

AVOIDING MEDICATION ERRORS THROUGH EFFECTIVE COMMUNICATION IN A HEALTHCARE ENVIRONMENT

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Abstract

One of the major problems causing medication errors is ineffective communication between patients and health personnel. This paper discusses the communication issues in the healthcare environment and how medication errors can be avoided through effective communication. An internet-based search was conducted to locate relevant articles published between 2004 and 2017. Only articles that touch upon communication and health-related issues were selected. Online sources such as PubMed, ScienceDirect, and Google Scholar were utilized. The importance of good communication practices for effective health and improved patient safety in hospital settings has been highlighted. It is evident from this review that poor communication most frequent causes adverse effects, delay in treatment, medication errors, and wrong-site surgery. The major communication issues in healthcare environment include language barriers, the medium of communication, physical setting, and social setting. Healthcare workers tend to use technical language in the workplace because they consider the tone of communication to be always professional. It has been established that knowledge on professional-patient communication is essential and valuable in improving therapeutic outcomes. Patients need knowledge and support in order to be able and motivated to undergo medicine therapy. Health practitioners need to take responsibility for demanding and creating an environment where high-quality healthcare counselling is routinely practiced. To promote safe and effective practice in

hospitals and avoid medication errors, clinicians should adhere to teamwork and effective communication with the patients. There is a need for designing strategies such as effective communication and teamwork amongst healthcare professionals, which can consequently influence the quality of healthcare services and patient outcomes.

Keywords: Communication, medication error, healthcare delivery

Introduction

Communication between pharmacist and patient is of great importance in achieving patient's desired satisfaction and improving medication and treatment outcome. Efficient, motivating, and purposive communication is one of the most important tools in pharmaceutical counselling. Communication is an essential means of ensuring effective and improved medication (Olsson, Ingman, Ahmed, & Kälvemark Sporrang, 2014). Resolving communication problems prevents the health issues from becoming worse and disrupting workflow or spreading to include other health problems. Poor communication occurs at every level in healthcare delivery setting. This phenomenon in medical practice turns out to be one of the most common causes of error (Solet, Norvell, Rutan, & Frankel, 2005).

Medication errors are common and occur in all hospital units and wards. Effective communication is important in countering the accidents occurring in hospitals (Eisenberg et al., 2005). The communication process between health personnel and their patients is extremely important to understand. Effective transfer of information requires a solid foundation in communication skills (Solet et al., 2005). Good communication skills among health personnel are seen to have many positive effects on health outcome and on patient satisfaction. They are also a necessary tool in the dialogue with the patient to identify problems with issues such as drug use, effects of the treatment, interactions, and side effects (Olsson et al., 2014).

Adverse events and serious errors are common in a healthcare environment. Although other factors in the work environment are important predictors of adverse outcomes for patients, communication between patients and healthcare personnel might be the most significant factor associated with excess hospital mortality (Manojlovich & DeCicco, 2017). According to Manojlovich & DeCicco (2017), one of the major problems causing medication errors is ineffective communication between patients and health personnel. In order to produce relevant information based on understanding the importance of communication in the process of medication, this paper aims to examine communication issues in the healthcare environment and how medication errors can be improved through effective communication.

Communication Issues in Healthcare Environment

It is imperative to highlight issues of medication errors in order to raise awareness on the need to improve patient safety (World Health Organization, 2016). Disrupted communication can endanger the safety and quality of healthcare and finally lead to medication errors and disruption of patient safety and satisfaction (Ghahramanian et al., 2017). Frydenberg and Brekke (2012) also noted that poor communication might lead to adverse drug events in hospitals. Several studies have identified different communication issues in the healthcare environment. For instance, Solet et al. (2005) listed some barriers to effective handoff in a healthcare environment, which include language barriers, the medium of communication, physical setting, and social setting. Addressing these issues can improve the communication among the health personnel, which will, in turn, decrease the rate of medication error in hospitals.

According to Solet et al. (2005), when medical practitioners speak a common “medical language”, much can be lost in the transfer of information to the patients. Regarding the medium of communication, one useful distinction to make is between mediated and non-mediated forms of communication. The communication is ‘non-mediated’ when the health personnel and patient are together in one another’s presence. Several means of communication, such as countenance, posture, movement, smell, and eye contact, are useful in facilitating the comprehension and interpretation of the information being shared in the healthcare environment. However, the communication is mediated when it takes place via telephone, e-mail, letter, or computerized records. Pertaining to the physical setting or environment, background noise from televisions, other staff, and patients can be a barrier to the transfer of information. The social setting is also important so that both parties involved in the exchange can feel comfortable discussing treatment options.

Manojlovich and DeCicco (2007) determined the outcome of nurse-physician communication on the adverse drug event on some selected patients. The study showed a decrease in the rate of adverse events with improvement in communication between nurses and physicians coupled with safe system and favourable environment. According to Eisenberg et al. (2005), there are numerous obstacles to achieving effective communication in healthcare environment today. Frydenberg and Brekke (2012) found that inadequate communication about patients’ medication across the levels of the healthcare system leads to numerous and potentially harmful medication errors. Poor communication most frequent causes adverse effects across all facets of healthcare, resulting in problems such as delay in treatment, medication errors, and wrong-site surgery (Lingard, Regehr, Orser, et al., 2008).

A study conducted by Redley et al. (2017) found that poor inter-professional communications in a busy hospital setting contributed to omission error. Bartlett, Blais, Tamblyn, Clermont, and MacGibbon (2008) highlighted the negative impact of poor communication on the patient’s safety in a healthcare setting. According to the study, the higher rate of medication errors during treatments is associated with communication problems. Miscommunication between patients and healthcare providers is of significant concern. It contributes to unsafe medication use, poor practice, and places patients at risk

of medication errors (Schillinger, Wang, Rodriguez, Bindman, & Machtinger 2006). In this regard, Tarn et al. (2006) found that when initiating new medications, health personnel usually fail to communicate effective medication use, which can contribute to poor understandings of medication directions or use, thereby leading to poor compliance with the medication.

Jin, Choi, Kang, and Rhie (2017) examined the effectiveness of communication skills in improving healthcare delivery. The study found that the communication training in pharmacy education is an efficient way of improving healthcare delivery and competency. In the same vein, Rajah, Hassali, and Lim (2017) found that the gap in the health communication practices among health professionals warrants educational intervention. According to the study, nurses, doctors, and pharmacists failed to use simple language to communicate with the patients. In this regard, Rajah et al. (2017) found that almost 19.0% of the health practitioners admitted examined in the study did not frequently use simple language and avoid medical jargon during communication with patients. Olsson et al. (2014) also found that the pharmacist encounter does not focus on improving patient care, hence leading to poor medication compliance. This indicates the importance of communication in healthcare delivery.

Kraft (2016) found that the major communication error is to assume the communication has taken place and gotten through. Professionals tend to use technical language in the workplace because they consider the tone of communication to be always professional. Communications intended for an executive should be concise and on-point because the executive has no time to weed through. However, communication between patients and healthcare personnel should be simple and clear because healthcare practitioners must assume the responsibility to communicate according to the patient's health literacy (Rajah et al., 2017).

Olsson et al. (2014) found that that little or no time was spent on oral communication and little or no pharmaceutical information was given by pharmacists or asked for by patients. Communication-related to non-medical subjects such as practical administrative information about the prescription, information about generic substitution, pharmaceutical benefits scheme, and payment constituted 40% of the total time of communication. The lack of communication-related to medicinal subjects possibly means that important information is omitted. Good communication skills among pharmacists are also necessary to identify issues such as the patient's drug use, interactions, and side effects.

Wang, Wan, Lin, Zhou, and Shang (2017) used an integrated review approach to analyse the effectiveness of communication between healthcare experts in the intensive care unit. It was found that efficient interdisciplinary communication is a vital requirement for quality healthcare delivery. The use of communication checklists, staff training, structured shift, and electronic documentation patterns enhance communication in healthcare settings. Taveira-Gomes, Mota-Cardoso, and Figueiredo-Braga (2016) described how teaching clinical communication had become an essential area of education in the medical field. They found that patient contact and effective clinical communication through medical training are highly significant.

Matzke, Houston, Fischer, and Bradshaw (2014) found that nurses and physicians have a habit of using status-based communication styles, and they hardly employed team-centered communication methods. The study found that ineffective nurse-physician communication styles may obstruct best patient outcomes. In the same vein, O'Rourke et al. (2017) studied how an increase in the staff awareness on the quality of patient admission procedure, from triage to labour and delivery centres in accordance with standardization, can enhance communication process. This was done through educating the staff and implementing the interventions to identify its effectiveness. The new system of patient admission process enhanced the staff awareness of the merit of women's admission from the triage to labour and delivery units

Patient safety should be a priority in modern healthcare systems. According to Redley et al. (2017), poor communication poses a risk to patient safety. Nevertheless, some patients only want to purchase their medicine as quickly as possible while others want information and/or consultation about their medication (Olsson, 2014). Bartlett et al. (2008) found that the presence of a physical communication problem was significantly associated with an increased risk of experiencing a preventable adverse event. It was found that patients with communication problems were three times more likely to experience a preventable adverse event than patients without such problems. Language barriers and disabilities that affect communication have been shown to decrease the quality of care.

Poor quality of communication could contribute to the patients' misunderstandings of how to take their new medications. Communication about taking new medications is critical in drug therapy and patient's adherence (Tarn et al., 2006). In fact, miscommunication between patients and healthcare providers might have serious consequences, especially where medications are concerned ((Schillinger et al., 2006).

Table 1: Summary of results from the review

| SN | Publication detail | Objective | Study design/method | Result/Findings |
|----|---------------------------|--|---|--|
| 1. | Bartlett et al. (2008) | Determined how communication problems as a risk factor of medication error in hospital | Prospective patient medication chart | Patients with the highest proportion of medication error had communication problem |
| 2. | Schillinger et al. (2006) | Determined the regimen discordance between patients and healthcare providers result as a result of communication barrier in ethnically diverse setting | Prospective observational study | Miscommunications result in unsafe medication use and poor practices |
| 3. | Tarn et al. (2006) | The impact physician communication with patient has on patients compliances | Prospective observation study and survey. | On initiating medication, physicians fail to communicate effectively with patients, which in |

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|-----|--------------------------------|--|---|--|
| | | | | turn lead to more patient non-compliance. |
| 4. | Carlder et al. (2017) | Analysed team communication pattern during resuscitation in the emergency department. | Mixed method qualitative analysis | Resuscitation team was found to share same mental model. The physicals understood the roles of each team member in order to provide rapid, life-saving and effective delivery of health services |
| 5. | Olsson et al. (2014) | Analysed the content and time disposition of patient- Pharmacy communication | Nonparticipant observational and audio recordings | The pharmacist-patient encounter was not focused on improving patients care. |
| 6. | Jin et al. (2017) | Analysed the significance of communication skills in Pharmacy as crucial means to improving healthcare | A review and meta-analysis. | Communication Skills Training has positive influence in enhancing communication proficiency |
| 7. | Rajah et al. (2017) | Assessed the gap in health care literacy communication practices in hospitals and patients | Administered questionnaire | Nurses and doctors did not use simple language while communicating with the patients. |
| 8. | Manojlovich and Decicco (2007) | determined the outcome of nurse-physician communication on the adverse drug event on some selected patients | Descriptive design and survey | Effective nurse-physician communication decreases the rate of medication errors |
| 9. | Solet et al. 2005 | The importance of good communication practices for effective health and improved patient safety during handoff between health personnel in hospital settings was highlighted | Narrative review | Addressing the barrier of communication improves the communication among health personnel, |
| 10. | Leonard et al. (2004) | Reported how teamwork and communication between health personnel is essential for the delivery of high-quality patient care | Review | A perinatal safety, patient transfer, perioperative briefings are key to effective communication. |
| 11. | Eisenberge et al. (2005) | The implication of patient safety due to poor communication in the emergency departments of the hospital. | Qualitative study | They identified miscommunication at triage, handoffs, and patient's admissions as significant indications of medication errors. |
| 12. | Lingard et al. (2008) | assessed whether structure team improved communication in the | Prospective interventional study. Pre and | There was a reduction in communication failure after the intervention |

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|-----|------------------------------|---|--|---|
| | | operating room | post personnel briefings. | process, thereby promoting proactive and collaborative team communication |
| 13. | Frydenberg and Brekke (2012) | Explored if inadequate communication between physicians regarding medication use on patients | Exploratory case study | Majority of medication errors were made after admitting the patients to the hospital, due to poor communication of past medical procedures. |
| 14. | Redley et al. (2017) | Described the factors and pattern of communication with its effect on the quality of healthcare in emergency department | Prospective observational study | Use of effective communication practices are useful in decreasing medication problems |
| 15. | Ghahramanian et al. (2017) | To investigate the quality of health services from patient perspective and its relationship with patient safety and Nurse-Physician improved communication, | Cross-sectional study in which 300 and 101 patients were observed. | Effective communication among healthcare workers influences the quality of healthcare services. |
| 16. | Wang et al. (2017) | Interventions to develop communication among nurses and physicians in the Intensive care unit hospitals. | Integrative literature review | Checklists, training, work shift evaluation, and electronic documentation templates were found to improve communication in different hospital settings |
| 17. | Taveira-Gomes et al. (2016), | Explored communication skills among medical students and how important it is for effective healthcare delivery | Exploratory study before and after clerkships | Patient contact and effective clinical communication through medical training are highly significant. |
| 18. | Matzke et al. (2014) | Described communication approaches between labour nurses and their physician colleagues during perinatal choices. | quantitative descriptive design | Nurse-doctor ineffective communication systems may obstruct prime patient results. |
| 19. | O'Rourke et al. (2017) | Analysed staff awareness of the quality of the patient admission process from the triage to the labour and delivery unit through effective communication during the admission according to standard | Pre-assessment and post-assessment online surveys. | The new system of patient admission process enhanced the staff awareness of the merit of women's admission from the triage to labour and delivery units |

In summary, communication issues in healthcare environment contribute to ineffective healthcare delivery. Lack of quality of healthcare is associated with communication problems, which results in medication errors. Poor communication in a healthcare environment, including the use of medical terminology, destructive background noise, also leads to ineffective handoff, delay in treatment, wrong-site surgery, omission error, unsafe medication use. In addition, ineffective communication among healthcare workers is decreasing the quality of health services rendered.

Avoiding Medication Errors through Effective Communication

Several studies suggest the ways to avoid medication errors through improving the team and interpersonal communication in the healthcare environment. Different communication strategies are required to enhance the quality of healthcare services. These strategies have been proposed for improving communication and optimizing the flow of in the healthcare environment. For example, Calder et al. (2017) suggested that in order to enhance patient safety during resuscitation of critically ill patients, team communication and team situational awareness must be enhanced. Improved team communication and situational awareness are needed. The roles of each team member should be understood in order to provide rapid, life-saving, and effective delivery of healthcare services. Continuous communication patterns where teams convey dense amounts of data in shorter periods of time are imperative (Lingard et al., 2008).

Another way of avoiding medication error is to ensure that the language used in communicating with the patient is appropriate, simple, and clear. In this regard, Solet et al. (2005) suggested that in a healthcare environment, technical expressions should not be used, and only well-known abbreviations should be included to avoid misinterpretations. In the same vein, Rajah et al. (2017) suggested that simple language should be used and medical jargon should be avoided during communication with patients. Standardized communication techniques are needed for effective communication between patients and healthcare practitioners. Foundation of a high-quality and patient-centered health approach becomes imperative.

It is suggested that verbal and written communication occur together, as this combination provides multiple channels for the information to be exchanged. The setting should also be reasonably quiet. In short, attention is needed to ensure a smooth exchange of information. The favourable social setting is also important so that both parties involved in the communication can feel comfortable discussing the treatment. Moore, Wilkinson, and Rivera Mercado (2004) proposed that considerable effort should be dedicated to courses improving communication skills for health professionals. Evaluation of such courses is important to enable evidence-based teaching and practice.

Effective communication is imperative in reducing medication errors, and this involves various strategies. According to Schillinger et al. (2005), the use of a visual aid may improve the accuracy of patient reports. Clinician-patient communication regarding medications is a fundamental aspect of healthcare. Leonard (2004) suggested that effective communication and teamwork is essential for the delivery of quality healthcare

services. Ineffective communication is a prevalent source of communication errors. The multifaceted nature of healthcare and the natural human weaknesses make it critically important that clinicians have standardized communication tools to create an environment in which individuals can speak up, express concerns, and share information.

Communication failures are the leading causes of inadvertent patient harm. Although medical care is delivered by multiple team members, medical quality and safety have historically been structured on the performance of experts and individual practitioners. Manojlovich and DeCicco (2007) suggested the use of the professional nursing model to improve nurse-physician communication, thereby improving patient care. Nurses-physician communication is a significant determinant of preventable adverse drug event. According to Ghahramanian et al. (2017), in the domain of internal communications, interactive communication between nurses and physicians is defined as the mutually engagement between them for the provision of healthcare to the patients and achievement of the common goal of healing.

The complexity of the care process has made effective communication and teamwork paramount in the delivery of healthcare services. Leonard et al. (2004) examined the teamwork and communication between health personnel in relation to the delivery of high-quality patient care. The author explained that the complex nature of human medication makes it important for the provision of effective and standardized communication tool, enabling environment, and a common language for the personnel. Important communication strategies such as perinatal safety, patient transfer, perioperative briefings can improve patient's safety. These communication strategies are the key to effective communication.

There is a need to raise awareness of the need to improve patient safety in a healthcare environment. Practical ways to increase awareness include incorporating safety-related information into the training of health professionals, communicating effectively to professionals and patients through channels that would be most appropriate for them and spreading key messages through media campaigns (World Health Organization, 2016, p. 12-13).

The roles of each team member in the healthcare environment should be understood in order to provide rapid, life-saving and effective delivery of health services (Calder et al., 2017). Rajah et al. (2017) also suggested standardized health literacy communication techniques guidelines for improving good healthcare delivery. This is non-trivial improve the quality of health services from the patient perspective and its relationship with patient safety and nurse-physician improved communication, Ghahramanian et al., (2017) suggested that change in safety culture towards reporting of adverse events or errors, effective communication between the healthcare professionals are needed. Discrepancies can be reduced through effective communication between patients and healthcare personnel. The principle of effective communication includes completeness, conciseness, concreteness, clarity, and courtesy. The receiver of information desires complete information. Conciseness is the prerequisite to effective communication. In order to achieve conciseness, irrelevant and unnecessary repetition should be avoided (Kraft, 2016).

Choosing the best mechanism to deliver the message is to ensure that the recipient fully understands the contents. Problems arise when information is incomplete, incorrect or obsolete. Overcoming obstacles to good communication include advocating active listening, writing messages for a specific audience and using visuals to enhance written words (Hiremath, 2013). If the patient knew the correct name of his medication, he/she almost always had the correct medication on hand. Healthcare providers should ensure that the patient knows how to use the medicine. Hence, there is a correlation between communication and medication errors. Effective communication plays a significant role in avoiding medication errors.

Discussion

Previous studies investigated issues such communication and medication errors, patient safety and satisfaction, pharmacist-patient communication, nurse-patient-communication, and communication amongst the healthcare personnel themselves. At times the studies examine the communication issues from the personnel's perspective or the patient's perspective. Studies found that poor communication among healthcare personnel (Manojlovich & DeCicco, 2007; Lingard, et al., 2008; Frydenberg & Brekke, 2012; Ghahramanian et al., 2017; Rajah et al., 2017) or between patient and healthcare personnel (Solet et al., 2005; Tarn et al., 2006; MacGibbon, 2008) can lead to medication errors. For instance, Manojlovich and DeCicco (2007) examined nurse-physician communication and its relationship with adverse drug event. Also, the findings reported by Olsson et al. (2014) showed that some patients only want to purchase their medicine as quickly as possible while others want information and/or consultation about their medication.

It is also evident from the review that one of the major problems causing medication errors is ineffective communication between patients and health personnel. This might be due to lack of interest of the healthcare personnel in improving their communication skills as reported by Rajah et al. (2017). Communication amongst and between patient and health personnel has been reported as ineffective, and the commitment of the health professional toward improving such communication is insufficient. This is evident in the work of Tarn et al. (2006) and Frydenberg and Brekke (2012). In addition to communication inefficiency, there is not much attention from the patients (Olsson, 2014) and seriousness from the healthcare personnel to improve their communication with the patients (Rajah et al., 2017).

The review showed that lack of effective between health professionals and patients directly affects the patient safety and causes adverse drug event, resulting in several other consequences. It can be argued that medication errors can occur due to the inability of healthcare personnel to communicate amongst themselves or with the patients being treated. According to the literature, the most important determinant of the success in avoiding medication errors is an improvement of communication in the healthcare environment. In this regard, the commitment of the healthcare personnel is highly needed. This is because they are responsible for providing the patients with complete

information regarding their medication, thereby encouraging them to avoid unsafe medication use (Schillinger et al., 2006). If both the health personnel and the patients are committed towards effective communication, proper medication and patient safety can easily be realized.

It should be noted that these previous studies have varied their objectives in relation to communication errors in a healthcare environment. Most of these objectives were from the workers' perspective. In this regard, Moore et al. (2004) considered health professional skills as the most important determinant of success in a healthcare environment. This is important to enable evidence-based teaching and practice. It is imperative for healthcare professionals to acquire effective communication skills in order to form and uphold strong relations with patients. Ineffective communication is a problem that is detrimental to the healthcare domain and the resultant patient safety and health. The health worker should utilize every form of communication including written and verbal communication to ensure that the message has been effectively delivered.

Policy-makers, healthcare providers, patients, and relatives may not always be conscious of the importance of safety issues in a healthcare environment. Raising awareness of medication errors and safety issues, particularly their relationship with communication, will help stakeholders to recognize why safety is essential to improve people's health and safeguard limited healthcare resources. Serious consequences due to medication errors might occur due to the inability of the health professional to communicate with patients (World Health Organization, 2016, p. 12-13).

In summary, several communication issues are detrimental to patient well-being and safety in the healthcare environment. Patients suffer as a result of health workers' attitude of ineffective communication as a result of language barriers, the medium of communication, physical setting, social setting, and healthcare personnel's negative attitude toward improving their communication with patients. These issues need the attention of policy-makers, healthcare professionals, patients, and relatives in order to improve the healthcare delivery services. In fact, the current situation in the healthcare environment needs urgent attention.

Conclusion

This paper discussed communication issues in the healthcare environment and how medication errors can be avoided through effective communication. The importance of good communication practices for effective health and improved patient safety in hospital settings has been highlighted. One of the major problems causing medication errors is ineffective communication between patients and health personnel (Leonard, 2004; Solet et al., 2005; Solet et al., 2005; Manojlovich & DeCicco, 2017). Poor communication most frequent causes adverse effects and delay in treatment, medication errors, and wrong-site surgery. The major communication issues in healthcare environment include language barriers, the medium of communication, physical setting, and social setting. Another major communication issue is to assume the communication has taken place and gotten through. Addressing these issues can improve the

communication among the health personnel, which will, in turn, decrease the rate of medication error in hospitals.

It has been reported that poor communication among healthcare personnel or between patient and healthcare personnel can lead to medication errors. It is evident that healthcare personnel fail to use simple language to communicate with the patients. It has been suggested that to promote safe and effective practice in hospitals and avoid medication errors; clinicians should adhere to teamwork and effective communication with the patients. Knowledge of professional-patient communication is essential and valuable in developing and improving therapeutic outcomes. Patients need knowledge and support to be able and motivated to undergo medicine therapy. Healthcare practitioners should understand and assume the effective communication responsibility. They need to take responsibility for creating an environment where high-quality healthcare counselling is routinely practiced. There is a need for designing strategies for effective communication and teamwork amongst healthcare professionals, which can consequently influence the quality of healthcare services and therapeutic outcomes.

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