table 1.** Distribution of the respondents according to the hospital.

Hospital	No. of women	Percentage
University of Maiduguri Teaching Hospital	67	53.2
State Specialist Hospital Maiduguri	38	30.2
Maiduguri Nursing Home	21	16.7
<b>Total</b>	<b>126</b>	<b>100</b>

**Table 2.** Socio-demographic characteristics of women.

Characteristic	Frequency	Percentage
<b>Age</b>		
Less than 20	7	5.5
21-30	32	25.4
31-40	65	51.6
More than 40	22	17.5
Total	126	100
<b>Marital status</b>		
Single	11	8.7
Married	95	75.4
Divorced	12	9.5
Separated	8	6.3
Total	126	100
<b>Religion</b>		
Christian	51	40.5
Muslim	73	57.9
Traditional	Nil	0
Other	2	1.6
Total	126	100
<b>Tribe</b>		
Kanuri	49	38.9
Marghi	17	13.5
Hausa	29	23
Others	31	24.6
Total	126	100
<b>Educational qualification</b>		
Primary school	35	27.8
Secondary school	24	19
Diploma	16	12.7
Degree	15	11.9
Others	36	28.6
Total	126	100

Gravida admitted with more spontaneous abortion were Gravida 3 to 4 (40.5%) which indicate that multiparous women are mostly affected by spontaneous abortion than primigravida. This finding agrees with Pollack (2009) who found that spontaneous abortion rates also increases with the Gravida status and further explains that the

Gravida status of the mother could be a significant risk factor of spontaneous abortion. Spontaneous abortion rates increase steadily with increasing Gravida status, with more substantial increase of the rate after 4th pregnancies (Pollack et al., 2009). The result also corresponds to the study that was conducted from January to August, 2002 on the causes and contributing factors of spontaneous abortion among women admitted into 3 general hospitals in Sudan, where out of the 312 woman who were diagnosed of spontaneous abortion, 70% of them were Gravida 4 and above. Everett (1997) also reported an increased Gravida status in association with spontaneous abortion. Table 4

### **Research question 3: What are the factors responsible for spontaneous abortion among women admitted into the three selected hospitals in Maiduguri?**

Various factors have been identified as being responsible for spontaneous abortion among women admitted into three studied hospitals, it was discovered that the main cause of spontaneous abortion was from the maternal factors including diabetes and uterine fibroid. This corresponds to the study of Petrozza and John (2006) on the causes and incidence of spontaneous abortion in women admitted from January to December, 2005 at a general hospital in Ghana. In the study, a total of 212 cases of women diagnosed of spontaneous abortion, majority (44%) of the causes of spontaneous abortion in women were due to maternal factors including uterine fibroids, diabetes, hypertension, renal failure, smoking and alcohol consumptions. Fetal cause was another factor identified with percentage in close range with maternal causes such as chromosomal abnormalities and this had agreement with the work of Patricia (2001) in which he stated that over 20% of spontaneous abortion is caused by fetal factors including chromosomal abnormalities. Although, it was also revealed that the causes of spontaneous abortion in some cases is unknown this finding was in agreement with the study by Patricia (2001).

### **Research question 4: Will the age of women attendant in the three hospitals influence the occurrence of spontaneous abortion?**

Majority of the women who participated in the study were

**Table 3.** Attended by types of abortion diagnosed.

Characteristic	University of Maiduguri Teaching Hospital		State specialist		Nursing home	
	Frequency	%	Frequency	%	Frequency	%
Threatened abortion	29	28.3	12	31.6	8	38.1
Inevitable abortion	13	16.4	06	13.2	Nil	0
Missed abortion	07	9	03	5.3	Nil	0
Septic abortion	06	7.5	03	5.3	3	14.3
Incomplete abortion	09	12	05	10.5	2	9.5
Complete abortion	11	14.9	09	21.1	5	23.8
<b>Total</b>	<b>67 (53.2%)</b>	<b>100</b>	<b>38 (30.2%)</b>	<b>100</b>	<b>21 (16.7%)</b>	<b>100</b>

abortion is higher among middle aged mothers and prevalence rate increases with maternal age. This finding corroborate with the study by Everett (1997), who opined that advancing maternal age and patient history of previous spontaneous abortion are the two leading causes associated with a greater risk of miscarriage. This study is contrary to the study conducted in Iran by Merziah (2003, 2004); (Andersen et al., 2000), which revealed that majority (41.4%) of the women were older than 45 years of age as compared to the women below the age of 20 (26.6%) who were younger. The finding of this study however, agrees with research question that advanced maternal age influenced women with spontaneous abortion who were admitted into the three hospitals at Maiduguri.

#### **Research question 5: How is spontaneous abortions managed among women admitted in the three selected hospitals in Maiduguri?**

There are similarities in the management of spontaneous abortion in the three health facility centers selected for this study; the study found that management of spontaneous abortions depends on the types and various laboratory investigations that have been done to guide different interventions. In threatened abortion as well as septic abortion, women are given complete bed rest and advised to refrain from sexual and strenuous activities, they are also managed surgically by evacuation using manual vacuum aspiration to empty the content of the uterus and also the use of broad spectrum antibiotics, haematenics and analgesics were employed in almost all the three health hospitals in Maiduguri. This finding agrees with the study by Omole-Ohons and Ashimi (2007). On the incidence and management of spontaneous abortion among women admitted in the General Hospital of Dunukofia, Local Government Area of Anambra State, Nigeria, who in their finding observed that complete bed rest is the methods employed by the physician in the management of threatened abortion. In the case of inevitable abortion, it is managed medically with various forms of drug such as Syntocinon/Ergometrine

and surgically by evacuation as indicated by the patient's condition, while missed abortion is managed using intra-vaginal misoprostol and manual vacuum aspiration. In the case of septic abortion, surgical evacuation and the use of broad spectrum antibiotics are used for the management of the condition, while incomplete abortion is managed using uterotonic drugs such as syntocinon and ergometrine alongside with manual vacuum aspiration in other to completely empty the contents of the uterus, this is contrary to the study of Omole-Ohons and Ashimi (2007) in which they use dilatation and curettage in the same condition. Complete abortion is managed medically with the use of analgesics and antibiotics and surgically intervention is not required and this also agrees with the study of Omole-Ohons and Ashimi (2007).

#### **IMPLICATIONS FOR NURSING AND MIDWIFERY PRACTICE**

Nurses and midwives constitutes the majority among health care professionals who have so far adapt to the provision of various services in the majority of antenatal clinics in Nigeria, to this end, the nurses and midwives have a great role in health education of the general public and the pregnant women during antenatal visits on the causes and factors that predispose women to spontaneous abortion, such as age and number of children a woman has along with other chromosomal factors which predisposes her to spontaneous abortion. Although a woman physically recovers from a miscarriage quickly, but the psychological recovery for parents in general can take a long time. People differ greatly in this regard: some are able to move on after a few months, but others take more than a year. Still others may feel relief or other less negative emotions. Interaction with pregnant women and newborns is often painful for parents who have experienced miscarriage. Sometimes this makes interaction with friends, acquaintances and family very difficult.

Base on the aforementioned therefore, it is incumbent on nurses and midwives to health educate pregnant women during antenatal care and during hospitalization so as to improve their knowledge on spontaneous abortion

**Table 4.** Obstetric history of women.

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gravidae status</b>		
1-2	22	17.5
3-4	51	40.5
5-6	28	22.2
7 and above	25	35.7
Total	126	100
<b>History of previous abortion</b>		
Yes	39	31
No	87	69
Total	126	100
<b>Cause of previous abortion</b>		
Unknown	7	18
Illegal abortion	7	18
Fetal cause	3	7.7
Maternal cause	9	23.1
Infection/Malaria and typhoid	9	23.1
Accident and trauma	3	7.7
Strenuous activity	1	2.6
Total	39	100
<b>Cause of present abortion</b>		
Unknown	20	15.9
Illegal abortion	18	14.3
Fetal cause	24	19
Maternal cause	26	20.6
Infection/Malaria and typhoid	17	13.5
Accident/trauma	15	12
Strenuous activity	6	4.8
Total	126	100

**Table 5.** Distribution of management of abortion by types.

<b>Types of spontaneous abortion</b>	<b>Management of present abortion</b>
Threatened abortion	Complete bed rest, abstinence from coitus and any strenuous activities
Inevitable abortion	Syntocinon/Ergometrin, dilatation and curettage, evacuation, broad spectrum antibiotics
Missed abortion	Intra-vaginal misoprostol, manual vacuum aspiration
Septic abortion	Surgical evacuation, broad spectrum antibiotics
Incomplete abortion	Manual vacuum aspiration, cyntocinon and ergometrine
Complete abortion	Broad spectrum antibiotics

and self-care during pregnancy. The nurses should however take into consideration the fact that these women are fragile and should handle them with care by given them all the physical, emotional and psychological care that is needed.

## Conclusion

Base on the result of this study the researchers observed

that, the age and Gravida status play a significant role in the occurrence of spontaneous abortion and it can be managed expectantly, medically and surgically. The challenges associated with the management of spontaneous abortion in the three selected hospitals are inability of the spouse especially the women to accept that the fetus is no longer viable except in the case of threatened abortion, this therefore make women in this condition delay in coming for treatment and they suppose

this action will save the baby and the living of the woman. In order to reduce these complications that may occur as a result of delayed treatment, nurses and various hospitals management need to put measures in place to avert the death of unborn child and the mother.

## RECOMMENDATIONS

Based on the conclusion of this study, we recommend that the government, the nurses and hospital managements should ensure that:

1. Governments at all levels begin to develop a set of realistic policies and programs to address the high rate of morbidity and mortality associated with pregnancy related problems especially spontaneous abortion.
2. Appropriate mechanisms to be put in place in providing quality maternal health services such as obstetrics emergency kit in all health institutions for the prevention and management of post abortion complications.
3. Government and non-governmental organizations working in the community development and health care services must recognize the role that education of women during antenatal clinic play a role in eliminating the problems associated with spontaneous abortion in Nigeria.
4. Health education programs should as a matter of policy be directed towards family planning, early reporting to health centers when the need arises to reduce the high levels of morbidity and mortality among pregnant women.
5. The community health nurses and midwives should educate women in the community during antenatal visits on the symptoms of spontaneous abortion so as to report early.
6. The government should provide reproductive health facilities and support health workers in rural places in the early detection of miscarriage/abortion condition and provide specialized and immediate management to the victim.

## ACKNOWLEDGEMENTS


The authors are sincerely grateful to the entire women who participated in this study from the three selected Hospitals in Maiduguri, Nigeria; they also appreciate the cooperation's of the research and ethical committees as well as the heads of the units of the study areas for their support which make this study possible. This study would not have been possible without the participation of staff of the various hospitals. The authors commend the efforts and cooperation given throughout the study period.

## Conflict of Interests

The author(s) have not declared any conflict of interests.

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