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Psoriasis

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### Abstract

Psoriasis is a non-contagious chronic skin disease that is characterized by inflammatory and multiplying itchy patches on the skin and is clinically identified by well established, erythematous red papules and plaques having silvery scales. These patches usually appear on the elbows, knees, external surfaces, and scalp, but may be manifested all over the body (Oguejiofo, 2010). As the condition advances, one may also develop inflamed and achy joints, experience alterations in the appearance of nails, feel fatigue, and develop redness and pain around the eyes. The disease may be influenced by particular systemic and ecological features, but the course cannot be exactly identified. Immune system malfunctions arise from genetic information, where a patient carries genes, such as the tumor necrosis factor (TNF) that is known to cause swellings, highly found in individuals with psoriatic arthritis, and claimed to be one of the instigators (Langley, 2010). The immune malfunction leads to a rapid growth cycle of skin cells, which then die, but instead of falling off accumulate to form patches or, in some cases, inflammations and damages to the joints (Oguejiofo, 2010).

## Psoriasis Disease Process

### Genetic Background

Psoriasis can be caused by a genetic inheritance, though the process of inheritance is unclear, but assumed to be polygenic after analysis of the historical lineage of the patients. HLA system includes genes HLA B16, Cw6, B13, and B27, which are the genetic indicators in different psoriatic populations (Bandyopadhyay, 2012).

### Provoking Factors

Some of the factors that may aggravate and onset psoriasis according to Bandyopadhyay (2012) include:

*Trauma*; this involves the growth of psoriatic wounds at the injured spot, which can be a result of physical, chemical, surgical, infective injuries, or inflammations. This is also known as Koebner phenomenon.

*Infection*; a severe development of guttate psoriasis may occasionally be activated by the infection of streptococcal pharyngitis. Equally, HIV infection is also linked to the intensification in disease.

*Drugs*; exposure to Lithium, withdrawal from systemic corticosteroids, antimalarial drugs, NSAID, and beta-blockers may catalyze the development of the disease (Bandyopadhyay, 2012).

Other potential activators of the disease include strong sunlight, psychological stress, cigarette smoking, and alcohol (commonly experienced by males).

### Role of Immune Response

The precise immune-pathogenesis of psoriasis is not clearly known. However, its etiology is associated with immunologic factors. The disease entails development of epidermal

hyperplasia, existence of acute inflammatory cells, and alterations of vascular inflammation. The skin epidermis and dermis of a psoriatic plaque usually contain high numbers of different immune system cells, such as activated T cells, activated antigen-presenting cells (APCs) (Bandyopadhyay, 2012) (which include Langerhans, dendritic cells, and macrophages), hyper-proliferating keratinocytes, and neutrophils (Bandyopadhyay, 2012). The stimulation of the dermal cells, APCs, or keratinocytes may lead to stimulation of antigen production. The secretion of cytokine, lymphokine antigens, and the enhancement of T-cell in turn activates inflammations and hyper-proliferation of epidermal cells bringing to the clinical lesions termed as psoriasis (Bandyopadhyay, 2012).

### **Nursing Assessment**

Nursing assessment involves physical examination, where a nurse interviews patients about their feelings, possibility of past injury, or exposure to chemicals. A patient suffering from psoriasis may record a feeling of soreness, burning, itchiness of the skin, or painful joints (Langley, 2010). Assessment process also includes inspection, where nurse observes the affected body parts and examines the presence of thickened skin with red papules covered with silvery scales. Palpation helps nurses to identify the texture of thickened skin.

Physical examination of a typical lesion of psoriasis manifests features, such as lesions showing distinct borders, which are raised above the skin surface, appear red in color, and may be bounded by a pale halo. The lesions commonly are more than one centimeter in diameter and appear round or oval shaped (Langley, 2010). These lesions sometimes merge to form wide geographic patterns and are enclosed with loosely attached silvery white scales, which, when removed, may expose bleeding points. The parts usually affected are the elbows, shins, sacral regions, nails, and knees, among others. Other than the site variations, there are

usually morphological variations of the lesions referred to as verrucous, lichenoid, linear, annular, follicular, figurate, and gyrate lesions (Lui, 2012; Oguejiofo, 2010).

### **Implications for Nursing**

Psoriasis affects skin appearance and, as the skin is an exposed visible organ, can cause extreme psychological responses on patient. Nurses, therefore, have a continuous duty to psychologically help patients suffering from such conditions. This is because the condition affects the person's sense of self-concept. The constituents of self-concept that are normally evaluated by nurses comprise body image and self-esteem. The implications of nursing assessment include patient's psychosocial responses to these components that often result in social isolation and, subsequently, loneliness (Menter & Stoff, 2011). Many individuals in such conditions are usually disturbed by the body image and appearance, fear the risk of social isolation and experience changes in the self-esteem. Nurses need to be aware of the identifying characteristics of this diagnosis and the suitable nursing interventions to be employed that can result in positive patient outcomes (Menter & Stoff, 2011). Nurses are, therefore, in a unique position to handle the multidimensional impacts of psoriasis. Some of the interventions that can be employed are:

*Promoting understanding* of the patient through explanations that there is no cure for psoriasis, though the disease can be controlled through lifetime management and advising patients to avoid the provoking factors.

*Promoting skin integrity;* this is done by advising patients not to scratch psoriatic areas, instead to prevent the skin from drying out and clean with not too hot water, and teaching patients to use bath oil or emollient cleansing agent meant for sore and scaling skin.

*Improving self-concept and body image*; this involves introduction of coping strategies that helps minimize stress and training patient to embrace self-care.

### **Treatment**

Long term treatment is one of the nursing implications that must be initiated after nursing assessment and diagnosis of the psoriasis condition. Psoriasis is a chronic disease and, therefore, its therapy is long-term, needs to be individualized, depending on age, occupation, sex, and severity of the disease and available resources (Menter & Stoff, 2011). Treatment of scalp psoriasis is still a challenge to the dermatologists. An effective management mechanism is essential and should include examination of the severity of the condition. The objectives of management are to slow the possible quick turnover of epidermis and to encourage solutions of the psoriatic lesions by addressing the aggravating factors, assessing the patient's condition with a view of minimizing stress, gentle removal of scales using oils that soften the scales (Lui, 2012). There are three main types of therapy used in handling psoriasis. These include: topical, phototherapy, and systemic agents that can be used independently or concurrently (Bandyopadhyay, 2012).

*Topical Therapy* – this is an outpatient therapy used as the basic methodology in the treating mild plaque psoriasis. This involves administration of medicines in cream or ointment forms applied to the affected skin and scalp areas.

*Phototherapy* - used when there is extensive and widespread resistance to topical treatment. This type of therapy requires special facilities that can offer two main forms of phototherapy. The first one is ultraviolet B (UVB) that uses ultraviolet radiation with wavelengths 290-320 nm, and the second is photo chemotherapy (PUVA), which includes a

photosensitizing drug methoxsalen administered orally to patients, then ultraviolet A (UVA) irradiation to treat individuals with widespread disease (Bandyopadhyay, 2012).

*Systemic Therapy*; this is employed when both, phototherapy and topical forms of treatments prove to be ineffective, and is administered on patients suffering from erythrodermic psoriasis, active psoriatic arthritis, and widespread pustular psoriasis. The major implication that comes with the diagnosis and the treatment of psoriasis is the high cost of this therapy that many patients may not afford. Some of the drugs used in the therapy may include antimetabolites, such as methotrexate, acitretin, cyclosporine, which is used to selectively inhibit the T-helper cell from producing IL-2, thus produces immunosuppressive effects. Others include sulphasalazine and mycophenolate mofetil, which is still under evaluation, intended to prevent synthesis of the nucleotide guanosine (Bandyopadhyay, 2012).

### **Conclusion**

Psoriasis is a non-contagious chronic skin disease that is manifested by inflammatory itchy patches on the skin and is clinically identified by well established, reddish papules and plaques enclosed with silvery scales that are generally circular or oval shaped. These patches usually appear on the elbows, knees, and on the exterior surfaces and scalp, but may be manifested all over the body. This condition is caused by malfunctions of the immune system and exposure to environmental factors (Langley, 2010). Nursing assessment of the disease is through clinical observation and physical examination for the identifying characteristics of this diagnosis that include feelings related to soreness, burning, itchiness of the skin, or painful joints and presence of lesions that show distinct border, are raised above the skin surface, and appear red in color. There are a lot of nursing implications that range from self-esteem and feeling of isolation to the cost of therapy administration (Menter & Stoff, 2011). The nurses also have a

responsibility to advise the patients on the best self-practices alongside administration of therapies, such as topical, phototherapy, and systemic agents to maintain the disease.

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