

RESEARCH ARTICLE

Prevalent Signs and Symptoms in Patients with Skin Cancer and Nursing Diagnoses

Isabel Neves Duarte Lisboa¹, Mônica Suêla de Azevedo Macena¹, Maria Isabel da Conceição Dias Fernandes^{1*}, Ana Beatriz de Almeida Medeiros¹, Cyndi Fernandes de Lima¹, Ana Luisa Brandão de Carvalho Lira¹

Abstract

Background: Skin cancer has a remarkable importance given the high incidence in the population. In Brazil, it is estimated that there were 98,420 new cases of non-melanoma skin cancer among men and 83,710 new cases among women in 2014. **Objectives:** To verify signs and symptoms present in patients with skin neoplasms according to the literature and relate them to the nursing diagnoses of NANDA International. **Materials and Methods:** Integrative literature review carried out from March to May 2015 in the databases: Cumulative Index to Nursing and Allied Health Literature, SCOPUS, National Library of Medicine and National Institutes of Health, Latin American and Caribbean Sciences of Health and Web of Science. The descriptors used were: 'Signs and Symptoms' and 'Skin Neoplasms'. Sixteen articles were identified as the final sample. After review, the signs and symptoms of skin cancer identified in the literature were related to the defining characteristics present in NANDA International, with the aim to trace possible nursing diagnoses. **Results:** The most prevalent signs and symptoms were: asymmetric and well circumscribed nodules with irregular borders; speckles with modified color aspect; ulcerations; blisters; pain; itching; and bleeding. The principal nursing diagnoses outlined were: risk for impaired skin integrity; impaired skin integrity; acute pain; risk of shock; and impaired comfort. **Conclusions:** The identification of signs and symptoms present in patients with skin cancer and the relationships of these with the nursing diagnoses of NANDA International provide a basis for qualified and systematized nursing care to this clientele.

Keywords: Nursing - nursing diagnosis - signs and symptoms - skin neoplasms.

Asian Pac J Cancer Prev, 17 (7), 3207-3211

Introduction

Skin cancer is characterized by abnormal and uncontrolled growth of cells that make up the skin. Basal cell and squamous cell carcinomas are the most incident. However, melanoma is the most aggressive skin cancer (Sociedade Brasileira de Dermatologia, 2015).

Regarding its characteristics, skin cancer may resemble a lesion in the skin with swelled, bright, translucent, brown, pink or multicolored aspect. A black spot with change of color or texture may also be present and this may develop irregular borders, with increase of size. Furthermore, it can be represented by a speckle or sore that does not heal, with continued growth, itching, crusting, erosion or bleeding (Instituto Nacional do Cancer, 2008).

In Brazil, this type of cancer has great relevance because of the high numbers of cases in the population. It is estimated that there were 98,420 new cases of nonmelanoma skin cancer among men and 83,710 new cases among women in 2014. These values correspond to an estimated risk of 100,75 new cases per 100,000

men and 82.24 per 100,000 women (Instituto Nacional do Cancer, 2014).

Nonmelanoma skin cancer is more common among men of the South, Southeast and Midwest regions of Brazil. In the North and Northeast, these are in the second position. Among women, it is the most common in all regions of Brazil, being more prevalent in the South and Southeast. As for melanoma, its lethality is high, but its incidence is low. The highest estimated rates in men and women occur in the South (Fernandes and Calmon, 2011; Instituto Nacional do Cancer, 2014).

In Brazil, the ultraviolet radiation is the main responsible for the development of skin tumors and most cases are associated with excessive sun exposure. Thus, actions of primary prevention such as personal protection against sunlight are of relatively low cost and extremely effective against skin cancer, including melanomas. Also highly important is the early diagnosis and treatment, also in the case of lesions of low lethality that may cause crippling damage in exposed areas of the body, causing suffering to patients (Salvio et al., 2011; Instituto Nacional

do Cancer, 2014).

Meanwhile, health education for the population and the creation of environments that provide protection against solar radiation, particularly in work and leisure places, are also effective for the community. In addition, immediate attention to the emergence of new speckles or signs on the skin, with changes in color, size and borders of old lesions, contributes to the early diagnosis (Ferreira et al., 2011; Souza, 2011).

Thus, the nurse is an important actor in an attempt to support and guide the patient towards early diagnosis, as well as the experience of the process of disease, treatment and rehabilitation. Nevertheless, the provision of care and education for these patients and their families is a significant challenge for Nursing.

Thus, there is a need for nursing not only help in the early diagnosis but also share in the therapeutic process. This is an essential condition to expose the problems inherent to the care of cancer patients, specifically those affected by skin cancer, with the purpose to improve their quality of life through appropriate interventions for each particular case. It is known that the impact on the lives of these patients may come from the cancer itself, because of the treatment, the limitations in daily life as well as the financial costs generated in their lives by this problem (Gauling et al., 2015).

It is, therefore, necessary to use typical tools of the area, such as the nursing process, which operationalizes the care provided by nurses. The use of taxonomies such as the NANDA International is also important, as this subsidizes the problems that are typical of the profession within a more scientific framework. Thus, the objective in the present study is to verify signs and symptoms present in patients with skin neoplasms according to literature and relate them to the nursing diagnoses of NANDA International. (Herdman, 2013).

This study is relevant because of the high incidence of skin cancer as well as its steady increase in the population, in addition to the impact generated in the life and the daily routine of individuals that, consequently needs effective measures for a highly qualified nursing care geared towards this population. Recognition of the main signs and symptoms of skin neoplasms associated with nursing diagnoses will result in more specific interventions in the care of that patients.

Materials and Methods

This is an integrative literature review intended to summarize the knowledge produced to provide a comprehensive understanding of a particular phenomenon or health problem (Witthmore and Knafl, 2005).

For its preparation, the following steps recommended by literature (Witthmore and Knafl, 2005) were followed: defining the guiding question and objectives of the research; sample selection; literature search; analysis and categorization of studies, presentation and discussion of results. Data collection was carried out in May 2015.

For the construction of this study, the following guiding question was used: What are the main signs and symptoms that patients with skin cancer manifest?

For selection of articles, we carried out a search in the databases: CINAHL (Cumulative Index to Nursing and Allied Health Literature), SCOPUS, PUBMED (National Library of Medicine and National Institutes of Health), LILACS (Literature of the Latin American and Caribbean Health Sciences) and Web of Science.

The search was performed using the following keywords: 'Signs and Symptoms' and 'Skin Neoplasms', with crossing using the Boolean operator "AND". The following inclusion criteria were adopted for selection: articles available in full-length on the selected databases, in Portuguese, English or Spanish and studies that addressed the subject of this review. Exclusion criteria were: editorials, letters to the reader, abstracts, theses and dissertations.

Selection of studies was carried out through, first, a reading of the title and the abstract by two researchers, and when these were not clear enough for making the choice, the article was read in its entirety, with a view to more accurate selection of content. After the choice was made, an in-depth reading of content of the article was done for extraction of relevant data. Thus, as a strategy for data collection, we used a collection script with information relating to the identification of the study, database, year of publication and signs and symptoms of skin cancer.

As results, 55 articles were found in LILACS database, of which seven studies were selected. In the SCOPUS database, 108 articles were found, and five were selected. In CINAHL, 14 publications were found and four were selected. In PUBMED and Web of Science, articles were not identified by crossing. Thus, a total of 15 articles represented the final sample.

After the integrative review, two experts in oncology and nursing diagnoses related signs and symptoms of skin cancer identified in the literature with the defining characteristics present in NANDA International (Herdman, 2013), in order to trace possible nursing diagnoses present in clients with skin cancer. These data were summarized in a table and discussed along relevant literature.

Results

Regarding the characterization of the articles, 46.6% were recent (Abuzahra et al., 2012; Hassan et al., 2013; Litwin et al., 2013; Pereda et al., 2013; Purim et al., 2013; Souza et al., 2013; Topping et al., 2013), representing works published in the last five years. With regard to the language, 40% of the articles were in English (Godsell, 2005; Ott et al., 2009; Abuzahra et al., 2012; Hassan et al., 2013; Litwin et al., 2013; Topping et al., 2013), 40% were in Portuguese (Duarte, 2010; Oliveira, 2010; Lobos and Lobos, 2011; Lopes, 2011; Purim et al., 2013; Souza et al., 2013) and 20% were in Spanish (Giglio et al, 2011; Schwartz et al., 2011; Pereda et al., 2013), and all publications were from the medical field.

As for the level of evidence, only studies of level VI were found, indicating descriptive and qualitative studies, according to the classification for levels of scientific evidence (Melnik and Fineout-Overholt, 2005) by type of study. As for the types of cancer found in the articles, melanoma (33.3%) (Oliveira, 2010; Schwartz et al.,

Table 1. Relationship Between the Signs and Symptoms of Skin Cancer and the Nursing Diagnoses of NANDA International. Natal/RN, 2016

Authors	Signs and symptoms identified in the literature	Nursing diagnoses of NANDA International
(Duarte, 2010; Lobos and Lobos, 2011; Giglio et al., 2011; Abuzahra et al., 2012; Litwin et al., 2013)	Nodules	Risk for impaired skin integrity
(Lobos and Lobos, 2011; Schwartz et al., 2011; Purim et al., 2013). (Lobos and Lobos, 2011; Schwartz et al., 2011; Abuzahra et al., 2012; Topping et al., 2013). (Godsell, 2005; Lobos and Lobos, 2011) (Topping et al., 2013; Ott et al., 2009) (Lobos and Lobos, 2011) (Abuzahra et al., 2012) (Godsell, 2005; Oliveira, 2010; Lopes, 2011; Abuzahra et al., 2012; Hassan et al., 2013; Purim et al., 2013) (Godsell, 2005; Hassan et al., 2013). (Pereda et al., 2013; Topping et al., 2013). (Hassan et al., 2013) (Litwin et al., 2013) (Lobos and Lobos, 2011)	Multiple atypical nevi Color change Telangiectasia Asymmetry Infiltration and hardening Hyperpigmentation of the face Lesions Ulceration Irregular borders Blister formation Fistula Convex, deep and well circumscribed margins	Impaired skin integrity
(Ott et al., 2009; Hassan et al., 2013; Litwin et al., 2013; Souza et al., 2013; Topping et al., 2013) (Pereda et al., 2013) (Godsell, 2005; Ott et al., 2009) (Pereda et al., 2013) (Ott et al., 2009) (Pereda et al., 2013) (Souza et al., 2013) (Abuzahra et al., 2012) (Lopes, 2011) (Souza et al., 2013)	Pain Inflammation Itching Night sweating Increased ganglia Nail dystrophy Hyperesthesia Hypotrichosis Perilesional edema Nodule that reaches the dermis and the subcutaneous tissue	Acute pain and chronic pain Impaired comfort Ineffective peripheral tissue perfusion
(Hassan et al., 2013) (Godsell et al., 2005; Ott et al., 2009; Pereda et al., 2013) (Litwin et al., 2013) (Litwin et al., 2013)	Abscess formation Bleeding Cough Fatigue	Impaired tissue integrity No specific related nursing diagnosis

2011; Topping et al., 2012; Pereda et al., 2013; Purim et al., 2013) and other isolated skin neoplasms (33.3%) (Duarte, 2010; Giglio et al., 2011; Lopes, 2011; Hassan et al., 2013; Souza et al., 2013) were the most frequent, then followed by publications on basal-cell carcinoma (20.0%) (Godsell, 2005; Abuzahra et al., 2012; Litwin et al., 2013), and finally, skin cancer in general (13.3%) (Ott et al., 2009; Lobos and Lobos, 2011).

Regarding the relationship between the signs and symptoms found in the articles and the nursing diagnoses of NANDA International, this follows the table below.

The most prevalent signs and symptoms were those related to the emergence of nodules and asymmetric speckles with color change, but without skin disruption, which were related to nursing diagnosis Risk for impaired skin integrity. There was also a significant amount of signs and symptoms related to ulcers, sores and blisters, being related to the problem Impaired skin integrity. Other clinical manifestations were also mentioned, such as pain, itching, night sweats and swollen ganglia. The pain and inflammation were related to diagnosis Acute pain and chronic pain. Itching, night sweating and increased ganglia were related to Impaired comfort.

The signs and symptoms mentioned less frequently by authors were: nail dystrophy, hyperesthesia, hypotrichosis and perilesional edema, and those related to the nursing

diagnosis Ineffective peripheral tissue perfusion. The signs and symptoms of abscess formation, and nodule reaching the subcutaneous layers were also cited and were related to the diagnosis Impaired tissue integrity. Finally, some signs and symptoms did not show any relationship with nursing diagnosis, namely: cough, fatigue and bleeding.

Discussion

The authors of the analyzed articles emphasized the signs and symptoms of skin cancer as well as its epidemiology, pathogenesis, histopathology, diagnosis and therapy. Also, they offered strategies of prevention and early detection. However, most of the articles were published more than five years ago, besides being framed in low levels of evidence. Thus, there is a need for updated studies and with higher levels of evidence.

It is inferred that the melanoma was one of the most recurrent issues in studies due to its aggressive character, generating interest with respect to diagnosis and treatment. However, it is prudent to note that there were no publications approaching the role of the nurse in the care of lesions of skin cancer, neither publications related to nursing diagnoses. The vast majority of publications focused on dermatological medicine.

With regard to diagnosis drawn from the identified

signs and symptoms in the literature, Risk for impaired skin integrity stands out, defined by NANDA International as the risk that the individual runs of presenting epidermal tissue and/or dermal changes (Herdman, 2013). It is inferred that this diagnosis was the most evident due to the fact that skin cancer is a disease amenable to early diagnosis, with the suspicious and premalignant lesions giving clues to the identification of cancer.

Studies state that despite the high incidence, nonmelanoma skin cancer has low lethality and can be cured easily if detected at early stages. Although the diagnosis of melanoma usually brings fear and apprehension to patients, cure rates are over 90% when its detection happens early (Instituto Nacional do Cancer, 2008; Sociedade Brasileira de Dermatologia, 2015).

In this study, the most common signs and symptoms were those related to asymmetric and well circumscribed nodules with irregular borders and speckles with color change. Corroborating other studies that establish characteristic symptoms related to skin cancer, as a method for recognizing early signs, one should pay attention to the asymmetry, irregular borders, color and size of the lesion (Instituto Nacional do Cancer, 2008).

The signs and symptoms characterized by disruption of the dermis such as ulcers, lesions, wounds, blisters and fistulas were included in the diagnosis Impaired skin integrity, defined as altered epidermis and/or dermis (Herdman, 2013). It is inferred that this diagnosis was widely cited by the typical clinical picture of the disease in question, which as it becomes invasive, causes disruption of skin structures. Furthermore, studies have reported that skin cancer is characterized by ulcerative, scaly nodules with a central crust that does not heal and can bleed easily, revealing an impaired subcutaneous integrity (Ferreira et al., 2011; Souza, 2011).

As for pain, this is defined as an unpleasant subjective, sensory and emotional experience associated with actual or potential tissue damage (Academia Nacional de Cuidados Paliativos, 2009). Pain was related to the diagnosis of acute pain and chronic pain by believing that the skin cancer has abrupt pain symptoms and may also become cornified. Studies claim that nonmelanoma skin cancer causes pain in 28% of patients, especially in cases of squamous cell carcinoma. In cases of melanoma, there is usually no pain (Fernandes and Calmon, 2011; Salvio et al., 2011). In addition, another study relates the pain as the main complaint of skin cancer, along with itching and bleeding (Gauling et al., 2015).

Regarding the itching, this is caused by nerve fibers in the superficial layers of the skin where basal cell carcinomas are usually found. There is no nursing diagnosis in the NANDA International with this nomenclature, but we chose to relate it to the diagnosis Impaired comfort because this is defined as perceived lack of comfort, relief and transcends the physical, psycho-spiritual, environmental and social dimensions (Herdman, 2013), bearing in mind that pruritus generates considerable discomfort to the patient. Furthermore, studies have reported this sign as important symptom of skin cancer (Ott et al., 2009; Sociedade Brasileira de Dermatologia, 2015).

Night sweating and swollen ganglia are mostly related to myeloproliferative disorders. The mechanism of night sweating in cancer is not well understood, but this is always present in literature on lymphomas and leukemias. The swollen ganglia can indicate various diseases such as infectious processes, tumors and metastases in progress. Tumor spread in the case of skin cancer occurs by lymphatic route, and thus this may be a significant signal (Instituto Nacional do Cancer, 2008; Sociedade Brasileira de Dermatologia, 2015).

With respect to nail dystrophy, hyperesthesia, hypotrichosis and perilesional edema were signs and symptoms less frequently cited by authors. These are, however, described in the diagnostic Ineffective peripheral tissue perfusion, which is characterized by the state in which the individual has decreased nutrition and breathing in peripheral cellular level due to the decrease in capillary blood supply (Herdman, 2013). It is inferred, therefore, that signs and symptoms like these may be related to secondary damage from skin cancer by the advance of the disease. Moreover, studies claim that in the advanced stages of cancer, the lesion is deeper and thicker, which could increase the chances of injury (Instituto Nacional do Cancer, 2008; Sociedade Brasileira de Dermatologia, 2015).

Regarding the nodule reaching the subcutaneous tissue and the formation of abscess, it was chosen to relate these symptoms to Impaired tissue integrity, which is defined as damage to the mucous membranes, cornea, skin or subcutaneous tissue (Herdman, 2013). Studies report that while skin cancer progresses, a greater penetration of deep skin structures occur (Instituto Nacional do Cancer, 2008; Sociedade Brasileira de Dermatologia, 2015).

Finally, signs and symptoms such as coughing, fatigue and bleeding were not related to any nursing diagnosis as a result of the little specificity of these signs and symptoms. It is worth noting that cancer behaves and evolves often differently from most diseases, clinically manifesting in a individualized form. Thus, peculiarities of each cancer patient deserves attention, as this often requires different nursing diagnosis and interventions.

Fatigue was not cited so often by the authors, but this is an important symptom, especially to the neoplastic frame. The patient with cancer has a high expenditure of energy due to accelerated metabolism caused by cancer, resulting in the process of fatigue (Silva, 2012).

Regarding the presence of bleeding, this was quite frequently present in the publications, corroborating other studies that claim that this is a usual clinical manifestation in cases of skin cancer, particularly melanoma (Schwartz et al., 2011; Topping et al., 2013). Cough was cited in only one publication. We can infer that this is an unspecific symptom related to the neoplastic frame in question.

Given the above, the work of nurses in identifying clinical manifestations enhanced in patients with skin cancer stands out, in order to provide them appropriate care and one that may be targeted to their human responses.

In conclusion, Fifteen studies were analyzed in full-length, from which the most prevalent signs and symptoms of patients with skin cancer were categorized and related to nursing diagnoses of NANDA International.

The following signs and symptoms were the most often highlighted: asymmetrical nodules with irregular borders, speckles with color change, ulcerations, lesions, pain, swelling, itching and bleeding. The nursing diagnoses identified from these signs and symptoms were Risk for impaired skin integrity, Impaired skin integrity, Ineffective peripheral tissue perfusion, Acute pain and chronic pain, Impaired tissue integrity and Impaired comfort.

The establishment of relations between the signs and symptoms present in patients with skin cancer and nursing diagnoses of NANDA International provides basis for highly qualified and systematized nursing care to the patient that is affected by cancer. It is also important to call attention to the need for studies on nursing diagnoses in the cancer clientele, due to the deficiencies found in the literature approaching this subject, what resulted in a difficulty to discussing the data.

One limitation of this study was the lack of publications on the subject of nursing diagnoses and skin cancer, a reality that calls for more research on the subject, in order to expand the knowledge in this area.

References

- Abuzahra F, Parren LJMT, Frank J (2012). Multiple familial and pigmented basal cell carcinomas in early childhood-Bazex-Dupre-Christol syndrome. *J Eur Acad Dermatol Venereol*, **26**, 117-21.
- Academia Nacional de Cuidados Paliativos (2009). Manual de cuidados paliativos. Rio de Janeiro: Diagraphic.
- Duarte IGL (2010). Lesões múltiplas de osteomacutis na face: terapêutica minimamente invasiva em pacientes com seqüela de acne - relato de casos. *An Bras Dermatol*, **85**, 695-8.
- Fernandes N, Calmon R (2011). Melanoma cutâneo: estudo prospectivo de 42 casos. *An Bras Dermatol*, **86**, 1233-5.
- Ferreira FR, Nascimento LFC, Rotta O (2011). Fatores de risco para câncer da pele não melanoma em Taubate, SP: um estudo caso-controle. *Rev Assoc Med Bras*, **57**, 431-7.
- Gauling C, Sebaratnam DF, Fernandez-Penas P (2015). Quality of life in non-melanoma skin cancer. *Australas J Dermatol*, **56**, 70-6.
- Giglió P, Bravo F, Solar M (2011). Querato acantomas múltiples: un reto diagnóstico y terapéutico. *Folia dermatol Peru*, **22**, 17-24.
- Godsell G (2005). Basal cell carcinoma. *Nurs Pract*, **36**, 38-40.
- Hassan SF, Stephens E, Fallon SC (2013). Characterizing pilomatricomas in children: a single institution experience. *J Pediatr Surg*, **48**, 1551-6.
- Herdman TH, Shigemi K (2015). Diagnósticos de enfermagem da NANDA: definições e classificação 2015-2017. Porto Alegre: Artmed.
- Instituto Nacional do Câncer (2008). Ações de enfermagem para o controle do câncer: uma proposta de integração ensino-serviço. 3ª edição.
- Instituto Nacional do Câncer (2014). Estimativa 2014: Incidência de Câncer no Brasil.
- Litwin AS, Timlin H, Sagili S, et al (2013). Acquired lacrimal sac fistula mimicking basal cell carcinoma. *Br J Dermatol*, **168**, 1348-50.
- Lobos PB, Lobos AS (2011). Câncer de pele não-melanoma. *Rev Med Clin Condes*, **22**, 737-48.
- Lopes JR (2011). Carcinoma verrucoso da mão: uma rara apresentação avaliada por ressonância magnética. *Radiol Bras*, **44**, 263-4.
- Melnik BM, Fineout-Overholt E (2005). Making case for evidencebased practice. In: Melnyk BM, Fineout-Overholt E. Evidence based practice in nursing & healthcare: A guide to practice. Philadelphia: Lippincott Williams & Wilkins.
- Oliveira AF (2010). Differential diagnosis in primary and metastatic cutaneous melanoma by FT-Raman spectroscopy. *Acta Cir Bras*, **25**, 434-9.
- Ott JJ, Ullrich A, Miller AB (2009). The importance of early symptom recognition in the context of early detection and cancer survival. *Eur J Cancer*, **45**, 2743-8.
- Pereda C, Traves V, Requena C, et al (2013). Estudio descriptivo de la presentación clínica del melanoma lentiginosoacral. *Actas Dermosifiliogr*, **104**, 220-6.
- Purim KSM, Sandri CO, Pinto NT, et al (2013). Perfil de Casos de Melanoma em um Hospital Universitário, 2003 a 2007. *Rev Bras Cancerol*, **59**, 193-9.
- Salvio AG, Assumpcao JA, Segalla JGM, et al (2011). Experiencia de um ano de modelo de programa de prevencao continua do melanoma na cidade de Jau-SP, Brasil. *An Bras Dermatol*, **86**, 669-74.
- Schwartz RA, Vial GC, Schwartz RJ (2011). Estrategias de deteccion precoz de melanoma cutaneo. *Rev Med Clin Condes*, **22**, 466-75.
- Silva PO (2012). Validacao de conteudo das caracteristicas definidoras do diagnostico de enfermagem fadiga no paciente oncologico. *Ver Latinoam Enferm*, **20**, 504-10.
- Sociedade Brasileira de Dermatologia (2015). Tipos de cancer de pele. Portal da Sociedade Brasileira de Dermatologia.
- Souza BGS, Lisboa TP, Barbosa VAK, et al (2013). Superficial acralfibromyxoma of the thumb: a case report. *Rev Bras Ortop*, **48**, 200-3.
- Souza RJP (2011). Estimativa do custo do tratamento do cancer de pele tipo não-melanoma no Estado de Sao Paulo - Brasil. *An Bras Dermatol*, **86**, 657-62.
- Topping A, Nkosana-Nyawata I, Heyman B (2013). I am not someone who gets skin cancer: risk, time and malignant melanoma. *Health Risk Soc*, **15**, 596-614.
- Whittemore R, Knafk K (2005). The integrative review: updated methodology. *J Adv Nurs*, **52**, 546-53.