



# Communication Barriers in Nursing and their Influence on patient safety-Literature Review

Millicent Eränen, James Kungu

2021 Laurea



Laurea University of Applied Sciences

# Communication Barriers in Nursing and their influence on patient safety

Millicent Eränen, James Kungu  
Degree programme in Nursing  
Bachelor Thesis  
February, 2021

Millicent Eränen, James Kungu

**Communication Barriers in Nursing and their Influence on patient Safety**

|      |      |                 |     |
|------|------|-----------------|-----|
| Year | 2021 | Number of pages | 355 |
|------|------|-----------------|-----|

---

Nursing is an essential element in healthcare provision. At the core of provision of quality care is effective communication. The quality of communication has a significant impact on patient safety. Barriers to communication reduce the quality of communication and increase the risk of negative outcomes in patient care. The current study focused on communication barriers between nurses and patients. The overall aim was to produce evidence-based knowledge on the influence of communication barriers between the nurses and patients on patient safety.

The current study used the descriptive method of literature review to collect data. Peer-reviewed articles were identified from Elsevier, PubMed, ProQuest and Google Scholar using pre-set inclusion and exclusion criteria. The abstracts of all the included titles were assessed to determine those that required a full-text review. The full texts were finally screened in order to select those that would be included in the final synthesis. A thematic content analysis was then employed to organize and summarize the results of the included studies. The results were presented qualitatively in thematic patterns.

The current study found that there are a host of barriers that impede communication between nurses and patients. These barriers exist both on the nurses' side and on the patients' side. The authors recommends that barriers can be addressed through training and changes in policy to enhance the interaction between nurses and patients.

The current study also revealed that the quality of communication has an impact on patient safety. Negative outcomes are more commonly seen in cases where communication barriers are prevalent. Therefore, improving communication has a positive impact on patient safety.

Keywords: Communication in Nursing, Barriers, Patient Safety

## Table of contents

|       |  |    |
|-------|--|----|
| 1     | Introduction .....   | 5  |
| 2     | Theoretical framework-Key concepts.....                      | 6  |
| 2.1   | Nursing .....  | 6  |
| 2.2   | Communication .....  | 8  |
| 2.3   | Communication Barriers.....                                  | 9  |
| 2.4   | Patient Safety.....  | 10 |
| 3     | Problem statement, Justification and Research Question ..... | 10 |
| 3.1   | Problem statement.....                                       | 10 |
| 3.2   | Justification .....  | 11 |
| 3.3   | Research Questions .....                                     | 11 |
| 4     | Methodology.....   | 11 |
| 4.1   | Data Collection .....  | 11 |
| 4.2   | Data Analysis .....  | 15 |
| 5     | Results.....   | 16 |
| 5.1   | Communication barriers on Nurses side .....                  | 18 |
| 5.1.1 | Language, religious and cultural differences.....            | 18 |
| 5.1.2 | Nurse-patient ratio.....                                     | 19 |
| 5.1.3 | Fatigue .....  | 19 |
| 5.1.4 | Low or insufficient salary .....                             | 19 |
| 5.1.5 | Working environment .....                                    | 20 |
| 5.2   | Communication barriers on patients' side .....               | 20 |
| 5.2.1 | Anxiety, pain and discomfort.....                            | 20 |
| 5.2.2 | High interference with attendants .....                      | 21 |
| 5.2.3 | Presence of family on bedside .....                          | 21 |
| 5.2.4 | Lack of trust, privacy and confidentiality.....              | 21 |
| 5.2.5 | Power imbalance .....  | 21 |
| 5.3   | Impact of communication barriers on patient safety .....     | 22 |
| 5.4   | Ethical Consideration, Reliability and Validity .....        | 22 |
| 6     | Discussion and conclusion.....                               | 23 |
| 6.1   | Discussion .....   | 23 |
| 6.2   | Conclusion .....   | 25 |
| 7     | List of Abbreviations and acronyms .....                     | 26 |
| 7.1   | Figures and Tables .....                                     | 26 |
| 8     | References.....  | 27 |
| 9     | Appendix .....   | 32 |

## 1 Introduction

Nursing is one of the essential elements of healthcare provision which involves collaborative care that is non-discriminatory of age, race, gender, or setting (WHO, 2020a). It includes health promotion, prevention of disease, treatment of illness, provision of terminal care, and rehabilitation (WHO, 2020a).

For a long time, nursing has primarily focused on provision of care to individuals unable to meet their self-care needs. However, as healthcare needs and challenges evolve, nursing has evolved to include complex roles in provision of healthcare services (Morin, 2014). While care services are still at the core of nursing practice, nursing currently includes advanced roles such as patient assessment, implementation of healthcare interventions, healthcare promotion, among others (Delamaire & Lafortune, 2010). These new roles demand that nurses be vigilant in order to deliver quality services to patients. Failure to adhere to strict standards and protocols while performing these advanced roles can be catastrophic to the patient (Odell, 2015).

For nurses to deliver quality healthcare that places patient safety at the pinnacle of care, one of the most essential elements of care is communication (Banerjee et al., 2016a). Communication is the exchange of information, thoughts and feelings through speech or other means. In the context of nursing, the parties of interest are the nurses and the patients (Kourkouta & Papathanasiou, 2014).

Nurses play an important role in provision of care by linking the patient to the healthcare service (Sibiya, 2018). The quality of communication between the patient and the nurse therefore has a huge bearing on patient safety (Vermeir et al., 2015). For instance, one of the ways through which poor communication can affect patient safety is through misunderstanding instructions (Vermeir et al., 2015). In such a case, if nurses wrongly interpret information such as medication dosage and administer the wrong dosage, the patient is at risk for adverse medication reaction. Patient safety is defined as the reduction of risk of unnecessary harm to acceptable minimum levels (Müller et al., 2018).

Barriers to communication increase the risk of negative outcomes in patient care (Norouzinia et al., 2016). Barriers to communication in nursing are defined as factors impeding the effective flow of communication between nurses and patients (Norouzinia et al., 2016). They include physical barriers such as noise, language barriers, cultural differences, bias and prejudice, interpersonal barriers, and emotional barriers (Amoah et al., 2019). In a recent study, communication errors were the cause of 70% of the major adverse effects in healthcare settings (Ot et al., 2018).

Another study found communication breakdown to be responsible for about 80% of preventable adverse effects in the healthcare setting (Burgener, 2017). Furthermore, communication barriers lead to patient dissatisfaction and subsequently higher rates of work-related violence in the healthcare setting (Alshammari et al., 2019a).

This study focuses on communication barriers between the nurses and patients. The overall aim is to produce evidence-based knowledge on the influence of communication barriers between the nurses and patients on patient safety.

## 2 Theoretical framework-Key concepts

### 2.1 Nursing

Nurses constitute the largest percentage of healthcare providers globally, with the World Health Organization (WHO) approximating that about 50% of health workers are nurses and midwives (Schroeder & Lorenz, 2018; WHO, 2020a). Many countries, including the United States of America, do not have enough nurses to meet the healthcare need (Haddad et al., 2020). It is worth noting that females make up the majority of the nursing workforce in all of the WHO regions of the world (Boniol et al., 2019).

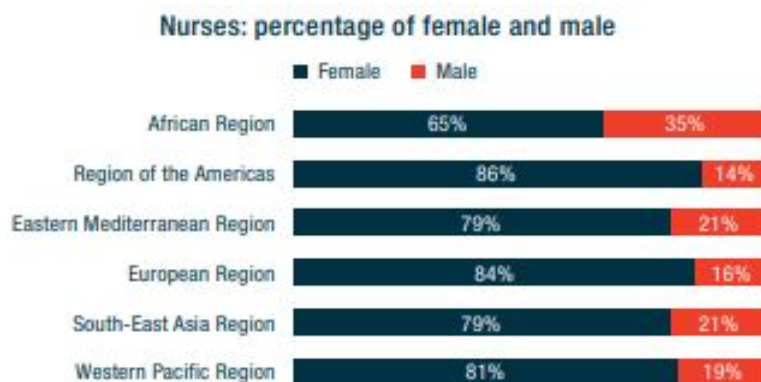


Figure 1: Distribution of nurses by gender across the WHO Regions (Boniol et al., 2019)

Gender is only one of many inherent characteristics that may create biases that set up barriers to communication. In this sense, an individual's values and beliefs can affect their communication with others (Gault et al., 2016). For instance, a male nurse may consider it inappropriate to care for an elderly female patient or a female patient and their family may assume that a male nurse cannot be a midwife. Such biases can affect the communication and relationship between the patient and nurse (Gault et al., 2016).

Another characteristic that is worth noting is the age distribution of nurses. The average age of registered nurses is about 50 years, with the current average in the United States being about 53 years (Smiley et al., 2018). The age difference between the nurse and patients has also been cited as a barrier to communication (Norouzinia et al., 2016; Wune et al., 2020a).

#### Age Distribution—RN

| Weighted Sample Values |                     |         |                     |         |                     |         |
|------------------------|---------------------|---------|---------------------|---------|---------------------|---------|
|                        | 2013 (n = 34,793.9) |         | 2015 (n = 41,258.6) |         | 2017 (n = 47,527.3) |         |
| Age                    | n                   | Percent | n                   | Percent | n                   | Percent |
| <30                    | 2,997.9             | 8.6%    | 3,905.2             | 9.5%    | 4,594.5             | 9.7%    |
| 30-34                  | 2,615.4             | 7.5%    | 4,098.0             | 9.9%    | 4,762.8             | 10.0%   |
| 35-39                  | 2,784.0             | 8.0%    | 3,928.1             | 9.5%    | 4,390.6             | 9.2%    |
| 40-44                  | 3,088.6             | 8.9%    | 4,200.7             | 10.2%   | 4,356.7             | 9.2%    |
| 45-49                  | 3,379.3             | 9.7%    | 4,398.2             | 10.7%   | 5,250.7             | 11.1%   |
| 50-54                  | 4,652.6             | 13.4%   | 4,724.8             | 11.5%   | 4,914.9             | 10.3%   |
| 55-59                  | 5,887.7             | 16.9%   | 5,622.4             | 13.6%   | 5,834.4             | 12.3%   |
| 60-64                  | 4,570.1             | 13.1%   | 5,254.9             | 12.7%   | 6,489.8             | 13.7%   |
| ≥ 65                   | 4,818.4             | 13.9%   | 5,126.3             | 12.4%   | 6,932.9             | 14.6%   |

Table 1: Table showing the age distribution of Registered Nurses according to the 2017 Nursing Workforce Survey

Nursing has traditionally been oriented towards provision of care to individuals unable to meet their self-care needs. However, as healthcare needs and challenges evolve, nursing has evolved to include complex roles in provision of healthcare services (Morin, 2014). It includes roles such as health promotion, prevention of illness, advocacy, provision of care for the sick, disabled, and dying individuals, among others (Schroeder & Lorenz, 2018).

## 2.2 Communication

The WHO defines communication in the healthcare setting as not only the exchange of information, but also the exchange of meaning (WHO, 2020c). The goal of communication is the exchange of ideas to foster understanding between parties (Smith, 2019). One of the most significant elements that nurses must master to deliver healthcare services that places patient safety at the pinnacle of care goals is communication (Banerjee et al., 2016a). Communication between the nurse and patient fosters a relationship between the patient and the healthcare system, but additionally influences the patient's perception of the therapeutic process and the outcome of care (Alshammari et al., 2019a).

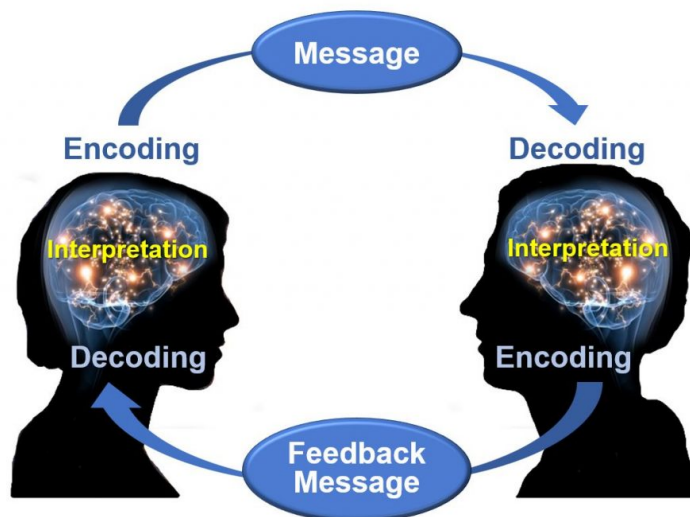


Figure 2: Image showing the process of communication (Smith, 2019).

Effective communication can have positive outcomes on the patient including decreased pain, guilt, anxiety, and disease symptoms along with increased patient satisfaction, acceptance, and compliance and cooperation with the medical team (Norouzinia et al., 2016).



### 2.3 Communication Barriers

The goal of communication is to foster understanding between parties through the effective exchange of ideas (Smith, 2019). To meet this goal, nursing practice requires excellent communication skills (Sibiya, 2018). This is especially important because nurses communicate with patients from vastly diverse backgrounds, of different ages, educational attainment, and from diverse social and cultural settings (Sibiya, 2018).

The quality of communication between the patient and the nurse has a huge bearing on patient safety (Vermeir et al., 2015). This therefore requires nurses to apply various communication skills to ensure that there is effective communication. Some of the skills required in this respect include empathy, compassion and respect (Bullington et al., 2019). Communication skills are especially relevant in breaking bad news such as death and terminal diagnoses, and in discussing spiritual concerns with patients (Bullington et al., 2019).

Patient needs are complex, for example, most patients expect honest communication from health practitioners, yet most patients also expect optimism in communication (Salmon & Young, 2011). This requires a fine balance by the nurse in how they communicate to ensure that they accurately convey the true medical picture while not creating unnecessary emotional distress for the patient (Salmon & Young, 2011).

Nurses are encouraged to learn to keep communication circular rather than linear by both sharing information with the patient and listening to feedback from the patient (Bullington et al., 2019). Communication skills training is encouraged to equip the nurse to share 'the voice of medicine' and in return listen to 'the patient's voice' (Bullington et al., 2019).

Communication barriers vary depending on the setting, requiring the nurse to figure out such barriers depending on each patient's individual needs (Sibiya, 2018). One of the most prevalent communication barriers in nursing is the difference in language and culture (Norouzinia et al., 2016). The lack of a shared language between a nurse and their patient strains and limits their interaction, and this may even occur when the patient only uses colloquial language that the nurse does not understand (Norouzinia et al., 2016). Other barriers which may hinder communication include internal noise, fear, anxiety, and other emotions along with speech and hearing difficulties (Sibiya, 2018). Medication, pain, and exhaustion are common barriers on the patient's side, while workload and time constraints are common barriers on the side of the nurse (Sibiya, 2018; M. Ali, 2017).

Communication barriers between nurses and patients affect patient safety in several ways. For example, breakdown in communication may result in higher incidence of adverse effects which are not addressed in time (Burgener, 2017). Important information may be lost because of the use of medical terms and may result in reduced patient safety, especially when medical terms are used with patients (Lippke et al., 2019).

## 2.4 Patient Safety

A patient is defined by the WHO as any recipient of healthcare (WHO, 2020b). Patient safety is a healthcare discipline that is targeted at the prevention and reduction of errors, risks and harm that a patient is exposed to as they receive health care (WHO, 2020b).

Patient safety is an essential prerequisite for any healthcare service to be considered effective and of good quality (Ammouri et al., 2015). The WHO allows for a certain acceptable minimum exposure to harm and risk as virtually every phase in the care-giving process has a particular extent of inherent unsafety (WHO, 2020b). Proper communication is crucial to establish patient safety, and to guarantee sustainable improvements in patient safety (Burgener, 2017).

Barriers and errors in communication have been cited as the major cause of most of the preventable adverse effects in healthcare settings (Müller et al., 2018; Ot et al., 2018). Therefore, the link between the quality of communication between the patient and the nurse and patient safety is strong and worth paying attention to (Vermeir et al., 2015).

## 3 Problem statement, Justification and Research Question

### 3.1 Problem statement

Nurses play an important role in provision of care by linking the patient to the healthcare service (Sibiya, 2018). The quality of communication between the patient and the nurse therefore has a huge bearing on patient safety (Vermeir et al., 2015). Barriers to communication potentially increase the risk of negative outcomes in patient care (Norouzinia et al., 2016). In a recent study, communication errors were the cause of 70% of the major adverse effects in healthcare settings (Ot et al., 2018). Another study found communication breakdown to be responsible for about 80% of preventable adverse effects in the healthcare setting (Burgener, 2017). Furthermore, communication barriers lead to patient dissatisfaction and subsequently higher rates of work-related violence in the healthcare setting (Alshammari et al., 2019a).

### 3.2 Justification

Barriers to communication potentially increase the risk of negative outcomes in patient care (Norouzinia et al., 2016). The purpose of this study was to assess the available knowledge on communication barriers between nurses and patients and to assess the impact of these barriers on patient safety.

The aim of this study was to produce evidence-based knowledge on the communication barriers that exist between nurses and patients and to assess the influence of these barriers on patient safety in order to influence nursing education for student nurses, current practice by practitioner nurses, and policy by hospitals and hospices where nurses provide care. The ultimate goal was to improve patient safety.

### 3.3 Research Questions

What communication barriers exist between nurses and patients, and what is the influence of these barriers on patient safety?

## 4 Methodology

### 4.1 Data Collection

Data was extracted from studies which fit the predetermined inclusion criteria for the study. Elsevier, PubMed, ProQuest and Google Scholar databases were searched for studies that fit in the criteria below. The key words used in the searches were “COMMUNICATION”, “NURSING”, “BARRIERS” and “PATIENT SAFETY”. The searches were limited to a time range of between 2010 and 2020.

The following inclusion and exclusion criteria were applied:

| INCLUSION CRITERIA  | EXCLUSION CRITERIA  |
|---|---|
| Articles, journals, and books reporting only the nurse-patient communication barriers | Articles, journals, and books reporting the communication barrier of other healthcare professionals |
| Scientific articles, peer reviewed and full text by various scholars                  | Non-scientific, in progress articles and student thesis   |
| Materials written in the English language   | Materials written in any other language than English  |
| Materials relating to the research questions, objectives, and topic                   | Materials not relating to the research questions, objectives, or topic                              |
| All articles that talk about the literature topic                                     | All articles that do not talk about the literature topic  |
| Articles published between the time periods 2010 - 2020                               | Articles published before the year 2010   |

**Table 2:** Study inclusion and exclusion criteria

The study employed the use of a literature review, specifically the descriptive method, to collect data. The descriptive review was used so as to merge diverse methods and allow for the synthesis of findings from both qualitative and quantitative studies. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart in Figure 3 below represents the process of the descriptive review (Kitchenham, 2004). First, the titles of all the records identified from the databases were screened against the inclusion criteria. Next, the abstracts of all the included titles were assessed to determine those that required a

full-text review. Finally, the full texts were screened in order to select those that would be included in the final synthesis.

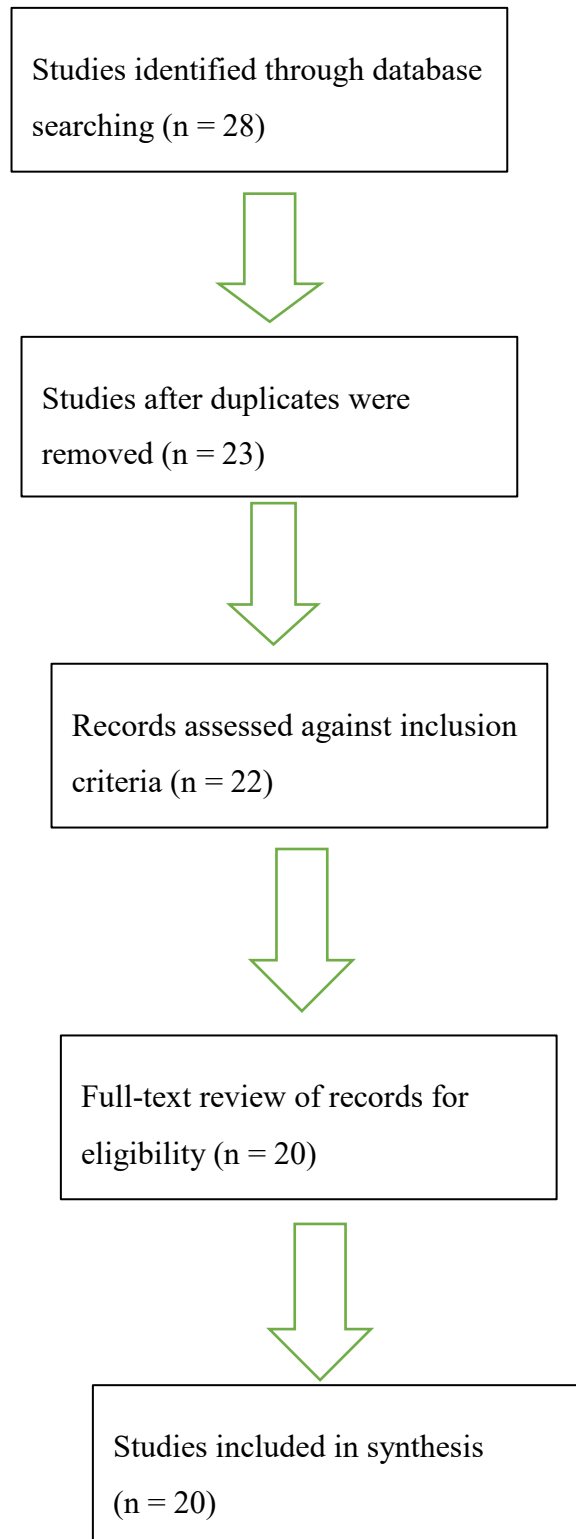


Figure 3: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart for the current study

By searching for the key word 'COMMUNICATION' alone, Elsevier generated 667,602 results, PubMed generated 348,637 results, ProQuest generated 1,193,863 results and Google Scholar generated 1,830,000 results. The keywords 'COMMUNICATION' and 'NURSING' generated 50,244 results in Elsevier, 28,293 results in PubMed, 104,759 results in ProQuest and 1,630,000 results in Google Scholar. By entering the key words 'COMMUNICATION', 'NURSING' and 'BARRIERS', the search generated 18,366 results in Elsevier, 2,462 results in PubMed, 40,255 results in ProQuest and 93,300 results in Google Scholar. The final search was done by entering the keywords 'COMMUNICATION', 'NURSING', 'BARRIERS' and 'PATIENT SAFETY'. This generated 8,458 results in Elsevier, 227 results in PubMed, 15,844 results in ProQuest and 19,500 results in Google Scholar.

| Keyword(s) searched                              | Databases  | Number of results generated                 |
|--|--|---|
| Communication                                    | Elsevier<br>PubMed<br>ProQuest<br>Google Scholar | 667602<br>348,637<br>1,193,863<br>1,830,000 |
| Communication, Nursing                           | Elsevier<br>PubMed<br>ProQuest<br>Google Scholar | 50,244<br>28,293<br>104,759<br>1,630,000    |
| Communication, Nursing, Barriers                 | Elsevier<br>PubMed<br>ProQuest<br>Google Scholar | 18,366<br>2,462<br>40,255<br>93,300         |
| Communication, Nursing, Barriers, Patient Safety | Elsevier<br>PubMed<br>ProQuest<br>Google Scholar | 8,458<br>227<br>15,844<br>19,500            |

Table 3: Summary of results from database searches

## 4.2 Data Analysis

Once the relevant studies to be included in the synthesis were identified, information about the author(s), year and methodology used was extracted and charted. A thematic content analysis was then employed to organize and summarize the results of the included studies. The results were then presented qualitatively in thematic patterns.

The results generated from each database were then assessed to determine those that fit in with the study inclusion criteria. Those that were in line with the research question, reported on the communication barriers between patients and nurses only and were in the English language were selected to be assessed. A total of 28 records were selected (5 from Elsevier, 4 from PubMed, 4 from ProQuest and 15 from Google scholar). Five duplicated articles were deleted. One study was excluded because it targeted communication between patients and nursing students. A full text review was then done on the remaining 22 reports. Two more studies were later excluded because they did not focus on nurse-patient communication barriers and their impact on patient safety. Overall, data was extracted from 20 studies. Three (3) of these included studies used quantitative methods, 15 used qualitative methods and 2 used mixed methods.

|    | <b>AUTHOR/YEAR</b>      | <b>SOURCE<br/>DATABASE</b> | <b>METHODOLOGY</b> |
|----|-------------------------|----------------------------|--------------------|
| 1. | Wune et al., 2020       | Elsevier                   | Quantitative       |
| 2. | Kwame & Petrucka, 2020  | Elsevier                   | Qualitative        |
| 3. | Gerchow et al., 2020    | Elsevier                   | Qualitative        |
| 4. | Ellison, 2015           | PubMed                     | Qualitative        |
| 5. | Alshammari et al., 2019 | ProQuest                   | Qualitative        |
| 6. | Chan et al., 2018       | ProQuest                   | Qualitative        |
| 7. | Amoah et al., 2018      | ProQuest                   | Quantitative       |

|     |                               |                |               |
|-----|-------------------------------|----------------|---------------|
| 8.  | van Rosse et al., 2016        | Google Scholar | Mixed methods |
| 9.  | Wittenberg-Lyles et al., 2013 | Google Scholar | Mixed methods |
| 10. | Newell & Jordan, 2015         | Google Scholar | Qualitative   |
| 11. | Bramhall, 2014                | Google Scholar | Qualitative   |
| 12. | Taylor et al., 2013           | Google Scholar | Qualitative   |
| 13. | Norouzinia et al., 2015       | Google Scholar | Quantitative  |
| 14. | Ali & Watson, 2018            | Google Scholar | Qualitative   |
| 15. | Banerjee et al., 2016         | Google Scholar | Qualitative   |
| 16. | Zamanzadeh et al., 2014       | Google Scholar | Qualitative   |
| 17. | Bach & Grant, 2015            | Google Scholar | Qualitative   |
| 18. | Arkorful et al., 2020         | Google Scholar | Qualitative   |
| 19. | O'Hagan et al., 2014          | Google Scholar | Qualitative   |
| 20. | Tay et al., 2011              | Google Scholar | Qualitative   |

Table 4: Characteristics of the studies included in the synthesis.

## 5 Results

The 20 studies that were included in the final synthesis covered 10 countries from 5 continents. These included Ethiopia and Ghana from Africa, Netherlands and England from Europe, United States of America from North America and Australia from Australia continent. The countries covered from Asia were Saudi Arabia, Japan, Iran and Singapore.



Three (3) of these included studies used quantitative methods, 15 used qualitative methods and 2 used mixed methods. The studies also had diverse sample sizes, ranging from as low as 7 to as high as 576. The study populations included nurse-only populations, patient-only populations and mixed populations comprising of both patients and nurses.

The major themes were grouped into three, based on the objectives:

1. Communication barriers on the nurses' side
2. Communication barriers on the patients' side
3. Impact of these barriers on patient safety

The sub- themes identified from 'communication barriers on the nurses' side' were language, religious and cultural differences, nurse-patient ratio, fatigue, low or insufficient salary and working environment. From "communication barriers on the patients' side" the identified sub-themes were anxiety, pain and discomfort, high interference with attendants, presence of family on bedside, lack of trust, privacy and confidentiality and power imbalance between the nurse and patient.

| THEME                                      | SUB-THEME   | NUMBER OF PAPERS |
|--|---|------------------|
| Communication barriers on the nurses' side | <ul style="list-style-type: none"> <li>• Language, religious and cultural differences.</li> </ul> | 10               |
|  | <ul style="list-style-type: none"> <li>• Nurse-patient ratio</li> </ul>                           | 5                |
|  | <ul style="list-style-type: none"> <li>• Fatigue</li> </ul>                                       | 7                |
|  | <ul style="list-style-type: none"> <li>• Low or insufficient salary</li> </ul>                    | 1                |
|  | <ul style="list-style-type: none"> <li>• Working environment</li> </ul>                           | 3                |

|  |   |  |
|--|---|--|
| Communication barriers on the patients' side       | <ul style="list-style-type: none"> <li>• Anxiety, pain and discomfort</li> <li>• High interference with attendants</li> <li>• Presence of family on bedside</li> <li>• Lack of trust, privacy and confidentiality</li> <li>• Power imbalance</li> </ul> | <p>4</p> <p>3</p> <p>2</p> <p>4</p> <p>4</p> |
| Impact of communication barriers on patient safety |   | 5  |

Table 5: Summary of thematic analysis of the included studies

### 5.1 Communication barriers on Nurses side

As healthcare needs and challenges evolve, nursing has evolved to include complex roles in provision of healthcare services. The evolution of the role of nurses in healthcare has brought up several challenges to communication. These challenges are described below.

#### 5.1.1 Language, religious and cultural differences

Language, religion and cultural diversity was a common challenge in almost all the studies analysed. Ten of the included papers reported that language, cultural and religious differences exist between nurses and their patients and this acts as a major hindrance to the communication process between the two parties (Alshammari et al., 2019b; Wune et al., 2020b; Kwame & Petrucka, 2020; Gerchow et al., 2020; van Rosse et al., 2016; P. A. Ali & Watson, 2018; O'Hagan et al., 2014; Norouzinia et al., 2015; Zamanzadeh et al., 2014; Amoah et al., 2018). For example, lack of a common language between a nurse and their patient interferes with history taking and hence, diagnosis (van Rosse et al., 2016).

This is because patients may explain symptoms in a language that nurses do not understand and thus, the nurses misunderstand their condition. Alshammari et al. stated that some of the patients' cultural practices may seem irrational to nurses such as covering their hair and face as well as gender segregation (Alshammari et al., 2019b). Differences in language, religion and culture between nurses and patients affects the provision of appropriate, timely, safe and effective care (P. A. Ali & Watson, 2018).

#### 5.1.2 Nurse-patient ratio

Human resource in the health care sector is very limited (Arkorful et al., 2020). Five studies showed that the number of nurses is very low compared to the number of patients (Wune et al., 2020b; Arkorful et al., 2020; Chan et al., 2018; Norouzinia et al., 2015; Zamanzadeh et al., 2014). This means that nurses move from one patient to another quickly and the time spent with each patient is limited, thus they do not get a chance to establish an interpersonal relationship with the individual patients (Banerjee et al., 2016b). This becomes a barrier to communication because the nurses do not take the time to understand each patient's condition (Wune et al., 2020b).

#### 5.1.3 Fatigue

Several studies indicated that nurses' fatigue is a major communication barrier between nurses and patients (Wune et al., 2020b; Kwame & Petrucka, 2020; Arkorful et al., 2020; Chan et al., 2018; Norouzinia et al., 2015; Zamanzadeh et al., 2014; Amoah et al., 2018). Kwame and Petrucka found that many nurses often work for several long-hour shifts, leading to them having burnout (Kwame & Petrucka, 2020). Such nurses may not communicate effectively with their patients. In addition, due to the several roles that nurses play in healthcare, they often end up having an overwhelming workload and may not be able to have quality communication with their patients for this reason (Arkorful et al., 2020).

#### 5.1.4 Low or insufficient salary

Wune et al reported that low or insufficient salary is also a barrier in nurse-patient communication (Wune et al., 2020b). Nurses who are overworked and underpaid often lack the motivation and drive to do their work effectively. Consequently, this affects the interaction between the nurse and their patients and in turn affects the quality of communication between the two parties.

### 5.1.5 Working environment

Another major communication barrier on the nurses' side is unsuitable working environment. This may be in terms of the physical environment itself or in terms of the organizational structure. Several studies showed that background noise in the wards greatly affects the quality of communication between nurses and patients (Kwame & Petrucka, 2020; Chan et al., 2018; Amoah et al., 2018). Noise interferes with the concentration of nurses and also the clarity of messages passed. Organizational structure, as reported by several studies, acts as a communication barrier when there are unclear clinical practice roles (Wittenberg-Lyles et al., 2013). This creates confusion in the communication cycle because nurses are not sure or aware of the information they are supposed to pass to their patients.

## 5.2 Communication barriers on patients' side

For communication to be considered successful, the communication cycle between the sender (nurse) and receiver (patient) has to be complete. However, this is often not the case because of several factors on the patients' side that may hinder communication. These are discussed below.

### 5.2.1 Anxiety, pain and discomfort

Four studies highlighted that anxiety, pain and discomfort is a major communication barrier on the patients' side (Wune et al., 2020b; Chan et al., 2018; Norouzinia et al., 2015; Amoah et al., 2018). Most patients are not entirely comfortable in the hospital setting. Some fear needles, while some do not bode well with the smell or taste of medication (Amoah et al., 2018). In addition, depending on the patients' conditions, they may almost always be in some sort of pain (Norouzinia et al., 2015). All these conditions affect the patients' ability to communicate effectively with their nurses and hence, the quality of communication is poor.

### 5.2.2 High interference with attendants

As indicated by three of the included studies, patient attendants often interfere with the communication between patients and nurses (Wune et al., 2020b; Arkorful et al., 2020; Norouzinia et al., 2015). Often, the patient attendants will be around when the patient and nurse are interacting and their presence may interfere with the procedures and processes of care such as administration of medication (Norouzinia et al., 2015).

### 5.2.3 Presence of family on bedside

Wune et al. and Norouzinia et al. included the patients' family's presence on the bedside as a communication barrier on the patients' side (Wune et al., 2020b; Norouzinia et al., 2015). This is because some patients may not be comfortable discussing their symptoms in front of their family. Therefore, in the presence of their family, they may not disclose all the pertinent information in regard to their medical condition. In this regard, communication between the patient and nurse ends up being ineffective.

### 5.2.4 Lack of trust, privacy and confidentiality

Data extracted from four of the included studies showed that lack of trust, privacy and confidentiality is a communication barrier on the patients' side (Kwame & Petrucka, 2020; Arkorful et al., 2020; Chan et al., 2018; Amoah et al., 2018). Some patients lack confidence in the competence of their nurses and may, therefore, not communicate appropriately with them (Arkorful et al., 2020). In addition, Chan et al. reported that in most hospitals, the space between individual patients is not much and so the conversation between them and their nurse might be overheard by others (Chan et al., 2018). This lack of privacy causes patients to withhold information. Kwame and Petrucka also reported that patients withhold information that they consider sensitive such as in antenatal care settings because there is no confidentiality (Kwame & Petrucka, 2020).

### 5.2.5 Power imbalance

Four of the included papers explained that the higher social status assumed by nurses over patients hinders communication (Kwame & Petrucka, 2020; Arkorful et al., 2020; Tay et al., 2011; Amoah et al., 2018). Arkorful et al. reported that nurses' use of technical language and lack of empathy put the patients off and led them to develop a negative attitude towards their nurses (Arkorful et al., 2020). In addition, Kwame et al. added that nurses' rigid form of

questioning and ignoring of patients' feelings and opinions led to poor communication between patients and nurses (Kwame & Petrucka, 2020).

### 5.3 Impact of communication barriers on patient safety

The quality of communication between nurses and patients has a direct influence on patient safety, as reported by five of the included studies (Alshammari et al., 2019b; Norouzinia et al., 2015; van Rosse et al., 2016; P. A. Ali & Watson, 2018; Gerchow et al., 2020). Alshammari et al. showed that communication barriers may create misunderstandings between patients and nurses and, thus, make it difficult for patients to adhere to instructions (Alshammari et al., 2019b). Poor communication by nurses is also detrimental to patient safety because it reduces patients' trust in their nurses. This makes the patients less willing to follow through their treatment plans, which is threatening to their health (Norouzinia et al., 2015). In general, communication barriers complicate care delivery by creating obstacles in providing adequate, appropriate, effective and timely care to patients (P. A. Ali & Watson, 2018; Gerchow et al., 2020).

Barriers to communication potentially increase the risk of negative outcomes in patient care (Norouzinia et al., 2016). In one study, communication errors were the cause of 70% of the major adverse effects in healthcare settings (Ot et al., 2018). Another study found communication breakdown to be responsible for about 80% of preventable adverse effects in the healthcare setting (Burgener, 2017). Furthermore, communication barriers lead to patient dissatisfaction and subsequently higher rates of work-related violence in the healthcare setting (Alshammari et al., 2019a)

### 5.4 Ethical Consideration, Reliability and Validity

This study took into account the relevant ethical considerations, ensuring that there was no harm done, that anonymity, confidentiality, voluntary participation and consent were adhered to where necessary. Ethical approval for the study was also sought for following the due procedure.

Because the current study was qualitative, the reliability and validity were not quantified but were however held in regard. Validity is defined as the extent to which a concept is accurately measured in a quantitative study. For example, a survey studying depression which in fact measures anxiety would not be considered valid (Heale & Twycross, 2015). Reliability

is the extent to which a research instrument consistently has the same results if it is used in the same situation on repeated occasions (Heale & Twycross, 2015). The selected methods in this study were applied rigorously to assure replicability.

## 6 Discussion and conclusion

### 6.1 Discussion

This study focused on communication barriers in nursing and their influence on patient safety. The perspective of this study was global, looking at studies from all around the world. The study included twenty papers in the eventual synthesis.

The study revealed that communication has to be considered as a two-way process, with barriers existing on the two ends, that is, the nurses' side as well as the patient's side. The most frequently cited barrier on the nurses' side was language, cultural and religious differences. It is worth noting that even when the language spoken is shared between the nurse and the patient, a huge age difference may create a difference in colloquial language used, thus creating a language barrier (Norouzinia et al., 2016).

Fatigue was also frequently cited as a barrier to communication. Nurses work long hours and handle many tasks that are both physically and emotionally exhausting. Fatigue has been shown to reduce the effectiveness of communication between the nurse and their patients. One final barrier on the side of nurses that is worth mentioning were external factors such as the nurse: patient ratio and the work environment. Nurses that have to attend to more patients tend to have poorer communication with them by virtue of having less time for personalized care as compared to those with a lower load. Additionally, a work environment that had less noise and more organized leadership structure improved communication.

To sum up communication barriers from the nurses' side, one can look at these as;

- i) Barriers inherent to the nurse such as the language they speak, their culture and religion,
- ii) Barriers that are external or systemic such as the size of the health workforce, the organizational culture and structure, and the number of patients served by a facility.

On the patients' side, several barriers impede effective communication with the nurse. The most frequently cited barrier was pain, anxiety, and fear. This barrier had the greatest significance considering that patients almost always experience pain as one of their major complaints. Therefore, effective pain control is essential if this barrier is to be minimized. Additionally, a lack of understanding of what is happening and what is expected creates anxiety which impedes communication. Empathetic communication by healthcare workers may also allay these anxieties.

Interestingly, several studies revealed that those attending to a patient may be a hindrance to effective communication as they create a lack of privacy and trust or add on their emotional burden and anxieties onto those of the patient.

Summing up the communication barriers from the side of the patient, these can also be considered as;

- i) Barriers inherent to the patient such as pain, anxiety and fear,
- ii) Barriers external to the patient such as the presence of attendants and other family members who create a lack of privacy around the patient.

Poor communication has been shown to have a negative impact on patient safety. It reduces patients' trust in nurses, making the patients less willing to follow through their treatment plans, which is threatening to their health. Barriers to communication potentially increase the risk of negative outcomes in patient care, being the cause of 70%-80% of the preventable major adverse effects in healthcare settings. Therefore, communication is an essential link between a nurse and patient, and breakdown in communication may have deleterious effects.

Based on the findings of the current study, one of the recommendations to improve patient safety include the provision of communication skills training for student nurses, and continuous education such as cultural and language training to reduce the language barrier. In Finland, such trainings will benefit nurses who are foreigners more as the language barrier may be greater. However, those born and raised in Finland, including those of other nationalities, may not struggle with Finnish.



Other recommendations include;

- policies that provide patient confidentiality and privacy such as taking histories and requesting for consent without other family members present to improve trust;
- restructuring of the workforce to improve the nurse: patient ratio where this is a problem;
- ensuring there is adequate analgesia for patients and communicating empathetically to alleviate anxiety;
- policies that reduce the power imbalance between nurses and patients such as the avoidance of shouting and encouraging patients to speak freely.

In addition, one final recommendation would be that further research is necessary regarding communication between nurses and patients in Finland. While the number of studies globally is growing, there is not much data on the same in our country. Further studies which focus on communication barriers between nurses and patients in Finland should be done in both qualitative and quantitative measures.

## 6.2 Conclusion

The current study found that there are a host of barriers that impede communication between nurses and patients. These barriers exist both on the nurses' side and on the patients' side. These barriers can be addressed through training and changes in policy to enhance the interaction between nurses and patients.

The current study also revealed that the quality of communication has an impact on patient safety. Negative outcomes are more commonly seen in cases where communication barriers are prevalent. Therefore, improving communication has a positive impact on patient safety.

While the findings of this study were derived from studies around the globe, it is worth noting that the findings also apply to the situation in Finland. Therefore, we can improve patient safety in our country by implementing the suitable recommendations from this study.

## 7 List of Abbreviations and acronyms

- PRISMA- Preferred reporting items for systematic reviews and Meta-Analyses
- WHO- World Health Organization

### 7.1 Figures and Tables

- Figure 1: Distribution of nurses by gender across the WHO Regions (Boniol et al., 2019)
- Table 1: Table showing the age distribution of Registered Nurses according to the 2017 Nursing Workforce Survey
- Figure 2: Image showing the process of communication (Smith, 2019).
- Table 2: Study inclusion and exclusion criteria
- Figure 3: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart for the current study
- Table 3: Summary of results from database searches
- Table 4: Characteristics of the studies included in the synthesis.
- Table 5: Summary of thematic analysis of the included studies

## 8 References

- Ali, M. (2017). Communication skills 2: Overcoming the barriers to effective communication. *Nursing Times*. <https://www.nursingtimes.net/clinical-archive/assessment-skills/communication-skills-2-overcoming-the-barriers-to-effective-communication-18-12-2017/>
- Ali, P. A., & Watson, R. (2018). Language barriers and their impact on provision of care to patients with limited English proficiency: Nurses' perspectives. *Journal of Clinical Nursing*, 27(5-6), e1152-e1160. <https://doi.org/10.1111/jocn.14204>
- Alshammari, M., Duff, J., & Guilhermino, M. (2019a). Barriers to nurse-patient communication in Saudi Arabia: An integrative review. *BMC Nursing*, 18(1), 61. <https://doi.org/10.1186/s12912-019-0385-4>
- Alshammari, M., Duff, J., & Guilhermino, M. (2019b). Barriers to nurse-patient communication in Saudi Arabia: An integrative review. *BMC Nursing*, 18(1), 61. <https://doi.org/10.1186/s12912-019-0385-4>
- Ammouri, A. A., Tailakh, A. K., Muliira, J. K., Geethakrishnan, R., & Kindi, S. N. A. (2015). Patient safety culture among nurses. *International Nursing Review*, 62(1), 102-110. <https://doi.org/10.1111/inr.12159>
- Amoah, V. M. K., Anokye, R., Boakye, D. S., Acheampong, E., Budu-Ainooson, A., Okyere, E., Kumi-Boateng, G., Yeboah, C., & Afriyie, J. O. (2019). A qualitative assessment of perceived barriers to effective therapeutic communication among nurses and patients. *BMC Nursing*, 18(1), 4. <https://doi.org/10.1186/s12912-019-0328-0>
- Amoah, V. M. K., Anokye, R., Boakye, D. S., & Gyamfi, N. (2018). Perceived barriers to effective therapeutic communication among nurses and patients at Kumasi South Hospital. *Cogent Medicine*, 5(1), 1459341. <https://doi.org/10.1080/2331205X.2018.1459341>
- Arkorful, V. E., Hammond, A., Basiru, I., Boateng, J., Doku, F., Pokuaah, S., Agyei, E. K., Baoteng, J. A., & Lugu, B. K. (2020). A Cross-Sectional Qualitative Study of Barriers to Effective Therapeutic Communication among Nurses and Patients. *International Journal of Public Administration*, 0(0), 1-13. <https://doi.org/10.1080/01900692.2020.1729797>
- Banerjee, S. C., Manna, R., Coyle, N., Shen, M. J., Pehrson, C., Zaider, T., Hammonds, S., Krueger, C. A., Parker, P. A., & Bylund, C. L. (2016a). Oncology nurses' communication challenges with patients and families: A qualitative study. *Nurse Education in Practice*, 16(1), 193-201. <https://doi.org/10.1016/j.nepr.2015.07.007>

- Banerjee, S. C., Manna, R., Coyle, N., Shen, M. J., Pehrson, C., Zaider, T., Hammonds, S., Krueger, C. A., Parker, P. A., & Bylund, C. L. (2016b). Oncology nurses' communication challenges with patients and families: A qualitative study. *Nurse Education in Practice*, *16*(1), 193-201. <https://doi.org/10.1016/j.nepr.2015.07.007>
- Boniol, M., Mclsaac, M., Xu, L., Wuliji, T., Diallo, K., & Campbell, J. (2019). *Gender equity in the health workforce: Analysis of 104 countries*. 8.
- Bullington, J., Söderlund, M., Bos Sparén, E., Kneck, Å., Omérov, P., & Cronqvist, A. (2019). Communication skills in nursing: A phenomenologically-based communication training approach. *Nurse Education in Practice*, *39*, 136-141. <https://doi.org/10.1016/j.nepr.2019.08.011>
- Burgener, A. M. (2017). Enhancing Communication to Improve Patient Safety and to Increase Patient Satisfaction. *The Health Care Manager*, *36*(3), 238-243. <https://doi.org/10.1097/HCM.0000000000000165>
- Chan, E. A., Wong, F., Cheung, M. Y., & Lam, W. (2018). Patients' perceptions of their experiences with nurse-patient communication in oncology settings: A focused ethnographic study. *PLoS One*, *13*(6), e0199183. <https://doi.org/10.1371/journal.pone.0199183>
- Delamaire, M.-L., & Lafortune, G. (2010). *Nurses in Advanced Roles: A Description and Evaluation of Experiences in 12 Developed Countries*. <https://doi.org/10.1787/5kmbrcfms5g7-en>
- Gault, I., Shapcott, J., Luthi, A., & Reid, G. (2016). *Communication in Nursing and Healthcare: A Guide for Compassionate Practice*. SAGE.
- Gerchow, L., Burka, L. R., Miner, S., & Squires, A. (2020). Language barriers between nurses and patients: A scoping review. *Patient Education and Counseling*. <https://doi.org/10.1016/j.pec.2020.09.017>
- Haddad, L. M., Annamaraju, P., & Toney-Butler, T. J. (2020). Nursing Shortage. In *StatPearls*. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK493175/>
- Kitchenham, B. (2004). Procedures for performing systematic reviews. *Keele, UK, Keele University*, *33*(2004), 1-26.
- Kourkouta, L., & Papathanasiou, I. V. (2014). Communication in Nursing Practice. *Materia Socio-Medica*, *26*(1), 65-67. <https://doi.org/10.5455/msm.2014.26.65-67>

- Kwame, A., & Petrucka, P. M. (2020). Communication in nurse-patient interaction in healthcare settings in sub-Saharan Africa: A scoping review. *International Journal of Africa Nursing Sciences*, 12, 100198. <https://doi.org/10.1016/j.ijans.2020.100198>
- Lippke, S., Wienert, J., Keller, F. M., Derksen, C., Welp, A., Kötting, L., Hofreuter-Gätgens, K., Müller, H., Louwen, F., Weigand, M., Ernst, K., Kraft, K., Reister, F., Polasik, A., Huener nee Seemann, B., Jennewein, L., Scholz, C., & Hannawa, A. (2019). Communication and patient safety in gynecology and obstetrics—Study protocol of an intervention study. *BMC Health Services Research*, 19(1), 908. <https://doi.org/10.1186/s12913-019-4579-y>
- Morin. (2014). *Nursing education: The past, present and future*. <https://www.thejhs.org/article.asp?issn=2468-6360;year=2014;volume=2;issue=4;spage=136;epage=141;aulast=Morin>
- Müller, M., Jürgens, J., Redaelli, M., Klingberg, K., Hautz, W. E., & Stock, S. (2018). Impact of the communication and patient hand-off tool SBAR on patient safety: A systematic review. *BMJ Open*, 8(8), e022202. <https://doi.org/10.1136/bmjopen-2018-022202>
- Norouzinia, R., Aghabarari, M., Shiri, M., Karimi, M., & Samami, E. (2015). Communication Barriers Perceived by Nurses and Patients. *Global Journal of Health Science*, 8(6), 65-74. <https://doi.org/10.5539/gjhs.v8n6p65>
- Norouzinia, R., Aghabarari, M., Shiri, M., Karimi, M., & Samami, E. (2016). Communication Barriers Perceived by Nurses and Patients. *Global Journal of Health Science*, 8(6), 65-74. <https://doi.org/10.5539/gjhs.v8n6p65>
- Odell, M. (2015). *Detection and management of the deteriorating ward patient: An evaluation of nursing practice—Odell—2015—Journal of Clinical Nursing—Wiley Online Library*. <https://onlinelibrary.wiley.com/doi/abs/10.1111/jocn.12655>
- O'Hagan, S., Manias, E., Elder, C., Pill, J., Woodward-Kron, R., McNamara, T., Webb, G., & McColl, G. (2014). What counts as effective communication in nursing? Evidence from nurse educators' and clinicians' feedback on nurse interactions with simulated patients. *Journal of Advanced Nursing*, 70(6), 1344-1355. <https://doi.org/10.1111/jan.12296>
- Ot, G., Eh, L., Jr, K., Klw, W., Lm, G., & Al, B. (2018). Dissecting Communication Barriers in Healthcare: A Path to Enhancing Communication Resiliency, Reliability, and Patient Safety. *Journal of Patient Safety*. <https://doi.org/10.1097/pts.0000000000000541>
- Salmon, P., & Young, B. (2011). Creativity in clinical communication: From communication skills to skilled communication. *Medical Education*, 45(3), 217-226. <https://doi.org/10.1111/j.1365-2923.2010.03801.x>

Schroeder, K., & Lorenz, K. (2018). Nursing and the Future of Palliative Care. *Asia-Pacific Journal of Oncology Nursing*, 5(1), 4-8. [https://doi.org/10.4103/apjon.apjon\\_43\\_17](https://doi.org/10.4103/apjon.apjon_43_17)

Sibiya, N. (2018). *Nursing*. BoD - Books on Demand.

Smiley, R. A., Lauer, P., Bienemy, C., Berg, J. G., Shireman, E., Reneau, K. A., & Alexander, M. (2018). The 2017 National Nursing Workforce Survey. *Journal of Nursing Regulation*, 9(3), S1-S88. [https://doi.org/10.1016/S2155-8256\(18\)30131-5](https://doi.org/10.1016/S2155-8256(18)30131-5)

Smith, J. (2019). 1.3: The Communication Process. In *Communication at Work*. <https://ecampusontario.pressbooks.pub/communicationatwork/chapter/1-3-the-communication-process/>

Tay, L. H., Hegney, D., & Ang, E. (2011). Factors affecting effective communication between registered nurses and adult cancer patients in an inpatient setting: A systematic review. *International Journal of Evidence-Based Healthcare*, 9(2), 151-164. <https://doi.org/10.1111/j.1744-1609.2011.00212.x>

van Rosse, F., de Bruijne, M., Suurmond, J., Essink-Bot, M.-L., & Wagner, C. (2016). Language barriers and patient safety risks in hospital care. A mixed methods study. *International Journal of Nursing Studies*, 54, 45-53. <https://doi.org/10.1016/j.ijnurstu.2015.03.012>

Vermeir, P., Vandijck, D., Degroote, S., Peleman, R., Verhaeghe, R., Mortier, E., Hallaert, G., Daele, S. V., Buylaert, W., & Vogelaers, D. (2015). Communication in healthcare: A narrative review of the literature and practical recommendations. *International Journal of Clinical Practice*, 69(11), 1257-1267. <https://doi.org/10.1111/ijcp.12686>

WHO. (2020a). *Nursing and Midwifery*. <https://www.who.int/westernpacific/health-topics/nursing>

WHO. (2020b). *Patient Safety*. <https://www.who.int/news-room/fact-sheets/detail/patient-safety>

WHO. (2020c). *WHO | Why health communication is important in public health*. WHO; World Health Organization. <https://www.who.int/bulletin/volumes/87/4/08-056713/en/>

Wittenberg-Lyles, E., Goldsmith, J., & Ferrell, B. (2013). Oncology nurse communication barriers to patient-centered care. *Clinical Journal of Oncology Nursing*, 17(2), 152-158. <https://doi.org/10.1188/13.CJON.152-158>

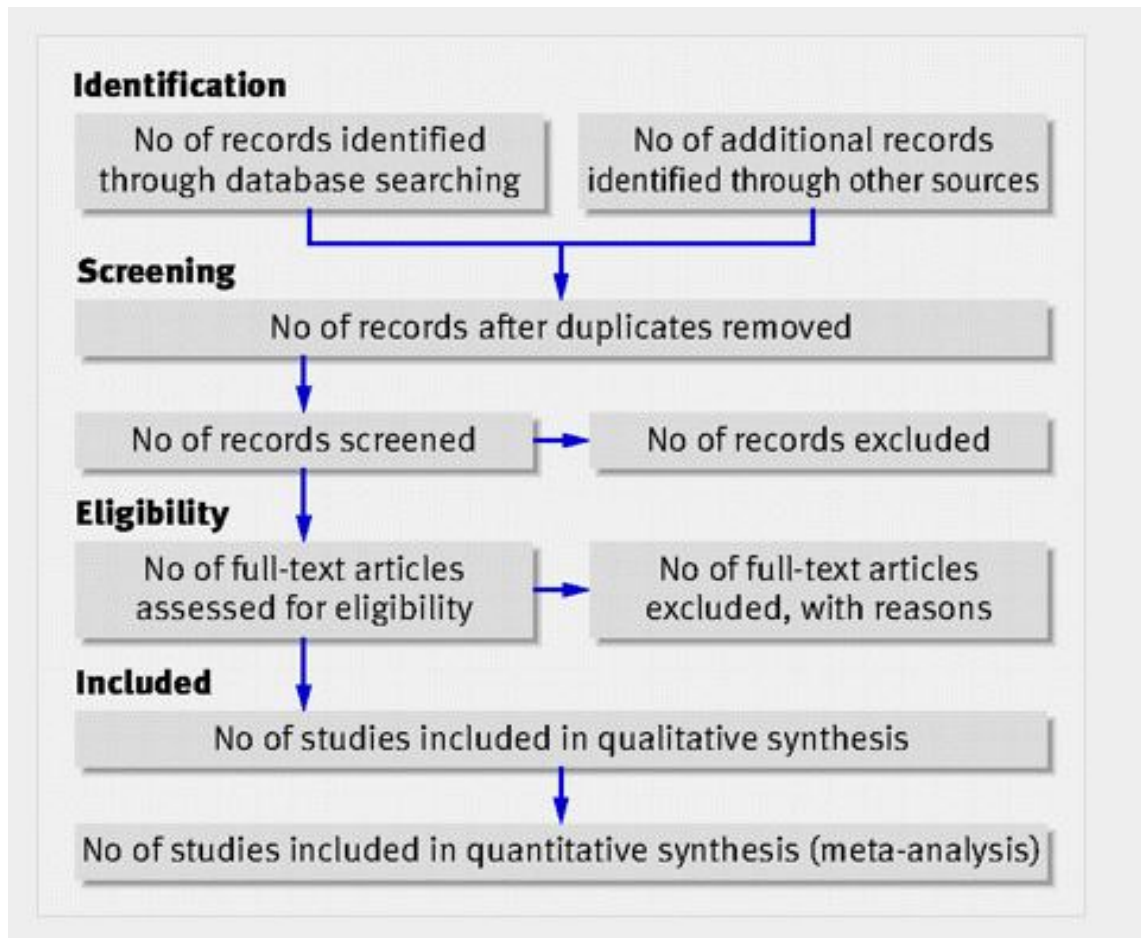
Wune, G., Ayalew, Y., Hailu, A., & Gebretensaye, T. (2020a). Nurses to patients communication and barriers perceived by nurses at Tikur Anbessa Specilized Hospital, Addis

Ababa, Ethiopia 2018. *International Journal of Africa Nursing Sciences*, 12, 100197.  
<https://doi.org/10.1016/j.ijans.2020.100197>

Wune, G., Ayalew, Y., Hailu, A., & Gebretensaye, T. (2020b). Nurses to patients communication and barriers perceived by nurses at Tikur Anbessa Specilized Hospital, Addis Ababa, Ethiopia 2018. *International Journal of Africa Nursing Sciences*, 12, 100197.  
<https://doi.org/10.1016/j.ijans.2020.100197>

Zamanzadeh, V., Rassouli, M., Abbaszadeh, A., Nikanfar, A., Alavi-Majd, H., & Ghahramanian, A. (2014). Factors Influencing Communication Between the Patients with Cancer and their Nurses in Oncology Wards. *Indian Journal of Palliative Care*, 20(1), 12-20.  
<https://doi.org/10.4103/0973-1075.125549>

## 9 Appendix



Appendix 1: The PRISMA Process for Meta-analysis



|    | <b>AUTHORS/YEAR</b>   | <b>COUNTRY</b>  | <b>SAMPLE SIZE</b>     |
|----|---|---|------------------------|
| 1. | Gbrekidan Wune, Yohannes Ayalew, T. Gebretensaye, 2020  | Ethiopia  | 296 Participants       |
| 2. | Mukhlid Alshammari, Jed Duff and Michelle Guilhermino   | Saudi Arabia  | 20 Studies             |
| 3. | Engle Angela Chan, Fiona Wong, Man Yin Cheung , Winsome Lam   | China   | 93 Patients, 24 Nurses |
| 4. | Vida Maame, Kisiwaa Amoah,Reindolf Anokye,Dorothy Serwaa, Boakye Naomi Gyamfi, 2018                   | Ghana   | 72 Nurses, 40 patients |
| 5. | Lauren Gerchow, Larissa R. Burka, Sarah Miner, Allison Squires., 2020                                 | 16 Countries:<br>United States,<br>United Kingdom,<br>Sweden, Finland,<br>Ghana, Australia,<br>Canada, Denmark,<br>South Korea,<br>Brazil, India,<br>Netherlands,<br>Spain, Iran,<br>Ireland, Singapore | 48 Studies             |
| 6. | Deborah Ellison, 2015   | United States   | Not Stated             |
| 7. | Abukari Kwame, Pammla M. Petrucka, 2020   | Some Sub-Saharan African countries  | 32 Studies             |
| 8. | Floor van Rosse, Martine de Bruijne , Jeanine Suurmond, Marie-Louise Essink-Bot, Cordula Wagner, 2016 | Netherlands   | 576 Patients           |
| 9. | Elaine Wittenberg-Lyles, Joy Goldsmith, Betty Ferrell, 2013   | United States   | Not Stated             |

|     |   |                |  |
|-----|---|----------------|--|
| 10. | Stephanie Newell, Zoe Jordan, 2015  | Australia      | Not Stated                             |
| 11. | Bramhall Elaine, 2014   | United Kingdom | Not Stated                             |
| 12. | Shena Parthab Taylor, Colette Nicolle, Martin Maguire, 2013   | England        | 34 Healthcare Professional             |
| 13. | Roohangiz Norouzinia, Maryam Aghabarari, Maryam Shiri, Mehrdad Karimi & Elham Samam, 2015   | Iran           | 70 Nurses                              |
| 14. | Parveen Azam Ali, Roger Watson, 2018  | England        | 59 Nurses                              |
| 15. | Smita C Banerjee, Ruth Manna, Nessa Coyle, Megan Johnson Shen, Cassandra Pehrson, Talia Zaider, Stacey Hammonds, Carol A Krueger, Patricia A Parker, Carma L Bylund, 2016     | United States  | 121 Nurses                             |
| 16. | Vahid Zamanzadeh, Maryam Rassouli, Abbas Abbaszadeh, Alireza Nikanfar, Hamid Alavi-Majd, and Akram Ghahramanian, 2014   | Iran           | 9 Patients, 5 Nurses, 3 Family Members |
| 17. | Shirley Bach & Alec Grant, 2015   | United Kingdom | Not Stated                             |
| 18. | Vincent Ekow Arkorful, Anastasia Hammond, Ibrahim Basiru, Jennifer Boateng, Francis Doku, Sarah Pokuaah, Eric Kwadwo Agyei, Joyce Asamoah Baoteng & Benjamin Kweku Lugu, 2020 | Ghana          | 30 Nurses, 30 Patients                 |
| 19. | Sally O'Hagan, Elizabeth Manias, Catherine Elder, John Pill, Robyn Woodward-Kron, Tim McNamara, Gillian Webb, Geoff McColl, 2014  | Australia      | 15 Nurse Educators                     |

|     |   |           |           |
|-----|---|-----------|-----------|
| 20. | Li Hui Tay, Desley Hegney, Emily Ang,<br>2011 | Singapore | 8 Studies |
|-----|---|-----------|-----------|

**Appendix 2: Details of included studies**