

**THE USE OF INTUITION IN NURSING
PRACTICE**

A Descriptive Literature Review Concerning
the use of Intuition by Nurses

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ABSTRACT

Intuition is a rapid and unconscious source of knowledge. Its use has been documented in several fields since a long time. Although nurses use intuition in most of the nursing interventions and particularly while making clinical decisions, intuition is undervalued in comparison to evidence-based nursing. The purpose of this thesis is to introduce intuition and discuss its importance in nursing education, clinical practice and patient care, most importantly decision making. Furthermore, the thesis also emphasizes that intuition is equally important in healthcare as research-based nursing and the use of intuition should be encouraged in nursing.

About 50 research articles from 2000AD-2017AD were reviewed and 9 articles were analyzed for this literature review. The databases used were: Mastofinna, CINAHL (Cumulative Index of Nursing and Allied Health Literature), SciELO, academic search elite EBSCO, PubMed and Google Scholar.

Recommended areas for further study in the topic could be intuition in the context of Finnish healthcare, its relationship with cognitive processes, validating its use and finding ways to promote intuition-based nursing.

Key words used in the search: intuition, nursing experience, intervention, promotion, patient care, instinct and judgement

Lahden ammattikorkeakoulu

Hoitotyön koulutusohjelma

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Intuition käyttö hoitotyössä

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TIIVISTELMÄ

Intuition on nopea ja tajuton tietolähde. Sen käyttöä on dokumentoitu useilla aloilla pitkään aikaan. Vaikka hoitajat käyttävät intuitiota useimmissa hoitotyötoimissa ja etenkin kun tehdään kliinisiä päätöksiä, intuitiota on aliarvostettu verrattuna näyttöön perustuvaan hoitotyöhön. Tämän opinnäytetyön tarkoituksena on esitellä intuitiota ja keskustella sen merkityksestä hoitotyön, kliinisen käytännön ja potilaan hoidon kannalta, mikä tärkeintä on päätöksenteko. Lisäksi opinnäytetyössä korostetaan, että intuitio on yhtä tärkeä terveydenhuollossa kuin tutkimukseen perustuva hoitotyö ja intuition käyttöä olisi kannustettava hoitotyössä.

Noin 50 tutkimusartikkeleita tarkasteltiin josta 9 artikkelia analysoitiin tämän kirjallisuuskatsauksen osalta. Käytettyjä tietokantoja olivat: Mastofinna, CINAHL , SciELO, EBSCO, PubMed ja Google Scholar.

Suosittelut alueet jatko opintoihin aihealueella saattavat olla intuitiota suomalaisen terveydenhuollon yhteydessä, sen suhde kognitiivisiin prosesseihin, sen käytön validointi ja keinot löytää intuitioon perustuvaa hoitotyötä.

Asiasanat: intuitio, hoitokokemus, interventio, edistäminen, potilaan hoitoa, vaisto ja tuomitseminen.

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Abbreviations

ECG Electrocardiogram

EEG Electroencephalography

HRV Heart Rate Variability

NMC Nursing and Midwifery Council

1. INTRODUCTION

Intuition, often referred to as 'gut-feelings', is an important tool in the practice of nursing. In the past, nursing intuition was linked primarily to experience, therefore limiting the use of intuition to expert practitioners. In today's healthcare practice, intuition is backed up by knowledge and experience of nurses and has become an integral component of the clinical decision-making. (Holm and Siverntsson 2016, 413.) Nurses are educated, knowledgeable and can determine needs and requirements of the patient or situation. This ability is greatly driven by deeply grounded knowledge, experience, continuous critical exposures and intuitions. For nurses, each clinical condition acts as a learning environment from which they can gain a lesson that guides the next experience. (McCutcheon and Pincombe 2001, 342-343.)

The use of intuition in the clinical nursing practice has increased in the last 20 years. Different electrophysiological studies have confirmed the existence of intuition and have established its origin in the frontal cortex of brain. Furthermore, different examinations using electrocardiogram (ECG), electroencephalography (EEG) and heart rate variability (HRV) clarified that human brain can project risky and dangerous incidents in the future. Therefore, the heart and brain coordinate to receive, process and release the intuitive senses. (Hassani, Abdi and Jalali 2016, 7.) With the increasing clinical experience of nurses and researches conducted relating intuitive decision making, nurses are now more confident using their intuitive feelings in decision making even in critical nursing environment. (McCutcheon et al 2001, 343).

The purpose of this study is to inform nurses, nursing students and other healthcare workers about the use of intuition by nurses in decision making. This research aims to guide nursing students and other healthcare workers about the nursing instinct, intuitive nursing interventions and clinical consequences. The aim is also to conduct a study that will support and clarify the concept of nursing intuition and how it is used in clinical settings using descriptive literature review method.

The interest and motivation of the authors to conduct a study about the use of intuition in nursing practice was primarily driven by experiences in different clinical practices in Finland and in Nepal. During the clinical placements, authors came to know that nurses often use their instinct to determine the situation and they can already figure out the needs of the patient under that situation. A great deal of nursing interventions is guided by nursing instinct that become imperative in the patient's treatment process. Therefore, the authors of this study felt persuaded to educate nurses and nursing students in Finland about the use and importance of intuition in clinical nursing practice.

2. INTUITION IN NURSING PRACTICE

The chapter comprises the use of intuition in decision making and different interventions made by nurses based on their instinct. The concept of intuition is an important aspect of modern healthcare settings which has dragged attention of researchers. The chapter will provide an overview of different intuitive nursing interventions and will act as a guidebook for nursing students and health workers.

2.1 Defining intuition in nursing

According to the Merriam-Webster Online Dictionary (2017),

“Intuition is a natural ability or power that makes it possible to know something without any proof or evidence: a feeling that guides a person to act a certain way without fully understanding why.”

Intuition is the instant understanding of knowledge without evidence of sensible thoughts. Similarly, intuition in clinical practice or clinical intuition can be explained as a process where nurses recognize something in patients that cannot be expressed or explained using words but results in significant and often lifesaving interventions. (Billay, Myrick,

Luhanga and Yonge 2007, 147-148.) The use of intuition by nurses as one of the ways to make crucial decisions about patient care has been extensively discussed. Increasing studies and researches have indicated that the intuition in nursing has played an important role in clinical decisions ensuring patient safety. (Alfague and Ferszt 2010, 246-258.) Intuition has become an integral part of nursing practice where nurses' gain access to the inert knowledge without thinking for a second time. However, often intuitive decision making is deemed as irrelevant because of its intangibility and illogical nature. Regardless of disputable status of intuition in nursing science, studies approve the importance of intuition in firm decision making among nurses. (Robert, Tilley and Petersen 2014, 343.)

The intuitive decision-making process in nurses runs through three different smooth phases. (Lyneham, Parkinson and Denholm 2008, 383). Firstly, cognitive intuition is the result of the combination of knowledge and experience among nurses which can occur on both conscious and unconscious level. Experienced nurses use cognition so expertly that the clinical activities do not necessarily correspond to the stereotypical measures. (Billay et al 2007, 152.) This kind of intuition includes the use of stored experience, knowledge and analysis that can only coordinate through the cognitive connection. Secondly, transitional intuition is the consequence of cognitive and embodied intuition where nurses make a logical transition of these two aspects. Finally, embodied intuition is the result of utter trust of nurses on experience and knowledge that build confidence to perform interventions. (Lyneham et al 2008, 383-384.)

2.2 The Use of Intuition in Nursing

The ability to use intuition in nursing practice directly impacts the quality of care and patients' outcome, thus intuition serves an important role in making clinical judgements. Nursing education prepares students to think critically and make a clinical evaluation of the situation. This suggests that there is a growing need to include intuitive nursing skills education among nursing students. Nursing education ought to include both analytical and intuitive criteria of decision making which will foster these skills in practice. (King et al 2002, 323-328.)

The use of intuition by nurses is well known but has not been provided a complete recognition in healthcare sector. In everyday nursing, nurses use intuition to make interventions to make clinical decisions about patients. The significance of intuitive decision making by nurses and other healthcare professionals is of growing concern among researchers and more vivid acknowledgements are being revealed. In conjunction with evidence-based nursing practice and decision making, intuitive decision making is imperative and indispensable aspect of nursing care. (King et al 2002, 323-328.)

2.2 Intuition and novice nurses

“When a student nurse observes an experienced, energetic, passionate preceptor practicing the art of nursing, the student will soon realize that the intuitive knowledge of the nurse plays a major role in competent patient care” (Truman 2003, 1).

Although primarily linked with the experience and expertise of nurses, many studies have revealed that nursing instincts come not only from nursing experience and knowledge but also from the daily experience of living. The use of intuition is largely promoted by the knowledge, personality, ability and willingness to use intuition and relationship with patients. The transition of the use of intuition from novice nurses to expert nurses is largely dependent on working environment and consistent use of intuition. (Smith 2009, 37.) Therefore, the use of intuition by novice nurses in clinical decision making should be supported and persuaded (Truman 2003, 1).

In clinical settings, nursing students and novice nurses are found to have intuitive feelings toward patients. According to Ruth-Sahd and Hendy (2005, 5), personal and interpersonal experience is the key among novice nurses to use intuition in clinical settings. Experienced nurses can process information rapidly and respond to situations quickly which is why intuitive abilities and decisions are mostly observed in emergency and critical care units. However, novice nurses can use instincts relatively well to judge the situation particularly among elderly clients and if the environment is friendly. (Smith 2009, 37-38.)

2.3 Pros and Cons of intuitive decision making

Clinical decision making incorporates critical thinking, reflective practice, problem solving, judgement, ethical values, professional accountability and scientific, evidence-based practice. Nurses must make rapid decisions and they may not be consciously aware when making clinical decisions. So, they may have to decide unconsciously. This unconscious process called intuition relies on an individual's perception of situation rather than scientific, evidence-based knowledge. It can be described as 'knowing without knowing how' or 'understanding but without a rationale'. Intuitional decisions are made in real time based on the environment and the situation involving instinctive judgement rather than an analytical thinking process. Intuition bridges conscious and unconscious decision-making processes. Though the products of intuition, such as a feeling, an urge or a hunch, may be available for conscious access, the reasons why intuition exists are inaccessible. The degree to which our reasoning is conscious is important for the quality of our decisions. This is because consciousness not only presents distinct functional advantages such as cognitive flexibility (Price & Norman, 2008), but may also have disadvantages such as limited cognitive capacity leading to a greater reliance on heuristics (Dijksterhuis, 2006.)

Intuitive reasoning influences the quality of our decisions, hence the extent to which we should rely on our intuition is a central question while making decisions. Several theories have been put forward to explain this situation, an example of which is the "dual process". In this theory of reasoning, decision theorists study a class of decision outcomes based on quick, automatic, and effortless processes, "intuitive", referred by "System 1" (S1) processes, and more deliberate, slow and methodical reasoning, referred to as "System 2" (S2) processes (Dijksterhuis, 2006.)

On comparing these, subjects using S1 processes may arrive at a solution more rapidly and at a lower cost than S2 process. S1-type processing has been associated with systematic heuristics and biases which may compromise our reasoning. These biases are key evidence for the view that the best decisions are made using fully conscious

reasoning and that semi-conscious intuitive processes are inferior bases for decisions and judgments. However, it is not entirely clear how consciousness, and therefore intuition, maps onto the S1/S2 dichotomy (Price & Norman, 2008). For example, decision tasks intended to study systematic biases require subjects to use a combination of conscious and non-conscious processes and it is not clear that the tasks measure the performance of intuition (Betsch, 2007). Thus, it is wrong to blame biases solely on intuitive reasoning.

Under certain conditions intuition can lead to comparatively better decision outcomes. In a recent example of a relatively complex, multi-attribute decision task, subjects relying more on intuitive reasoning made better choices among a set of items to purchase than subjects relying more on conscious deliberation. The explanation of this finding was that in a complex multi-attribute problem (involving more than one or two attributes and their respective values) subjects who made thoughtful decision are handicapped by the relatively limited capacity of conscious cognition and rely more on the salience of attributes, and therefore non-compensatory reasoning strategies. Subjects who rely more on intuition use a more “holistic” evaluative process which results in a more balanced, compensatory weighting of attributes and therefore better decisions. (Dijksterhuis, 2006).

This can be explained by another study in which subjects were tasked to decide between art posters which they would be allowed to take home for free. They were either allowed to take a poster, no questions asked, or were told they were going to be required to explain their choice. It was found that, subjects required to explain their choice were significantly less satisfied with their choice in the long run. Apparently, asking subjects to generate conscious, explicit reasons for their choice forced them to focus on reasons that were “easy to verbalize” rather than rational reasons. This availability-type heuristic led to inferior choices in cases of conscious reasoning as compared with semi-conscious intuitive reasoning which seemed to take better account of attributes which were harder to verbalize. (Wilson et al., 2002)

The decision theory answer to the problem of non-compensatory reasoning is Multi-Attribute Utility Theory which requires that subjects employ a fully conscious exposition of all goals and attributes to find a proper weighting scheme. However, the practicality of this approach in a busy world where important decisions must be made rapidly without time for such exposition is an open question. Moreover, even with sufficient time to rely on a fully conscious exposition, decision makers are prone to implicit biases which may be difficult to recognize. Thus, it is also difficult to render the decision process entirely conscious. (Wilson et al 2002.)

Acknowledging that both conscious and nonconscious processes are part of all decisions, some researchers have switched from focusing on whether decision makers should rely on either conscious deliberation or semi-conscious intuition to focusing on exploring the characteristics of decision contexts under which more intuitive or more deliberate reasoning strategies lead to better outcomes. For instance, Hogarth (2002) explains that intuitive processing is more beneficial when the information provided by the immediate context of the decision task is sufficient to make a valid judgment or decision. Hogarth points out a critical distinction between information that is merely presented by the decision context, and information that becomes internally represented for the decision maker. Deliberate reasoning is more beneficial when additional information, not initially represented internally, is required. An example of this distinction is the classic base-rate neglect problems in which base rates are presented, but do not become sufficiently represented in the subject's reasoning process. Here, deliberate reasoning is necessary (but not sufficient) to bring base rate information into consideration. (Hogarth, 2002.)

Both unconscious and conscious thoughts have different characteristics which make them preferable in different conditions. Decisions on simple issues are better tackled using conscious thought whereas complex circumstances are better solved unconsciously. This is because unconscious thoughts can detect recurring patterns despite being highly complicated. These types of highly complicated and recurring situations are more common in nursing and hence the use of unconscious thought is more

relevant and appropriate in specialized area of nursing practice. (Nyatanga and Vocht, 2008.)

2.4 Uncertainty and intuitive decision making

Intuitive decisions are made particularly in conditions of uncertainty, even though they may not give the best results and are prone to many unrecognized biases. In the medical field, uncertainties may be technical, personal and conceptual. Technical uncertainties are caused by lack of sufficient information regarding prognosis and/or effect of intervention. Personal uncertainties are caused due to the nurse-patient relationship, an example of which is the emotional connection between a nurse and patient leading to incorrect evaluation of his/her own decision. Conceptual sources of uncertainties arise from inability to assess different patients' needs competing for same resources, and the application of general criteria eg. guidelines to individual patients. The applicability of past experiences to present-day patients may also be another source of uncertainty. (Hall 2002, 216-224.)

While deciding on such uncertainties, a part of intuitive decision making called heuristics is often used. Heuristics is like a rule or a guideline that makes complex issues simpler. In many situations, they may result in accurate predictions and reflect a highly adaptive and efficient response to decision making in real world. However, in some cases, they might be sources of many biases and errors. An example of such bias is the fact that more easily recalled events are given a higher probability and confused with more frequent events. However, this is not true and the most easily recalled ones are not necessarily the most frequent. Biases may be caused due to ease of recalling 'matching' cases eg, recent cases are recalled more easily. They may also be caused due to the 'effectiveness of search net'. In other words, the ease of search gives rise to the biased thought that it occurs more frequently. These biases can affect clinical decisions as well as ethical decisions, so it is very important to know the role of uncertainties and these biases prior to making decisions. (Hall 2002, 216-224.)

2.5 Factors affecting intuitive decision making

Intuition is influenced by various factors out of which clinical experience is the most common element. Experienced nurses have a clearer understanding of clinical situations and symptoms which helps them to interpret patient cues. They have an intuitive sense of situations and only use analytical methods in cases of new situations. On the other hand, it involves pattern recognition where healthcare professionals rely on previous experiences, so it can also be argued that intuition is a cognitive process rather than just a gut feeling. Thus, experienced nurses can make better decisions than their counterparts with less experience. (Pearson 2013, 212-215.)

Other characteristics of intuitive nurses are acknowledgement of intuitive experiences, confidence in intuition, willingness to take unconventional approaches to problem solving, awareness of spirituality in practice and interest in abstract issues. The use of intuition is influenced by spirituality, self-confidence, open mindedness and experience of the nurse. (Smith 2007,16-17.) Also, knowing the patient or client very well, being involved with his/her care and being able to receive information also strengthens the nurses' intuition. Furthermore, the ability of nurses to reflect on the outcomes of previous decisions also has a positive impact on intuitive judgement. (Rovithis and Parissopoulos, 2005.)

3. INTUITIVE DECISION-MAKING PROCESS IN NURSING PRACTICE

“Both intuitive and analytical decision making are integral aspects of nursing practice and decision-making. In recent times, focus is largely shifted in understanding intuitive decision-making among nurses.” (King and Clark 2002, 325)

Clinical decision making is a complicated process that directly affects patient care and patient outcomes. Clinical decision-making process comprises the capacity to think promptly and act accordingly and systematically to resolve problems. This complicated process of decision making includes professional knowledge and experience, ethical consideration, evidence-based practice, problem solving, judgement, critical thinking and reoccurring practices. Intuition is widely used by health professionals while making rapid decisions. However, it is undervalued and overlooked due to the use of scientific and evidence-based approach. (Holm et al 2016, 443-445.)

The concept of intuitive decision making in nursing practice is well-defined, logical and explanatory. Studies have shown that experienced nurses make minimal errors and accept the use of intuition in making clinical decisions. (McHugh and Lake 2011, 2-4.) The use of intuition is primarily known as unconscious, sudden and unanalytical use of nursing experience encircled by knowledge. However, intuition in nurses is the result of acknowledging the patient directly or indirectly through family. Most importantly, intuitive knowledge greatly depends on comprehensive interaction with the patient and the family or experiences in similar situations. (Effken 2007, 189.)

The incidence and value of intuition in nursing practice is well established, however it remains elusive in today's environment of evidence-based practice and research. (McHugh et al 2011, 3). The process of clinical decision making through intuitive actions runs through a series of episodes (Payne 2015, 225) which is shown by figure I and is explained further below.

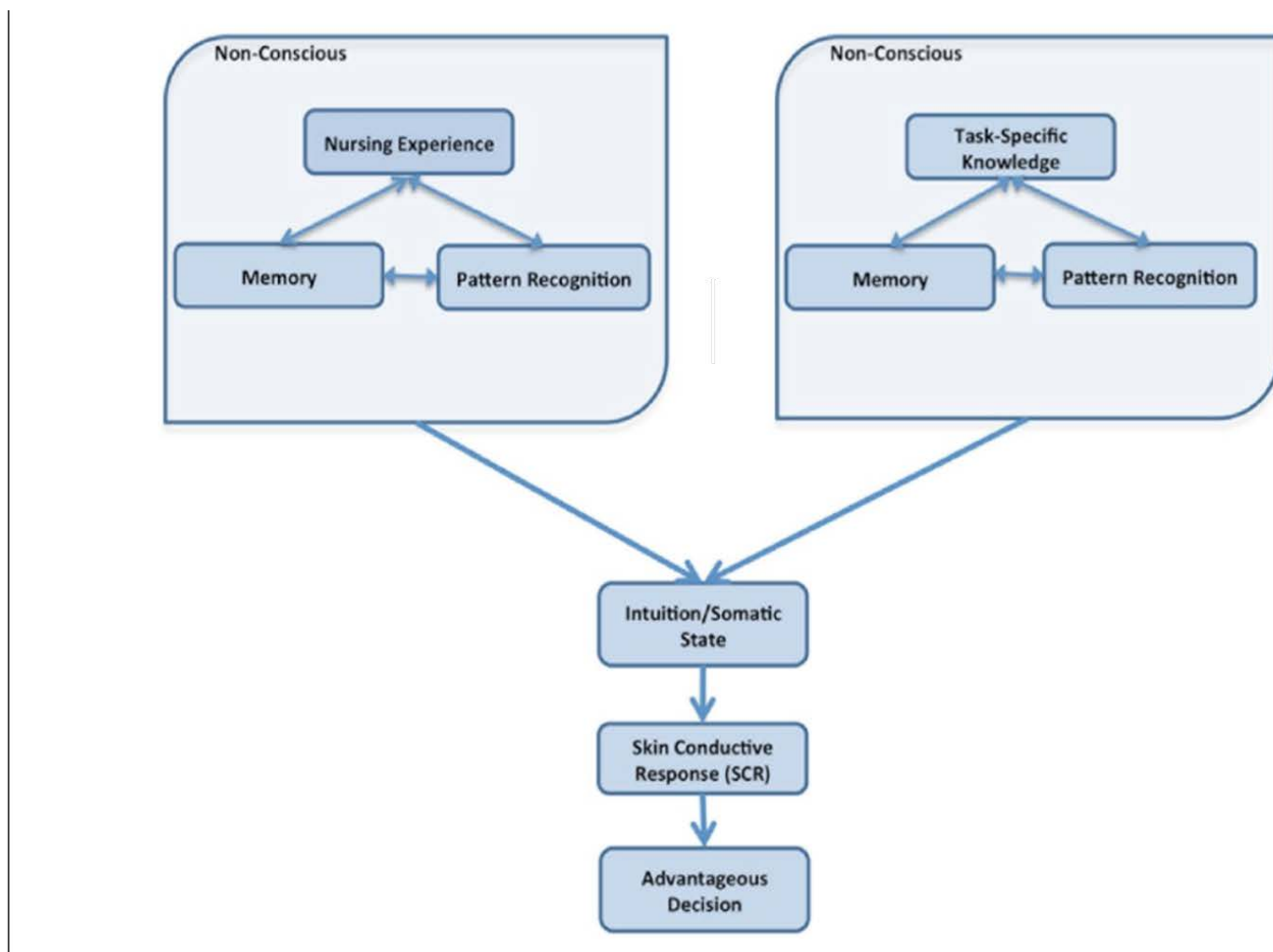


Fig 1- Process of intuitive decision-making in nursing

The theory of decision making among nurses based on intuition is largely dependent on the acquisition of experience through the coordination of memory and pattern recognition. The exposure to various clinical environment ultimately leads to deeper understanding of processes. Thus, when nurses are exposed to the scenario where intuitive decision is made, it is guided through somatic state. The somatic state is a nonconscious and non-analytical state that processes and delivers the signal and alerts to carry out necessary action. Therefore, the intuitive decisions in nursing practice is processed and delivered in somatic state. (Payne 2015, 226-227.) Intuitive decision-making is a decision-making process that does not rely on scientific and evidence-based practice or knowledge but

relies significantly on one's perception and evaluation of the situation. Health professionals including nurses develop an ability to make decisions immediately without the use of analytical thoughts even in totally new circumstances. However, it takes years of experience to have this level of intuitive decision-making ability. Prompt and accurate decision-making ability makes a significant difference in patient care. (Hassani et al 2016.)

4. AIMS, THE PURPOSE OF THE STUDY AND RESEARCH QUESTIONS

The purpose of this study is to inform nurses, nursing students and other healthcare workers about the use of intuition by nurses in decision making. This research aims to guide nursing students and other healthcare workers about the nursing instinct, intuitive nursing interventions and clinical consequences. The aim is also to conduct a study that will support and clarify the concept of nursing intuition and how it is used in clinical settings using a descriptive literature review method. The research will add some valuable information to current findings regarding the use of intuitions by nurses in the treatment process of patients.

The study can also assist in establishing informative guidelines for nurses and personnel pertaining to healthcare settings about intuitive nursing interventions. Mostly, these nursing interventions are guided by experiences that can make a significant impact on patient care on a variety of care units such as emergency, critical care unit and others where patients' condition might shift in short duration. This research will also try to educate nursing students and nurses about the impact of nursing intuitions in patient care through the proper study of previously written scholarly articles. The information is sought through research questions which are.

1. How do nurses use intuition in decision making process?
2. How does intuition support decision making process in nursing?

5. METHODOLOGY AS A LITERATURE REVIEW

An approach of a descriptive literature review is used by an author to study and analyze scientific literatures. This method is basically followed to effectively understand and explore scientific literature related to nursing intuition.

5.1 Descriptive Literature Review

The use of descriptive literature review is made by the authors to clarify the concept of intuition in nursing practice through various published articles. A descriptive literature review (known also as narrative or traditional literature review) is believed to be the most widely used and functional form of literature review. This is a systematic process that makes a critical analysis and presents a well-organized summary of available publications.

A well-written literature review can inform readers about the subject matter through the range of sources with a different set of categories. In addition, a descriptive literature review aims to answer well-focused and established research questions. (Cronin, Ryan and Coughlan 2008, 39-40.) Descriptive review is a more concrete process that helps bringing out the core ideas of published articles, performing a proper search and extracting the most reliable articles based on outlined criteria and planned methods beforehand. Moreover, this form of literature review is a research on itself which aims to highlight the main issues of interest from a wide variety of scholarly articles. It also makes a comprehensive analysis and synthesis of different sources to minimize biasness and to make information more vivid. (Medina and Pailaquilén 2010, 825.) In nursing, a descriptive or narrative review greatly aids in evidence-based practice and in the firm decision-making process (Thomas and Harden 2008, 2).

The summary of the article is written to further clarify the information presented in the articles searched. The final draft will help to critically examine and recapitulate all the articles included in the review that significantly justifies the research questions. Most

importantly, the summary will act as guidelines and provides valuable recommendations and methods of implications from the publications. (Cronin et al 2008, 38-39.)

5.2 Data search and collection process in this research

Various predefined eligibility criteria were established to conduct literature search to minimize biasness and to ensure the correct methodological approach. Before browsing databases, a search protocol was established to minimize ambivalence among readers and to make it easier to reach the conclusion. An electronic source called Masto Finna was used within the Lahti University of Applied Sciences campuses and from various off campus locations. The following databases were used to find all relevant literatures meeting the inclusion criteria: CINAHL (Cumulative Index of Nursing and Allied Health Literature), SciELO, academic search elite EBSCO, PubMed and Google Scholar. Key words extracted from the aim of the thesis and other terms directly related to the thesis topic were used to retrieve articles. The terms used for searching articles were intuition, nursing experience, intervention, promotion, patient care, instinct and judgement.

| Database | Research Words/Phrases | Limitations | Results/Hits |
|-------------|---|---------------------|--------------|
| Masto Finna | Instinct, Intuitive decision making, intuition in nursing | Published 2001-2017 | 80 |
| CINAHL | Intuition, instinct, intuition in decision making | Published 2001-2017 | 215 |
| SciELO | Intuition and nursing intervention | None | 5 |
| PubMed | Patient care and intuition, nursing experience | Published 2001-2017 | 164 |

| | | | |
|----------------|----------------------|---------------------|---|
| Google Scholar | Intuition in nursing | Published 2001-2017 | 4 |
|----------------|----------------------|---------------------|---|

Table 1: Illustration of research phrases used, implemented limitations and obtained hits/results.

The commencing data search was done by using main key words like Nursing intuition 'AND' Intervention 'AND' Instinct. On the second time, the search yielded numerous key articles and was performed using words directly related to the study such as Decision making 'AND' Intuition 'AND' Intuitive decision making.

The process of drafting a thesis is always performed under the set guidelines particularly in a professional field. The authors of this thesis used and followed the guidelines determined in the 'Thesis Guidelines Book' from Lahti University of Applied Sciences. All the articles chosen for this thesis were scientifically written, peer reviewed, full text articles, written in English and available free of charge during the time when this thesis was prepared. The publications accepted for this thesis were published in between the years 2000 and 2017 and concerned intuitive decision making in nursing.

Various inclusion and exclusion criteria were precisely used to determine only appropriate articles for the thesis. Well-defined and established inclusion and exclusion criteria can help to clearly identify the most suitable articles that justifies the aims and purposes of the thesis (Cronin et al 2008, 39). All other articles that do not meet the inclusion criteria were excluded from the study. Table 1 clearly shows how inclusion and exclusion criteria were established.

Table 1: Inclusion and exclusion criteria

| |
|--|
| <p>INCLUDED</p> <ul style="list-style-type: none">• Articles published between 2000 and 2017• Articles pertaining to nursing decision making based on intuition• Full text articles available for free• Articles published in English |
| <p>EXCLUDED</p> <ul style="list-style-type: none">• Articles published before 2000• Articles that do not concern intuitive decision making in nursing• Incomplete publications or articles with fee• Articles written or published in any other languages than English |

Both primary and secondary source materials were used to perform literature review by authors. Primary articles are those sources which are written by professionals who perform research, analysis and drafting themselves. On the other hand, secondary articles are those sources in which author summarizes and analyses the work of primary publishers. (Gerrard 2014, 30.)

The authors chose nine articles with international background to be studied in detail.. The articles' origins are from the United States, the UK, India, Germany and from South

America, too. The articles were published between the years 2000 and 2017. The articles provided valuable information about intuitive decision making from different perspectives. Furthermore, three of these articles clearly define intuition in nursing care, study various aspects of intuitive nursing skills and compare intuitive decision making to rational or evidence-based decision making. Four of these articles were research articles that made extensive research among nurses' use of intuition working in hospital settings and nursing homes. These articles distinctively fitted the review criteria because they provided answers to the established research questions and could be beneficial in healthcare studies like nursing. The following table shows the chosen articles, authors, publication years, titles, the aims, results.

Table 2: Article Information

| <i>Authors</i> | <i>Articles</i> | <i>Aim of Research</i> | <i>Results</i> | <i>Interest Point</i> |
|---|---|---|--|--|
| <p><i>Marta Sinclair and Neal M. Ashkanasy</i> 2012 <i>Article 1</i> <i>(Literature review)</i></p> | <p><i>Intuition Myth or a decision-making tool?</i></p> | <p><i>To have a positive effect on managerial training in decision making leading eventually to improvement of decision quality, and thus have an impact on organizational performance.</i></p> | <p><i>To measure the use of intuition.</i></p> | <p><i>Result of intuitive nursing care, defines the relationship between nursing care and intuition.</i></p> |

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|---|--|--|---|---|
| <p><i>Christine A. Tanner, 2006</i></p> <p><i>Article 2</i></p> <p><i>(Research article)</i></p> | <p><i>Thinking like a nurse: a research-based model of clinical judgement in nursing.</i></p> | <p><i>To review the growing body of research on clinical judgement in nursing.</i></p> | <p><i>Nurses' background, situation's context, and their relationship with patients is central to what they notice and how they interpret findings.</i></p> | <p><i>The article is based on a review of 200 studies.</i></p> |
| <p><i>Hagbaghery, M., Salsali, M., & Ahmadi, F. 2004</i></p> <p><i>Article 3</i></p> <p><i>(Research article)</i></p> | <p><i>The factors facilitating and inhibiting effective clinical decision-making in nursing: a qualitative study</i></p> | <p><i>To analyze the participants experiences and their viewpoints of their clinical function and clinical decision-making</i></p> | <p><i>Feeling competent, being self-confident, organizational structure, nursing education, and being supported were considered as important</i></p> | <p><i>Thirty-eight participants were interviewed and twelve sessions of observation were carried out.</i></p> |

| | | | | |
|---|---|---|--|---|
| <p>Welsh, I. & Lyons C.M. 2001.</p> <p>Article 4</p> <p>(Literature Review)</p> | <p><i>Evidence-based care and the case for intuition and tacit knowledge in clinical assessment and decision making in mental health nursing practice: an empirical contribution to the debate.</i></p> | <p><i>To prove that the methods of clinical assessment and decision making should not rely solely on logical positivist approaches.</i></p> | <p><i>It is not always appropriate to disregard the tacit knowledge and intuition of experienced practitioners when making assessment decisions in mental health nursing practice.</i></p> | <p><i>It supports the case for a holistic approach which may draw on intuition and tacit knowledge, as well as traditional approaches, to meet the requirements of clients with complex mental health problems.</i></p> |
| <p>M.,Rovithis and S., Parissopoulos 2005</p> <p>Article 5</p> <p>(Literature Review)</p> | <p><i>Intuition in Nursing Practice</i></p> | <p><i>To argue that the essential nature of intuition cannot be ignored in the practice, management, education and research of nursing.</i></p> | <p><i>The benefits derived from intuition in practice is enhanced clinical judgment, effective decision making and crisis aversion.</i></p> | <p><i>To deny the value of intuition devalues an important part of experience-based nursing practice.</i></p> |

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| <p><i>Deborah R. Chilcote, 2017</i></p> <p><i>Article 6</i></p> | <p><i>Intuition: A concept analysis ?</i></p> | <p><i>To conceptually examine intuition, identify its importance and encourage its use in nursing education, clinical practice and patient care and add it to body of nursing knowledge.</i></p> | <p><i>The use of intuition is reported but not legitimized within the profession. Intuition is result of unconscious holistic knowledge derived through synthesis and not analysis.</i></p> | <p><i>Patients must be treated holistically, and intuitive feelings must be considered while making clinical decisions. The use of intuition must be promoted.</i></p> |
| <p><i>Cader, R., Campbell, S., & Watson, D. 2005</i></p> <p><i>Article 7</i></p> | <p><i>Cognitive Continuum Theory in nursing decision-making.</i></p> | <p><i>To analyze and assess Cognitive Continuum Theory and to provide evidence for its connection to nurses' decision-making.</i></p> | <p><i>Cognitive Continuum Theory has the potential to create major contributions towards understanding the decision-making method of nurses with in the clinical surrounding.</i></p> | <p><i>Knowledge of the theory in nursing practice has become crucial.</i></p> |

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| <p><i>Dowding, D., & Thompson, C. 2003.</i></p> <p><i>Article 8</i></p> | <p><i>Measuring the quality of judgment and decision-making in nursing</i></p> | <p><i>Measuring of the standard of judgments and how to measure judgement accuracy as a part of evaluating decision-making in nursing practice.</i></p> | <p><i>The quality of judgement and decision-making in nursing need to be aware of both the strengths and limitations of existing methods of measurement.</i></p> | <p><i>The article includes how accurate they are and how we can improve levels of accuracy.</i></p> |
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| <p><i>Banning, M. 2007</i></p> <p><i>Article 9</i></p> | <p><i>A review of clinical decision making: models and current research</i></p> | <p><i>To review the current literature clinical decision-making models.</i></p> | <p><i>The characteristics of the three models of decision making were identified.</i></p> | <p><i>Decision making is</i></p> |
|--|---|---|---|----------------------------------|

5.3 Data Analysis

Data analysis is an indispensable part of a research. It should always be performed considering the research questions, aims and purpose of the study conducted. (Williman 2011, 208.) The data analysis was started together with the data gathering process. The

contents of different relevant articles were carefully studied taking notes and marking which made it easier to identify the studies relevant to the research question and purpose of the thesis. The meta-analyses approach of data analyses is used by authors which helps providing more balanced and comprehensive research findings. It analyses different sources critically where the contents, trends, pattern, words and relationship between the words are systematically categorized need to be chosen. All the appropriate articles that support the theme of the thesis. The contents for analysis from the data is set before beginning of the next stage of the thesis. (Hasanah, Prasetyo & Rudyatmi 2016, 3.)

The process of analyzing sources in this thesis is performed in a structured format. Different relevant nine articles from around the globe were selected and numbered 1-9. All the articles were read repeatedly to grasp the core content and understand the information in the article. Finally, the main theme and contents of articles were figured out which assisted in answering the research questions.

5.4 Data Summarizing

A brief summarization of the thesis is written at the end to ease the understanding and aid in the future references when needed. Every source included in this thesis was scrutinized individually in quest for concrete information pertaining to the research questions. Information related to research question 1 and question 2 were marked uniquely for better understanding and recognition. The authors organized the information into categories, themes and quotes.

To formulate regular and vivid flow of information, authors made usage of direct quotes from the articles that were deemed to answer research questions. Taking into consideration the possible upcoming themes, data were grouped together and analyzed critically. Table 3 shows how the authors made use of direct quotes from the research articles.

| Quotes | Category | Themes |
|---|---|--|
| <p>“The importance of intuitive decision making is often overlooked by researchers”.</p> <p>(Hassani et al 2016, 23)</p> | <p>Emphasizes the value of intuition among nurses and clarifies why it must be prioritized.</p> | <p>Insufficient study and research.</p> |
| <p>“Intuitive decision-making process has always been proven to be beneficial for overall patient care and organizational development”.</p> <p>(Lyneham et al 2008, 49)</p> | <p>Patient care improvement aids nurses in decision making process.</p> | <p>Development of overall patient care with intuition.</p> |

Table 3: Example to illustrate how themes are constructed relating to research questions.

6. LITERATURE REVIEW FINDINGS

In this section, the authors will illustrate the results of the research study wherein the primary goal is to explore how intuition can be used to make better decisions. The secondary goal is to compare intuition based nursing with evidence based nursing practice.

6.1 Use of intuition in decision making

One of the important parts of nursing practice is making clinical decisions. Clinical decisions are based on patients' situation and diagnosis. While making clinical decisions,

it is equally important to consider his/her nursing needs and appropriate action must be deduced and implemented to solve the situation. Dreyfus and Dreyfus have outlined the six aspects involved in clinical decision making. Those six aspects are pattern recognition, similarity recognition, common sense understanding, skilled know-how, sense of salience and deliberate rationality. According to them, a nurse must identify several components of patients' overall situations which is referred to as pattern recognition. Similarly, he/she should be able to recognize a likeness despite the differences, referred here in the text as similarity recognition. He/she must also be able to grasp the understanding of patient's' condition from his/her perspective, and utilize experience based knowledge in decision making. He/She must also be able to find the important cues and analyze how precisely related the cues are. Also, the nurse must be able to reflect using past experiences to guide him/herself in the current situation. Only when these aspects are covered a nurse can make effective clinical decisions (Tanner, 2006.)

Linear rational models do not perform satisfactorily under rising time pressure and inadequate information. So, less tangible concepts such as intuition have been explored for making decisions. Intuition is more useful in situations where problems are poorly structured, ill-defined and the facts are conflicting and available information is not sufficient (Sinclair & Ashkanasy, 2005.)

Intuitive decisions are affected by positive types of emotional responses. Intuitive decisions can be classified into three different stages. In the pre-intuitive stage, emotion precludes or facilitates access to intuition acting either as determinant or moderator. In the second phase, i.e. intuitive process, emotion becomes a component of intuition and people often use it as a mode of reception. Finally, in the last phase, i.e. evaluation stage, individuals feel relief or certitude which is a confirmation of genuine nature of intuition (Sinclair & Ashkanasy, 2005.)

Intuitive processing is non-conscious scanning of internal and external resources in a non-logical manner as a result of which relevant pieces of information give a whole picture i.e., the solution. Solutions or decisions are made through non-conscious, quick pattern

recognition and through synthesis of past experience and expertise. Although experienced and expert people arrive at decisions intuitively more often, novices might also make intuitive decisions. This is because they lack analytical knowledge of the subject that would question their intuitive feelings (Sinclair & Ashkanasy, 2005.)

According to psychological theories of information processing, rational and experiential processes exist as parallel cognitive systems. Although these models are independent and support a different decision-making approach, they are interconnected and some decision makers use both approaches equally. The analytical approach is intentional, mostly verbal and relatively free of emotions. Whereas, intuitive approach functions in a holistic, mostly verbally and influenced by emotions (Sinclair & Ashkanasy, 2005.)

The dominance of either approach is influenced by internal and external factors. Intuitive decision making is mainly affected by problem characteristics, decision characteristics, personal disposition and decision-making context. (Sinclair & Ashkanasy, 2005.) The effect of these factors in making intuitive decisions is shown in the following figure 2:

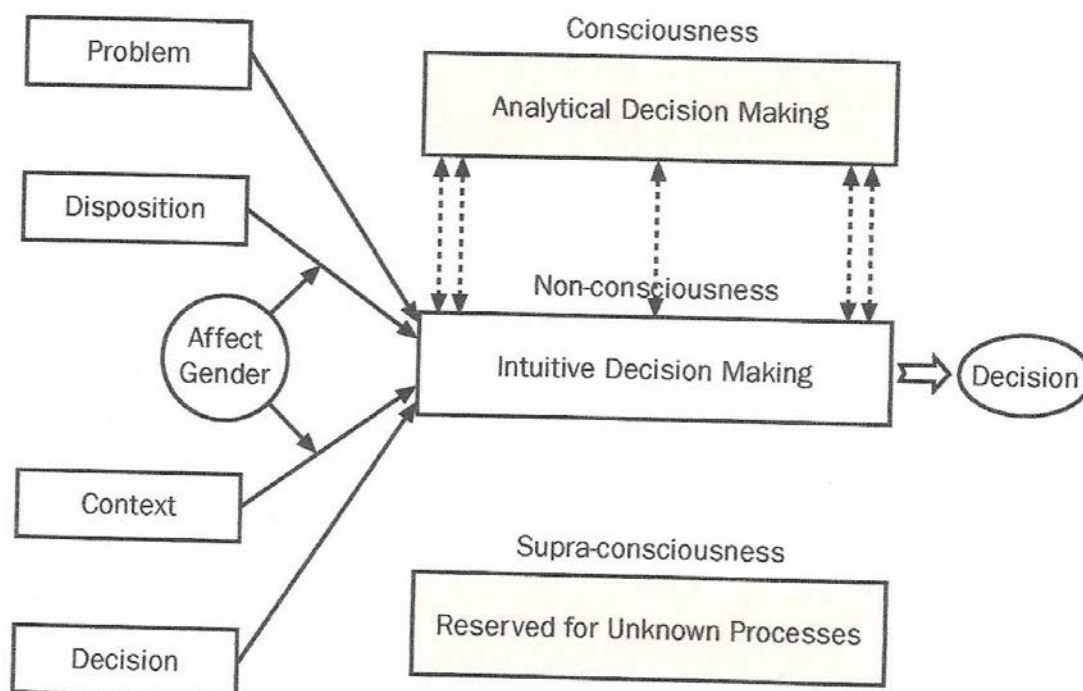


Figure 2: Decision making model

The strongest natural factor of clinical decision making is the unpredictability of the choice assignment. Complexity can include any number of elements that expand the subjective load on the decision maker. Observationally, choice quality is appeared to endure when multifaceted nature is expanded. (Dowding & Thompson, 2003).

In the same way, abundant of what we have tendency to do is actually intuitive and that we tend to not mirror on however we have a tendency to knock or what makes permanently decision-making outcomes (French et al., 2009). Our personal understanding of the proof base is commonly quite restricted and since we would assume we tend to do abundant of it straightway and comparatively effectively most of the time we are not abundant impelled to analyze the method.

Clinical decision making assumes an intimate part care that medical attendants give to patients. Poor basic leadership can prompt antagonistic occasions and have negative results for patients. It is assessed that up to 65% of unfriendly occasions could have been counteracted had medical attendants settled on better choices. (Dowding & Thompson, 2003.) Clinical decision-making models give a hypothetical structure that separates the complex decision process into smaller subcomponents, each of which can be subjected to experimentation and approved. Master medical attendants are known for their proficient and intuitive decision-making forms, while beginner medical caretakers are known for more effortful and consider basic leadership forms. Regardless of taking more time to decide, amateurs still have trouble with successful decision-making.

The intuitive approach stresses individual, passionate, and logical components in decision-making. It depicts the adjustments in choice procedures amongst amateur and master medical attendants. (Banning, 2007.) As a beginner, a medical attendant will utilize a more orderly and investigative technique to decide, ignoring relevant components of the choice assignment. In comparison, a specialist will settle on liquid instinctive choices representing choice undertaking mannerisms. There are different meanings of

intuition in the writing, yet most scholars concur that intuition is phenomenological in spirit and described as a feeling of knowing something without conscious use of reason. A medical attendant's present condition of feeling will influence their basic leadership capacities. A sure medical attendant will be more self-assured in their basic leadership and this enables them to take control of circumstances. (Hagbaghery, Salsali & Ahmadi, 2004).

Healthcare involves addressing health issues and for that reason the nursing method could be a well-established drawback finding approach to consistently assess, diagnose, plan, implement and judge individualized care exploitation intellectual, interpersonal and technical skills. (ICN 2005). Every stage of the nursing process needs the employment of judgments and decision-making and this can be additional effective once vital thinking skills square measure applied. Indeed, criticisms of the nursing method focus primarily on its uncritical application reportable that the additional cognitively demanding coming up with and analysis stages were neglected. The development of clinical judgments and decision-making skills will, therefore, complement the nursing method by encouraging the applying of vital thinking from assessment to analysis.

Problem determination is purposeful and involves evaluating the outcome of interventions therefore, like vital thinking, it is purposeful and involves self-regulatory judgement. For instance, the nursing method and judgement are linked along during a new international classification of nursing apply (ICN 2005).

The options of vital thinking will be joined with problem solving, as follows:

Six steps to effective thinking and problem- solving (Facione 2007, 23.)

| | |
|--------|----------------------|
| Ideals | Five Whats and a Why |
|--------|----------------------|

| | |
|-------------------------|---|
| Identify the problem | What's the real question we're facing here? |
| Define the context | What are the facts and circumstances that frame this problem? |
| Enumerate choices | What are our most possible three or four options? |
| Analyse options | What is our best course of action, all things considered? |
| List reasons explicitly | Let's be clear: Why are we making this actual choice? |
| Self-correct | Okay, let's look at it again. What did we miss? |

Identifying the drawback and context properly is important, as anyone is misdiagnosed understands, thus it needs careful thought of accessible evidence victimization applicable assessment criteria or tools, and abstract knowledge and understanding to form sense of interpretation and draw reasonable conclusions inferences from the data gathered. Enumerating selections and analyzing choices in coming up with actions are increased by reflecting on expertise in addressing such problems, awareness of pertinent policies or procedures, and important application of relevant analysis proof that is methodologically sound. This can be a crucial stage in having the ability to satisfy the necessity for care supported the simplest out there proof or best practice' (NMC 2008: 7). Listing reasons to implement the chosen intervention challenges practitioners to be terribly clear concerning their explanation for victimization this approach and it additionally permits them to elucidate and justify selections to others. Self-correction is that the hallmark of Associate in nursing autonomous practitioner is in a position to evaluate the

strengths and weaknesses of adopted methods in achieving desired outcomes, and, will then evaluate the matter and/or contemplate alternative choices which may be more practical in addressing it.

Effective drawback determination in attention employs vital thinking skills, clinical judgement and decision-making in all stages of the method. Clinical judgement is outlined as 'the application of knowledge supported actual observation of a patient combined with subjective and objective knowledge that result in a conclusion' (Mosby 2008). It therefore, represents a nurses enlightened opinion supported each qualitative (subjective) interpretations and quantitative (objective) analysis of observations and different relevant info sources that guide clinical decision-making. Hence, clinical judgement and decision-making square measure closely inter-related; the previous involves assessment of alternative choices whereas the latter involves selecting between various options.

6.2 Intuition's Support in Decision Making process in Nursing

Decision making is a complicated process and requires high critical thinking skills. The process is much complicated because of high acuity of patients' conditions with multiple comorbidities, and life-threatening situations. The process is also complicated because of expanding knowledge and technology related to nursing practice (Tanner, 2006.) Also, nursing profession has changed over time and today nurses take care of patients in different ways and in different settings. So, due to the complexity of clinical decisions, and a wide spectrum of clinical decision-making settings, just a single process or pathway does not adequately address all factors affecting clinical decisions. Rather, a combination of multiple thought processes must be implemented to give holistic picture of patient care. One type would be analytical, logical and linear thought processes based on observable data and clinical manifestations. Whereas, the other type of thinking is unconscious rapid thinking which is based on experience and emotions. (Chilcote, 2017.)

Nursing is a holistic approach rather than just a task-oriented approach. So, attempts to evaluate holistic care using quantitative methodologies serve to decrease the significance of nursing. According to Chilcote (2016) holistic knowledge are derived through synthesis and not analysis. (Chilcote, 2016). Every experienced nurse draws on their vast amount of knowledge and experience to respond immediately to the needs of the situation, without having the time to articulate this knowledge, i.e. they have used their own tacit knowledge. Rather than just lucky guessing, Intuition is a means of bypassing tacit and formal knowledge and its outcomes can be validated by formal means. Thus, Intuition has a place in evidence-based practice, alongside research-based evidence, and that it deserves to be acknowledged as more than simply 'a hunch' (Welsh and Lyons, 2001.)

Intuition is one of the many characteristic feature of clinical reasoning while making decisions and evaluations. Intuitive knowledge mainly focuses on understanding while evidence based nursing focuses only on finding the right answer. Furthermore, nurse's ability to reflect on past decisions might boost their ability to make intuitive judgements. Cognitive continuum theory focuses to unite both intuition and analysis in order to work together and as a component of nursing process. It is structured and systematic and helps nurses to develop their analytical skills and also increases awareness. Intuition seems to be of profound use in complex nursing situations and there should be no contraindications between intuition and analysis. Pretz and Folse (2010) argue that both intuitional thinking and analysis require reasoning strategies and they serve to ensure the quality of decision making (Cader, Campbell and Watson, 2005.)

Nursing has been part art and part science since long time. Evidence based guidelines do not always address patient's requests and their fears which nurses have to address individually. Also, no guidelines always fit for all patients so at times nurses have to make decisions based on their intuition. Evidence based medicine help us do the right thing most of the time, but there is no punishment for going past the guidelines if one has to make decisions based on instincts. Following evidence-based guidelines protects medical professionals in the event of malpractice suit. However, following new ideas and imaginations with correct documentation can also keep us at safe side. It should also be

noted that at some cases many available evidences-based guidelines may not comply which each other. Following one of these blindly may not protect from malpractice so at these events nurses and other healthcare professionals should follow their intuitions and make decisions accordingly. (Hertz, 2012.)

Since long time in past, humans have been using previously acquired knowledge when they have to make quick decisions for their survival. This previously acquired knowledge raises intuitive feelings, which assists in decision making. Intuition has been accepted and applied in several fields including banking, finance, crime solving and so on. This has also been documented on several occasions. (Chilcote,2017)

Rather than just assisting in medical procedures in the past, nursing profession has changed over time. Today, nurses take care of patients in different ways and in different settings. So, just a single thought process cannot give a holistic care to the patient. Rather, a combination of multiple thought processes must be implemented to give holistic picture of patient care. One type would be analytical, logical and linear thought processes based on observable data and clinical manifestations. Whereas, the other type of thinking is unconscious raid thinking which is based on experience and emotions. (Chilcote, 2017.)

Intuition enhances clinical judgement and decision making, holistic patient assessment and improves patient nurse relationship. These benefits are being undermined by the drive for evidence-based nursing. Denying the importance of intuition has devalued an important part of experience and research-based nursing practice. Intuition might have been denigrated because it is difficult to quantify and scientifically investigate making it look unreliable, unscientific and unsuitable in despite the reverse being true. (Truman, 2003.)

Intuition is an outcome of previously experienced patterns, and detection of subtle clinical changes in them. Knowing by intuition involves drawing on experience, feelings of knowing, sensing subtle qualitative changes and linking results from past to the situation in present. This helps nurses develop shortcuts to simplify a complex situation. The perceptual knowledge and awareness enables nurses to rapidly identify the relevant

information and understand the situation. Intuition is subjective knowing from subjective experience. Experienced nurses use evidences of highest orders, utilizing knowledge from wide range of sources. This results to sudden realization, rapid information integration, quick decisions and meeting clients' need appropriately. As per McCutcheon and Pincombe (2001), intuition does not just happen by itself. Rather, it is a product of complex interaction of experience, knowledge, personality, environment and nurse-client relationship. (Truman, 2003.)

Over the last couple of decades, healthcare has been shifting towards technological and rational orientation. Our educational system and culture has valued rationality over intuitive judgement and has caused denigration of intuition. Also, assuming that intuition as a feminine trait and inferior to rationality has devalued intuition. Furthermore, nursing requires a clear documentation of all nursing actions, feelings and judgements which is not possible in case of intuition. (Rovithis and Parissopoulos, 2005) As a result, the demand for the study and use of evidence-based practice has been growing and nurses have been encouraged to use more of evidence-based nursing and give up the use of intuition. Thus, the role of intuition has been diminished and is often termed as mystical and untrustworthy at present. (Chilcote, 2017).

7. DISCUSSION AND RESULT ASSESSMENT

The research questions were set specifically to provide wide and unlimited opportunities to study about the subject. During the drafting of the thesis, the authors tried their best to analyze research materials from the perspectives of researchers, nurses and nursing students. As the authors were tremendously interested in the intuitive decision-making process, the research and study were carried out with comprehensive study of published articles. A variety of experiences gained from clinical placements and nursing studies conducted at school provided great aid to the final accomplishment of this research.

The objectives of this research have been achieved and purposes have been met. The theoretical background and findings of the thesis provide a clear and primary understanding about how nurses use intuition in decision making process. Inclusion of different tables and figures makes the thesis more precise and easy to follow. The use of intuition by nurses in patient care and decision making is an interesting as well as challenging topic to for researchers to conduct a study. This thesis can provide basic understanding about the subject to the readers.

7.1 Discussion of findings

Intuition has played an important role in the development of nursing knowledge over the past years. It has been used in a variety of clinical settings to make nursing interventions and clinical decisions. However, in the recent years, healthcare has shifted to evidence-based practice encouraging nurses to give up intuition. Thus, the importance of intuition is decreased and is often considered mystical and unreliable. (McCutcheon & Pincombe, 2001.)

Nurses use intuition either alone or in combination with objective knowledge in making clinical decisions, carrying out interventions and analyzing patients' care. Nursing intuition improves over time with experience and knowledge. The degree to which nurses rely on intuition also improves with experience and knowledge. Experienced nurses have higher intuitive ability and they rely more on intuition. Novice nurses also have greater intuitive abilities if they are older and have more life experience. However, they reject their intuitive feelings due to the lack of clinical experience. Also, the use of intuition by novice nurses depends upon complex interaction of knowledge and experience along with personality, open-mindedness, self-esteem, spirituality, age of the nurse and their close relationship with patients. (McCutcheon & Pincombe, 2001.)

Nursing intuition does not depend only on clinical experience. It is also affected by personal qualities of the nurses, their health state and their relation to the patients. Also,

nurses answer to their intuitive feelings effectively if they are physically, mentally and socially well and are energetic. Nurses who are more open, who follow intuitive feelings and are receptive to reflection use intuition in combination with analysis to make decisions. They seem to find unexpected patterns and clues that guides their actions to make decisions. When decisions are made, nurses tend to validate its assessment to ensure that correct decisions are made. These validations are done by implementing intuitive feelings in conjunction with concrete objective data. (Hassani et al 2016.)

One of the important part of nursing practice is making clinical decisions. Clinical decisions must be made considering patient's situation, diagnosis and nursing needs. Only then an effective action can be decided to solve/ease the situation. While making a clinical decision, it is important to consider the following six aspects. Those six aspects are pattern recognition, similarity recognition, common sense understanding, skilled know-how, sense of salience and deliberative rationality. (Tanner, 2006.)

Decision making is a complicated process. The complexity is due to high acuity of patients' conditions with multiple comorbidities, and life-threatening situations. The process is also complicated because of expanding knowledge and technology related to nursing practice and flourishing nursing profession. Thus, clinical decision making requires high critical thinking skills. Due to the complexity of clinical decisions and its need for high critical thinking skills, just a single process or pathway does not adequately address all factors affecting clinical decisions. Thus, both intuition and analytical processes must be used to think critically. (Tanner, 2006.)

Intuition is undervalued and often considered illegitimate in nursing practice because it is not based on scientific evidence but on understanding and skills of the observer. Nursing has always been a feminine, emotional and intuitive profession in comparison to medical profession which is considered empirical and rational. Since nurses use intuition as a major component in everyday clinical decision making, it is equally important as evidence-based practice. Also, throughout history, intuition has been used with scientifically based principles to provide safe nursing care. In no way can intuition be devalued because of

its abstract nature. It is because the core concept of nursing profession is caring which itself is an abstract concept difficult to assess and quantify. (Chilcote, 2017.)

Since the current healthcare environment is rationally oriented and technological, intuition is often challenged and devalued. This devaluation creates a feeling of guilt for the nurses who chose to trust their intuitive feelings. Thus, they devalue their intuitive judgements and feel uncertain to share their feelings with colleagues. This denigration is also underpinned by the educational system and culture which tends to award rational thoughts over intuitive feelings often assumed as weak feminine trait. Other barriers to intuition are demands for scientific and rational decision making, clear documentation of intuitive decisions and accountability which is non-existent in this case. (Rovithis and Parissopoulos, 2005.) Furthermore, nurses refuse to share their experience of influence of intuition in their actions and decision due to the fear of criticism they might have to bear. The using or neglecting of intuition also depends upon the working environment and immediate surrounding. Many do not apply intuition in their practice, due to the fear of being unprofessional and unscientific. (Pearson 2013, 212-215.)

In today's world of evidence and research-based nursing, nurses must recognize intuition and utilize it effectively. It should be kept in mind that, intuition occurs in response to knowledge and triggers nursing interventions. As nursing is an art, intuition has a place in clinical decision making if it is combined with evidence-based practice. If intuition continues to be considered unreliable and unscientific we nurse will be just carrying out standardized procedures and routines and nursing skill and judgement will not flourish much. Since, intuition enables us to have and insight into a situation without having all the details and facts. Thus, the relationship between intuition and cognitive processes in clinical decision making must be studied. Intuition is a body of knowledge and a concept rather than just feeling of hunch or sixth sense. So, it should be accepted as a partner of evidence-based nursing to decrease errors, patient morbidity and patient mortality. This can be done by broadening the base of nursing knowledge and legitimizing the use of intuition in nursing. Nurses should also be encouraged to have a more holistic view of

patients and to use intuition to make decisions which can be validated later by evidence-based practice. (Chilcote, 2017.)

7.2 Validity and reliability

According to Silverman (2013), data collection and analysis is often to some extent selected, modified, interpreted and is to some extent biased. Thus, the credibility of these interpretations must be measured by some scale often termed as validity. (Silverman, 2013.) Valid and reliable measurements help to synthesize valid conclusions for scientific researches. Only such researches with valid conclusions help to develop nursing theory and evidence-based practice. Thus, the authors have paid special attention and consideration so that the research work could remain highly valid and reliable. To promote the validity and reliability of this study, the results have been presented as it is rather than just supporting a view of the topic.

This literature review is based on a variety of different articles from diverse environments and covering many aspects and influences of intuition on nursing. Despite of differences in settings and scopes of nursing in different parts of the world, all nurses experience intuition while making nursing interventions. The degree to which they experience such intuitive feelings and respond to it is influenced by several factors. During this literature review, the authors have tried to seek for the best literature available and from authentic and valid sources. The selected articles were discussed among the authors and their authenticity cross examined. They were further combined and compared to ensure that the content analysis method was efficiently applied in the process.

7.3 Ethical considerations

Valid, reliable and good scientific research articles such as theses fosters scientific advancements. Thus, the authors must strictly adhere to ethical guidelines while writing

the research. The most common ethical issues related to scientific writing are plagiarism and authorship. Plagiarism can be defined as the act of taking of someone else's ideas, processes, results or words without giving him/her appropriate credit. Whereas authorship means giving the credit inappropriately to people who have not made sufficient contributions. (Carver, Jane D. et al, 2011.)

According to Finnish Advisory Board on Research Integrity (2014) a literature review must be written with due honesty; the used references must be cited, and all forms of ethical misconduct must be avoided. The authors of this work have tried to avoid all forms of ethical misconduct including plagiarism and authorship. This has been done by paying due attention to honesty, integrity, and citing all sources used in this thesis. Special attention was given while presenting and evaluating the research results to avoid falsification or distortion of the original research. All authors have tried to contribute equally in the success of the research work.

7.4 Limitations and recommendations for further research

Although the aim and purpose of the thesis was achieved, the thesis has some limitations. The authors have tried to review as many literatures as possible through different sources both in English and Finnish. Due to the inability of the authors to interpret the Finnish materials, many important articles remained unrevealed. The authors have tried to research and study the role of intuition in clinical decision making over the past and at present in areas all over the world. It would have been much better if the influence of intuition could have been studied in context of Finnish healthcare environment and most particularly among Finnish nurses. So, the authors hope that over a course of time, upcoming research projects will contribute to the study of intuition in Finnish healthcare context.

Upcoming researches could also be focused on digging out the relationship between intuition, and cognitive processes in clinical judgements. Moreover, studies and researches should also be focused on developing procedures to develop intuition through

education, mentoring, implementing intuition in teaching practice and supporting students to use intuitive judgements.

8. CONCLUSION

In conclusion, the authors made use of descriptive literature review process to deliver the primary concept of how nurses make use of intuition in patient care and decision-making processes. The thesis comprises important aspects involved in intuitive decision-making process. The research will greatly support nursing students, future researchers as well as other healthcare workers to understand nursing intuition and how it is utilized by nurses.

As the thesis has its set scope and different limitations (discussed in scope and limitation sections), authors advise to take this study as basic guidelines and further research on the topic is highly recommended. Furthermore, being relatively new in the area of research, the authors faced difficulties in searching for adequate, reliable and scientific articles. This has limited the scope of the thesis and the authors believe there will be an extensive study conducted in this significant field of nursing in the future and that it will provide better understanding of the subject.

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