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Nursing : 7 key cancer trends

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Abstract: Cancer is a generic term used to describe a disorder in cellular growth and refers to a range of diseases and not to a single entity. Because cancer is a cellular disease, it can arise from any body tissue, with manifestations that result from failure to control the proliferation and maturation of cells. An oncology nurse provides care for cancer patients and patients at risk. They monitor physical conditions, prescribe drugs, administer chemotherapy and other treatments. Current trends in oncology emerging areas of health care, such as informatics, have been identified as well as opportunities for nursing professionals to be at the forefront of transforming cancer care. Some basics of advanced nursing practice, including cancer screening, prevention, early detection, genetic risk, cancer diagnosis and progression, and all the way to cancer survival. Nurses have a wide range of responsibilities to deal with a cancer patient. Nursing care includes assessment, support for treatments (eg, chemotherapy, radiation, etc.), pain control, nutrition enhancement, and emotional support. The aim of this review is to discuss the nursing and 7 key cancer trend which includes: less chemotherapy, more prescriptions of novel anti-cancer agents, concern over cancer drug costs, focus on diagnostics, quality and payment for genetic cancer tests, tumor-agnostic prescribing of cancer medications, patient-reported outcomes, and artificial intelligence.

Keywords: Cancer trends, 7 Keys, Nursing

INTRODUCTION

Cancer has been a major cause of death in Japan since 1981 and one in two Japanese have cancer during their lives. Early detection and treatment is necessary to treat this devastating disease [1].

Chemotherapy agents are available in various forms. The management path may depend on the patient's ability to receive the drug. Chemotherapy methods include: topical (wiped on the skin), oral (orally in the form of tablets), intravenously (administered through a catheter inserted into the patient's vein in the arm, neck, or chest), installed into the spinal canal, though intrathecal catheter, via the Ommaya reservoir (administered through a device that allows access to the ventricular tracts of the brain), and peritoneum (administered in the peritoneal cavity) [2].

Intravenous chemotherapy (IV), which can provide rapid delivery of drugs in the body of cancer patients, thus initiating a rapid systemic response, is a basic treatment for most cancer patients. However, the fourth chemotherapy is a complex process requiring the preparation of appropriate medications before giving the patient to patients, and errors at any stage can cause adverse clinical outcomes for patients, which may lead to morbidity and mortality. Fourth special risk chemotherapy offers such as: (1) many drugs have a narrow therapeutic index. (2) Toxic even in therapeutic doses. (3) Highly complex chemotherapy regimens. And (4) cancer patients are vulnerable populations with little tolerance [3].

Recent advances in cancer treatment have accelerated the development of anti-cancer agents by mouth. The availability of oral anticancer agents has a significant impact on the care of cancer patients. In oral chemotherapy, some of the traditional responsibilities of healthcare providers have shifted to patients. Although increased patient responsibility for self-management, oral therapy is preferred by patients mainly because of lack of clinic visits, needle failure, and low cost, and the issue of adherence becomes very important [4].

Also, recent advances in cancer research have in fact led to diagnostic and therapeutic innovations such as targeted therapies as a standard treatment approach or special cancer medicine regardless of the revival of immunotherapy, requiring specialized training for trainees in oncology [5].

The role of the nurse regarding chemotherapy side effects and their management is respected. However, there is a need for development of additional skills to meet policy requirements and services. The UK Oncology Nursing Association (UKONS) has provided guidance to help practitioners and employers ensure that individuals are appropriate to practice with regard to the services of chemotherapy led by nurses and to ensure that patient care is not compromised [6].

In oncology services, nursing is necessary because of the high frequency of physical and psychological harm to the life of the patient. This is because cancer treatment methods, especially chemotherapy, are usually toxic effects such as bone marrow suppression, alopecia, fatigue, nausea, vomiting, and diarrhea. Nurses therefore have a major responsibility for planning nursing care in oncology, especially with regard to decision-making and procedures

aimed at solving problems identified at the diagnostic stage [7].

The registered nurse must be certain that the informed consent document is complete and accessible in the patient's record, his or her legal representative, and oncologist have signed and dated the document. The nurse may also need to clarify points that may be or may not be confirmed by an oncologist when informed consent is obtained for chemotherapy. For example, a nurse may need to discuss follow-up dates and laboratory tests, which should be noted in the pre-approval form, to avoid any undue concern about the treatment and what happens after the treatment is completed [8].

Less chemotherapies:

The use of oral chemotherapy is increasing. During an average year, approximately 1.5% of the beneficiaries of the insurance receive treatment with chemotherapy. Based on the Massachusetts Claims Analysis, in 2010, 16.1% of these patients received oral chemotherapy, it is estimated that this will soon reach 25 %, as about a quarter of approximately 400 new drugs in the development process will be taken orally. Therefore, it is necessary to expand ASCO (American Society of Clinical Oncology) and ONS (Oncology Nursing Society) standards of management of chemotherapy to include oral agents [9].

In addition to mentioned above, the increased use of oral chemotherapy agents and the expected approval of the Food and Drug Administration (FDA) working group for many new oral factors, the working group concluded that the need for the safety of oral chemotherapy treatment, and that the task was beyond the scope of the project. In addition, the working group recognized that the current standards do not adequately address the medication understanding of non-specialized factors [10].

Recent advances in cancer treatment have accelerated the growth of oral anticancer agents. The availability of oral anticancer agents has a significant impact on the care of cancer patients. In oral chemotherapy, some of the traditional responsibilities of healthcare providers have shifted to patients. Although the patient's responsibility for self-management is increased, oral therapy is preferred by patients mainly because of lack of clinic visits, needle failure, and cost-effective if taken as prescribed [11].

Drug safety is of great importance when using anticancer therapy as a treatment method because of the high potential of factors and the context of the disease. The complexities of treatment systems designed to maximize anticancer effect are balanced with acceptable toxicity leaving a limited margin of error. Overdose can lead to death due to adverse effects of treatment, while doses can have significant effects on disease management and patient outcomes [12].

The latest report shows that among patients with the most common form of breast cancer in the early stages, chemotherapy prescriptions generally declined from about 34.5% to 21.3% in the last two years (2013-2015). This is a significant drop, from more than a third of women suffering from the first or second stage of chemotherapy, to just over a fifth of them taking chemotherapy. This trend is impressive and credible in the context of increased discussion and awareness of further treatment to a wider and more accepted among oncologists of repeated predictions such as OncotypeDx and MammaPrint [13].

More prescriptions of novel anti-cancer agents:

Over the past decade, the number of oral chemical treatments available to treat cancer has increased dramatically, and more than 25% of the 400 paper drugs under development is oral. Despite the course of administration, oral chemotherapy (OC) poses many of the same risks as intravenous (intravenous) factors, and may be even more susceptible to drug interactions due to inconsistent absorption and metabolism [14].

IV chemotherapy offers special risks because: (1) many drugs have a narrow therapeutic index. (2) Toxic even in therapeutic doses. (3) Highly complex chemotherapy regimens. And (4) cancer patients are vulnerable populations with little tolerance [15].

The prospects for cancer patients have improved because of the recent development in molecular morphology of tumor cells. This technique has facilitated the identification of "new attenuated targets" that can be modified to control or treat cancer. Moreover, "personal medicine" has the potential to improve treatment effectiveness and reduce the toxicity of therapeutic agents. Data created in clinical trials form the basis for regulatory approval because licensing organizations such as the Food and Drug Administration (FDA) and Australia Therapeutic Good Administration (TGA) require manufacturers to offer new safe and effective drugs before marketing approval [16].

The doctors prescribe increasingly targeted drugs to tumors with specific molecular anomalies. Examples (among many) include an increasing range of hormonal prevention factors for breast and prostate cancer, change inhibitors or enlarged proteins such as EGFR or ALK in lung cancer, PARP drugs that have been approved so far in ovarian cancer and are more likely to be approved soon forms of breast cancer, many of these target factors are pills [13].

Concern over cancer drug costs:

Cost and cost-effectiveness considerations are increasingly important for decision-making in the allocation of health care resources. Economic assessments can compare the cost-effectiveness of alternative therapies and are therefore particularly important for making decisions about the cost of expensive new drugs [17].

Cancer care in the United States is being diverted through a number of medical and economic trends, including high drug costs, increased availability of targeted therapies and oral contraceptives, health care reform legislation, changing payment practices, and increased emphasis on comparative efficacy research (CER), The emerging role of Accountable Care Organizations (ACOs), and the increasing role of cancer care allocation. Cancer care is subject to changes in new clinical and economic trends, including rising costs of medicines for biologic, changing compensation practices, increased focus on comparative efficacy research, and possible changes in health care reform [18].

This problem will not disappear. Instead, the financial issue of cancer will grow, for individuals and society, as more drugs become available and can be described. Some argue that anti-cancer drugs should not necessarily be covered by private insurers, or public insurance companies (Medicare or Medicaid), unless cancer treatments show a certain level of benefit to patients. However, how oncologists, patients, economists or insurance managers determine "interest" or "value" is a controversial issue, as well as how to demonstrate the entitlement needs [13]**.**

Focus on diagnostics, quality and payment for genetic cancer tests:

Genomic technologies have reached the stage of detecting genetic variation in patients at high accuracy and low cost, providing the promise of fundamentally changing medicine. However, although scientists and policy advisors deal with how to interpret and how to deal with an attack and ambiguity in genome data on a large scale, well-defined molecular techniques still play an important role, especially in regions of the world that are more limited . Access to next-generation sequencing capabilities. Here we review a range of methods currently available in clinical development as well as emerging approaches in clinical molecular diagnosis [19].

The crucial for patients with malignant tumors who want to experiment with new cancer drugs and need to know if their tumors contain molecular properties that are compatible with those new drugs. Center Medicare and Medicaid (CMS) currently evaluates pay for the Next Generation (NG) for advanced cancer cases. So far, the FDA has approved only one test of this type of cancer, the One CDX Foundation, which costs about $ 5,800 [13].

***Tumor-agnostic prescribing of cancer medications*:**

New cancer drugs that target genetic mutations regardless of where the tumor is grown should be extended by the practice of testing patients for such errors. These "agonizing" drugs from companies such as Merck & Co. And Luxo Orcomologi may help overcome concerns of health insurance companies that have refused large-scale tests looking for genetic mutations in tumors, and the fears of some senior cancer doctors calm down whether enough patients Benefit from such tests [20].

The modern method of describing cancer-based drugs to molecular changes in malignant cells, not necessarily the part where the tumor occurs, such as "breast" or "colon" - makes sense [13]**.**

Patient-reported outcomes:

The patient outcomes measurement system was launched in 2004 as part of the National Institutes of Health (NIH) road map program. The outcome measurement system reported in patients was intended to develop the ability to measure results reported more accurately by the patient and to lower questions using a set of questions designed according to the individual's health level [21].

Oral cancer treatment is preferred by most patients because of their suitability, but it is also associated with anxiety patients with regard to self-management, despite the erroneous feeling that oral cancer drugs are less toxic than intravenous cancer drugs. Unfortunately, the use of oral cancer treatment has been expanded more rapidly than the infrastructure needed to ensure safe care, leading to a new challenge for cancer centers and patients due to lack of preparedness for side effects and lack of familiarity with possible techniques to reduce drug toxicity [22].

How cancer patients feel about it. This has always been the case, but doctors (and policymakers) have not cared much about their self-descriptions of pain, nausea, stress and other symptoms. With more anti-cancer drugs, the results reported by the patient PRO will enable clinicians to pinpoint the degrees between what some drugs consider "me too" and also affect the risks and benefits of treatments that may do more harm than good [13].

Artificial intelligence (AI):

Current trends in artificial intelligence (AI) and machine learning, specifically the phenomenal success of deep learning algorithms in Neuro-engineering, used in neural engineering, such as alpha go, can be of great benefit in cancer control, about cancer, personal cancer treatment. , And the discovery of cancer drugs. Among these, the Holy Grail is detecting the disease at zero, where computers, which manage many different types of dimensions, can affect humanity dramatically by identifying cancer once it begins [23].

Few doctors, even oncologists who specialize in specialty, can keep abreast of developments in this area. Whether IBM's Watson, still optimistic about, or any other artificial intelligence, brand, we make suggestions, and data-based algorithms will be needed to guide doctors' recommendations. The emerging field of computational biology, which can take large data and apply it to individual patient cases, with recommendations based on real-time knowledge of cancer science and approved therapies, is the way forward. [13]

CONCLUSION

The review concluded that, the most common form of early-stage of cancer, chemotherapy prescriptions slid, doctors increasingly prescribe targeted drugs to tumors with specific molecular aberrations. The issue of cancer's financial toxicity, to individuals and to society, will grow as more drugs become available and might be prescribed, the debate concerns the quality of diagnostic tests, and costs, the responsiveness to some drugs may depend on the cancer's location, as more anti-cancer drugs become available, patient-reported outcomes (PROs) will enable doctors to identify subtle differences among what some deem, and few doctors, even oncologists who subspecialize, can keep up with developments in the field.

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