

The Impact of Nurses' Knowledge and Self-Efficacy on Quality of Life and Symptom Burden for Patients with Gastric Cancer Receiving Palliative Care in Jordan: A Review of Literature

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Abstract: Gastric cancer is one of the most prevalent and fatal cancers that has been reported around the world. Numerous studies reported poor and limited nurses' knowledge of palliative care services. Despite the numerous measures Jordan has taken to improve the palliative care concept, Jordan still confronts numerous difficulties and issues. This review of the literature on nurses' self-efficacy and knowledge while providing palliative care to patients with gastric cancer and nurses' perceptions of the barriers and needs towards palliative care services. The literature suggests that nurses have poor self-efficacy and knowledge concerning managing cancer symptoms, enhancement of quality of life, and therapy management plans (like opioids) for patients in palliative care units. Unfortunately, few studies have focused on palliative care in Jordan. This suggests a significant gap in literature studies on palliative care in Jordan.

Keywords: Nurses, knowledge, self-efficacy, quality of life, symptom burden for patients, gastric cancer, palliative care.

تأثير معرفة الممرض والكفاءة الذاتية على فعالية الحياة واضطرابات الاعراض على مرضى سرطان المعدة في دور الرعاية التلطيفية في الاردن

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المستخلص: يعد سرطان المعدة أحد أكثر أنواع السرطان انتشارًا وفتاكًا التي تم الإبلاغ عنها في جميع أنحاء العالم. أفادت العديد من الدراسات أن معرفة الممرضات ضعيفة ومحدودة بخدمات الرعاية التلطيفية. على الرغم من الإجراءات العديدة التي اتخذها الأردن لتحسين مفهوم الرعاية التلطيفية، إلا أن الأردن لا يزال يواجه العديد من الصعوبات والقضايا. هذه المراجعة للأدبيات المتعلقة بالكفاءة الذاتية للممرضات ومعرفتهن أثناء تقديم الرعاية التلطيفية للمرضى المصابين بسرطان المعدة وتصورات الممرضات حول العوائق والاحتياجات تجاه خدمات الرعاية التلطيفية. تشير الأدبيات إلى أن الممرضات لديهن كفاءة ذاتية ومعرفة ضعيفة فيما يتعلق بإدارة أعراض السرطان، وتحسين نوعية الحياة، وخطط إدارة العلاج (مثل المواد الأفيونية) للمرضى في وحدات الرعاية التلطيفية. ولسوء الحظ، ركزت القليل من الدراسات على الرعاية التلطيفية في الأردن. وهذا يشير إلى وجود فجوة كبيرة في الدراسات الأدبية حول الرعاية التلطيفية في الأردن.

الكلمات المفتاحية: الممرضات، المعرفة، الكفاءة الذاتية، جودة الحياة، عبء الأعراض على المرضى، سرطان المعدة، الرعاية التلطيفية.

Introduction

Cancer can be defined as a disease group that starts in any tissue or organ of the body when the abnormal cell continues to grow uncontrolled. The uncontrolled cell grows beyond the boundaries and invades the surrounding area and organs (WHO, 2022). The latter spreading mechanism is known as metastasizing and is one of the leading causes of death worldwide, which accounts for approximately 9.6 million deaths in 2018 (NCI, 2021). The cancer burden is rising and continues to grow globally, leading to tremendous financial, emotional, and physical burdens on patients, families, the healthcare system, and the community (WHO, 2022).

Gastric cancer, also known as stomach cancer, occurs when the cancerous cell forms within the stomach lining (NCI, 2021). Most gastric cancers (approximately 90 to 95%) are adenocarcinomas, which develop from the glands in the innermost stomach lining. There are two types of gastric cancer: cardia gastric cancer and non-cardia gastric cancer (Bray et al., 2018). Gastric cardia cancer is found in the esophageal- gastric junction. According to Mukaisho and colleagues (2015), distal stomach cancer is another name for non-cardiac cancer that stems in the stomach's lower region Mukaisho et al., 2015).

Prevalence and mortality of gastric cancer

Gastric cancer is one of the most prevalent and fatal cancers that has been reported around the world. Every year one million adults are diagnosed with gastric cancer globally (Bray et al., 2018). The prevalence and incidence of gastric cancer differ from region to region and culture to culture. There is a higher prevalence in developed countries compared to less developed countries. The incidence rate is highest in Latin America and Eastern and Central Asia (Sierra et al., 2016, Etemadi et al., 2020). The average incidence of gastric cancer among males and females is 32.1 and 13.2 per 100,000 persons, respectively, in East Asia (Rawla and Barsouk 2018). The lowest rates are reported in East and North Africa. The Republic of Korea has the most significant prevalence of gastric cancer, with 60 per 100,000 persons. There is a high rate of fatality associated with gastric cancer. Overall, 1,033,701 incidences of gastric cancer and around 782,685 deaths were documented in 2018 (Wong et al., 2021). Developed countries have lower fatality from gastric cancer than developing countries (Bray, et al., 2018) The low fatality rate in developed countries is due to treatment availability and the higher fatality in developing nations is updated evidence-based guidelines (Bray, et al., 2018)

An attributed to outdated guidelines, less availability of treatment, and inadequate medical facilities and services provided to patients (Bray et al., 2018) The fatality associated with gastric cancer is highest in Iran, Kyrgyzstan, and Turkmenistan (Balakrishnan et al., 2017). Gastric cancer accounts for 4.6% of all cancer-related deaths in Jordan, placing gastric cancer among the top ten cancer-related deaths (Aqel et al., 2020). The 5-year rate of survival following a gastric cancer diagnosis is 32% in patients suffering from poorly differentiated tumors (Aqel et al., 2020)

The prevalence of gastric cancer rises with advancing age and reaches a plateau between 55 and 80 (Thrift and El-Serag, 2020). The average age of patients diagnosed with gastric cancer is 68. Every year, almost six out of ten persons diagnosed with gastric cancer are 65 or older. Around 35% of patients with gastric cancer are detected at distant stages of the disease (Thrift and El-Serag, 2020). The stage of the disease determines the prognosis of individuals with gastric cancer at the time of diagnosis. Nonetheless, patients with advanced gastric cancer have a poor prognosis; people with early-stage gastric cancer have a 5-year survival rate of more than 90% (Hirasawa et al., 2018).

Risk factors for gastric cancer

Gastric carcinogenesis is a multifactorial and multistep process. However, the intestinal form of gastric cancer is generally associated with environmental factors, including diet, lifestyle and *Helicobacter pylori* infection. The other risk factors associated with gastric cancer are ulcers, gastric reflux, chemical exposure, gastric surgery, pernicious anemia, gender, and race (Take et al., 2005, Abrams et al., 2013, Takeno et al., 2014, Hauptmann et al., 2015, Cho et al., 2016, Fortunato and Rushton, 2015, Kuipers, 2015, Edgren et al., 2010, Camargo et al., 2012 Arnold et al., 2014).

Evidence suggests that men are more likely to develop gastric cancer than women (Rawla and Barsouk, 2018). In developed nations, males have a three-fold higher likelihood of gastric cancer than females (Sierra et al., 2016). However, this ratio is 1.83 in developing nations. In addition, males have a 1.87% risk of acquiring gastric cancer, whereas women have a 0.79% risk (Rawla and Barsouk, 2018). Some of the risk factors can be categorized as behavioral and environmental factors; which include smoking, alcohol,

obesity, diet, and socioeconomic status (Tramacere et al., 2012, Ladarius-Lopes et al., 2008, Tsugane Sasazuki, 2007, Lin et al., 2014, Uthman et al., 2013).

Tramacere et al. (2012) stated that smoking is a prime contributor to gastric carcinoma development. Engel et al. (2003) conducted population-based research to evaluate the impact of smoking and the prevalence rate of gastric cancer. As per the results of this study, smoking exposure at any time of the patients' life leads to a 45% and 18% risk of the development of cardia gastric carcinomas or a non-cardiac variant of gastric carcinoma, respectively. Although alcohol consumption has not been demonstrated as having a direct association with gastric cancer, alcohol intake is recognized as the risk factor for the progression of gastric cancer, and the cumulative impact of smoking and alcohol intake increases the development of non-cardia gastric cancer 5-fold (Tsugane and Sasazuki, 2007). Uthman et al. (2013) revealed that salted food items and obesity had been associated with cardia gastric cancer compared to a person with a balanced diet and normal body mass- index. A diet consisting of a high amount of fruit and fresh vegetables is one of the protective factors which help the patient to fight the risk factors associated with gastric cancer development. Patients with gastric surgery due to benign illness have a 2 to 4 % increased gastric cancer risk. This is related to reducing acid formulation in the gastric remnant and is also associated with chronic inflammation because of bile refluxing in the gastric remnant.

However, the survival of the patient with gastric cancer depends on various factors, including cancer stage, diet, and intervention type. As per the results presented by Aqel et al. (2020), the survival rate of the patient with stage 1 gastric cancer (65%) is better than the stage 2 (35%) and stage 3 (25%) gastric cancer. Furthermore, there is no data for the 5-year survival rate of the patient with stage 5 gastric cancers, as most of the patients die within a year after the cancer diagnosis (Aqel et al., 2020).

Palliative care:

Palliative care is person-centered care provided to patients and their relatives dealing with the obstacles of a deadly illness. The focus of palliative care is alleviating and preventing suffering through early screening, accurate assessment, pain management, and other psychosocial, spiritual, and physical support (Al-Mahrezi and Al-Mandhari, 2016, Dehghani et al., 2020). In addition, palliative care emphasizes the patient's care toward the end of life (Dunn et al., 2005).

Palliative care aims to assess patients' quality of life suffering from terminal disorders Worldwide, around 40 million patients require palliative care, and approximately 80% are in the middle to low-income nations (Nambayan, 2018, Sharkey et al., 2018). Numerous studies reported poor and limited nurses' knowledge of palliative care services (Negarandeh et al., 2015, Guraya and Barr, 2018). Negarandeh et al. (2015) conducted a study to evaluate the various aspects of palliative care and recognized its consequences, antecedents, and features within the cultural context of Iran.

The authors demonstrated that palliative care is paramount, in nursing care and practice while rendering holistic and humanistic care to the patient. Under palliative care, the nurse must know about pain management, spirituality grounded care, religiously grounded care, and holistic care. Any medical nursing staff with less knowledge and inexperience in delivering palliative care can increase the chances of medical error (Dehghani et al., 2020). The nurses' attitudes towards and knowledge about palliative care services are considered core needs for improving the quality of palliative services (Heupel- Reuter et al., 2019). Thus, nurses' self-efficacy and knowledge of palliative care require improvement to improve patients' quality of life. There are five palliative care; they are different in pain management, physical problems, family needs, and psycho-spiritual problems; therefore, they require different levels of knowledge among healthcare professionals (Currow et al., 2015). These palliative stages are as follows:

Stable stage: In this stage, the patient's symptoms are adequately managed by the established care plan. The patient's situation is reasonably stable, with no new concerns visible. Additional interventions are planned to preserve the quality of life and symptomatic burden. The phase ends when the patient's needs change, necessitating revisions to the existing care plan.

Unstable stage: The patient develops a new health issue that was not anticipated in the current care plan because the present problem severity rapidly worsens or because the patient's condition changes unexpectedly, and emergency therapy is needed.

Deterioration stage: The palliative care plan addresses the patient's anticipated needs in this stage. However, the patient's vital functions decline, and problems worsen. This stage ends with the dying process, which refers to the last stages of a patient's life.

Dying stage: This stage means the patient will pass away within days. This stage ends with the ending of the life of a patient.

Deceased stage: The patient has deceased, and the death certificate is completed. This is palliative care's final stage.

Palliative care is a component of oncology that advances the psychosocial, physical, and emotional well-being of patients with an active, progressive, and terminally ill disease with little or no prospect of cure (Agarwal and Epstein, 2017). The emerging approach of palliative care and its combination with conventional oncologic therapy have shown clinical benefits since it decreases symptomatic burden, increases understanding of disease prognosis, and surges quality of life and overall survival (Agarwal and Epstein, 2017). Therefore, cancer patients urgently need healthcare services and integrative plans, especially for patients admitted to the palliative care units (Khan et al., 2017). Primary outcomes which should be evaluated in the palliative care units (Khan et al., 2017). Primary outcomes should be evaluated as symptoms or healthcare provider factors such as self-efficacy and knowledge (Khan et al., 2017).

Jordan's palliative care system

Amman provides palliative care services. This organization was founded in 1993. In contrast to other nations in the Middle East, Jordan's healthcare system has attained many enhancements in palliative care. Before the foundation of palliative care in Jordan, Al Malath Foundation provided medical and health care (palliative) assistance to those whose lives are being shortened due to a terminal illness. Jordan began the Palliative Care Initiative for Nurses in early 2001, intending to train nurses to deliver palliative care in Jordan (Omran and Obeidat, 2015). In 2004, the King Hussein Cancer Center (KHCC) became Jordan's first cancer center to offer palliative care by founding the country's first palliative unit (Bingley and Clark, 2009).

Through a dedicated team, the unit specializes in providing palliative care (Shamieh and Hui, 2015). The team also gave patients in their homes palliative care. Al-Bashir Hospital then established a palliative care service. Omran and Obeidat (2015) stated that the palliative care nurses at the KHCC must complete a two-day palliative care training course offered by the American Nurses Center (ANC) for Nursing, which must be updated every year (Al-Omran, 2007). The foundation of the Jordan Palliative Care Society (JPCS) in 2010 was a critical measure in Jordan's support for palliative care services for cancer patients. The American Nurses Center (ANC) offers various services to nurses in Jordan, including providing palliative care services, training nursing personnel on palliative care services, and providing numerous palliative care courses and workshops, including management of pain, stress management, exhaustion, and elder care.

Despite the numerous measures Jordan has taken to improve the palliative care concept, Jordan still confronts numerous difficulties and issues that limit the effectiveness of services and the quality of life for palliative care patients. The lead of the palliative care department at KHCC, Omar Shamiya, pointed out that the biggest problem in palliative care is that there are many misconceptions in the Kingdom. Nevertheless, despite the numerous measures that the government of Jordan has taken to upgrade the palliative care concept, myths such as the fear of patients' addiction to opioids prevail in Jordan and the Middle East.

Jordan has no palliative care policy (Omran and Obeidat, 2015). These services are limited to the KHCC and Al-Basheer Hospital. Thus, many cancer patients in Jordan cannot receive palliative care (Khader, 2017). In addition, the healthcare system in Jordan focuses on acute care more than on providing care to dying patients (Khader, 2017). Omran and Obeidat (2015) added that although palliative care nurses exist, they are not recognized by the Jordanian Nursing Council, which impacts nurses' motivation to undertake palliative care. Moreover, Khader (2017) confirmed a shortfall of qualified nurses to offer palliative care services in Jordan.

Palliative care for patients with gastric cancer:

Advanced gastric cancer is accompanied by numerous symptoms like gastric outlet obstruction, bleeding, and ascites, which necessitates palliative care resection. For managing bleeding, arterial embolization and an endoscopic approach are recommended; however, gastrectomy becomes necessary in a few circumstances (Harada et al., 2020). Gastrectomy is favored over gastric bypass surgery for the treatment of blockage. Gastrectomy is required to treat perforation; however, the morbidity rate after surgery is significant. In some groups, whether palliative gastrectomy can enhance stage IV prognosis in gastric cancer patients is a point of contention (Harada et al., 2020). Research has shown that patients who undergo palliative gastrectomy have a better prognosis than those without a palliative gastrectomy (Hsu et al., 2017). Another palliative care for gastric cancer is palliative care radiation, a treatment option for localized symptoms such as blockage, pain, and bleeding (Tey et al., 2017). Radiotherapy is a less invasive treatment than other options. Nonetheless, surgery, endoscopy, or interventional radiology treatment is appropriate in an emergency because radiation response takes time.

Nurses are the most crucial palliative care team members because they address care's functional, physical, spiritual, and social components. Therefore, it is essential to critically evaluate the role of the nurses while rendering palliative care to patients with gastric cancer. Furthermore, various factors and dimensions, including knowledge, self-efficacy and working hours of the nursing staff, impact the palliative care process both positively and negatively. Hence, to gather thorough information regarding the nurses' role in rendering palliative care to gastric cancer patients, this study critically reviews the literature on nurses' self-efficacy and knowledge of palliative care, quality of life and symptom burden, and the barriers and challenges facing nurses when providing effective palliative care. Lastly, the findings of this review will help inform the design of the proposed study.

Nurses' self-efficacy and knowledge:

Self-efficacy is defined as a person's belief in their ability to plan and carry out actions to achieve their goals. In addition, self-efficacy relates to an individual's belief in their ability to handle specific situations (Soudagar et al., 2015). Therefore, the assessment of self-efficacy and knowledge of nurses about rendering palliative care to critically ill patients assumes an essential role in providing high-quality services at clinics and hospitals (Abbasi-Moghaddam et al., 2019, Robb and Dietert, 2002). Several tools, such as the nurse competence tool (Kim et al., 2020), assess nurses' knowledge and competencies.

The study conducted by Kim and colleagues (2020) assessed nurses' palliative care attitudes and knowledge concerning dying and death and self-efficacy. Data were gathered employing the Palliative Care Self-Efficacy Scale, Frommelt Attitudes toward Care of the Dying Form A, and Palliative Care Quiz for Nursing. Although the author did not explain the validity of the data extraction form (Kim et al., 2020), the findings reported that the average score for knowledge was 8/20, indicating low knowledge. The "Spiritual and psychosocial care" subscale received the lowest score. Further, the average score for self-efficacy in palliative care was 33.8/48, indicating nurses require assistance to improve their self-efficacy in providing palliative care. In particular, the research documented poor self-efficacy of nurses in their ability to communicate with dying patients and their families in addition to handling delirium.

The nurses reported an average score of 69.1%, indicating a positive attitude regarding palliative care. This research suggests that experience as an oncology nurse and knowledge of palliative care predict nurses' self-efficacy toward palliative care (Kim et al., 2020).

Quality of life and symptom burden in patients with gastric cancer:

Quality of life and symptom burden in patients with gastric cancer are the main parameters that should be evaluated to estimate the quality or standard of palliative care. The typical symptoms of gastric cancer are pain, nausea, dyspnea, and bleeding. Therefore, the control of symptoms and enhancing the psychological quality of life of patients and their families are considered the priority of palliative care (Strang and Bergqvist, 2017). Therefore, numerous studies have been performed to evaluate the quality of life and symptom burden of patients with gastric cancer.

Ngoc Thi and colleagues (2019) assessed the quality of life of patients with gastric cancer (n=182) using the 15-dimensional (15D) tool, a holistic, generic, self-administrated tool for estimating the life quality of adults (Hannula et al., 2014). Results revealed that the 'symptoms and discomfort' and 'average activity' dimensions of the quality of life tool received the lowest scores, 0.85 and 0.86, respectively. This suggests impaired daily living activities in gastric cancer patients (Ngoc et al., 2019). Similarly, Chau et al. (2019) research examined the quality of life in 989 patients with gastric cancer through the Quality-of-Life Questionnaire (QLQ) C30.

The findings revealed that disease advancement leads to worse quality of life. The quality of life dimension most affected in patients with gastric cancer is functional and performance status. Finally, Rha et al. (2019); examined the unmet demands of patients with gastric cancer at various stages of their disease (n=223) to recognize factors that contribute to their unfulfilled needs and quality of life and to investigate the relationships between unmet needs, anxiety, physical symptoms, and depression. The results revealed that the medical system and the information sector had the most unfulfilled demands. Further, unmet physical and everyday demands, the severity of illness, depression, and symptom interference directly affect the quality of life. Overall, 51.6 percent of the quality of life variation of patients with gastric cancer can be attributed to the fact that the patient with gastric cancer has less knowledge of self-care and is unable to perform activities of daily living, including bathing, eating, and exercise.

Sadighi and colleagues examined the quality of life of 105 patients with gastric cancers in Iran using the European Organization for Research and Treatment of Cancer (EORTC QLQ-STO22) instrument.

This suggested that the most prevalent symptoms in gastric cancer patients were anxiety, stomach pain, eating restrictions, reflux, and dysphagia. Similarly, Chau and coworkers assessed the quality of life of 1020 gastric cancer patients using the EORTC QLQ-C30 questionnaire, reporting the main symptoms that influence the quality of life for gastric cancer patients (Sadighi et al., 2009).

Nurses' barriers and challenges to providing effective palliative care services:

Nurses face several barriers to providing effective palliative care (Midtbust et al., 2018). Various studies have examined nurses' barriers and challenges to providing effective palliative care services. Al Khalaileh and Al Qadire (2012) carried out quantitative cross-sectional research based on a translated questionnaire survey of 96 nurses working in the oncology departments of three Jordanian hospitals to investigate the practical challenges of palliative care and cancer management for patients. The subscales measuring physiological and harmful impacts of drugs had the highest mean scores: 2.7 and 2.6, respectively, indicating a significant addiction risk and a reduced ability to detect new pain.

On the other hand, the subscales measuring fatalism received the lowest average score (1.6), showing solid beliefs in the efficacy of drugs to treat pain. The study concluded that Jordanian nurses observed numerous challenges related to cancer pain management, including less knowledge and experience, religious strategies used to cope with cancer-related pain, and regulatory factors. Therefore, courses related to pain management should be integrated widely into nursing institutions, in addition to continued education and practical training, to give the requisite understanding of cancer pain treatment to oncology professionals (Al Khalaileh and Al Qadire, 2012).

Alnazly and Abojedi (2018) investigated the attitudes and knowledge of 202 Jordanian registered nurses toward the management of pain. Data were gathered employing the Knowledge and Attitudes Survey Regarding Pain (KASRP) tool formulated by Ferrell and colleagues (1993). The findings revealed that the mean rate of accurate answers was 41%, indicating that the sample as a whole had a weak-to-moderate understanding and attitude toward pain (Alnazly and Abojedi, 2018).

Chuah and coworkers (2017) investigated the challenges, barriers, and experiences of 24 oncology registered nurses working in palliative care units at oncology hospital wards using a descriptive, exploratory research methodology. The results reported four major challenges in offering palliative care: role ambiguity, and lack of understanding of the purpose of palliative care (Chau et al., 2017).

Hussein and colleagues (2017) assessed nurses' opinions of palliative care barriers and facilitators, along with their relationship to the quality of palliative care. The barrier that received the highest score was dealing with upset family members. The facilitator who received the highest score offered a serene bedside scene for the family after the patient's demise.

According to Chan et al. (2020), there are five barriers to effective palliative care, including "Nurses are overburdened with work," "Physicians are overburdened with work," "Inadequate private space or room," "Families have excessive expectations about the prognosis of their loved ones" and "Nurses have little experience with end-of-life care." Critical components for effective hospital palliative care include patients' and relatives' participation in decision-making and end-of-life care, environmental issues, documentation at the health system level, and the need for more expertise and workforce at the policy level of palliative care. Nurses with better understanding, attitudes, and knowledge concerning palliative care may assist patients in improving their quality of life while reducing stress in their care partners (Kmetec et al., 2020).

Conclusions:

One of the essential variables impacting the effective delivery of palliative care is the self-efficacy and knowledge of nurses, which influence patient assessment and intervention. This review of the literature on nurses' self-efficacy and knowledge while providing palliative care to patients with gastric cancer and nurses' perceptions of the barriers and needs towards palliative care services. The literature suggests that nurses have poor self-efficacy and knowledge concerning managing cancer symptoms, enhancement of quality of life, and therapy management plans (like opioids) for patients in palliative care units. Unfortunately, few studies have focused on palliative care in Jordan. This suggests a significant gap in literature studies on palliative care in Jordan.

This literature review's findings highlight nurses' challenges while providing palliative care. Studies suggest that nurses are challenged physically and emotionally when providing palliative care to patients and frequently lack confidence in their abilities. Out of nine reviewed self-efficacy stated by the nurses, combined with additional hurdles to efficient communication between nurses,

patients, and their relatives, makes providing care in the acute setting extremely difficult. These obstacles highlight nurses' need for better education and training.

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