CHAPTER II

LITERATURE REVIEW

Psoriasis : Natural history and clinical features.

Psoriasis is a chronic, recurrent, inflammatory disease of the skin characterized by well-circumscribed, erythematous plaques of various sizes, covered by grayish white or silvery white, imbricated, and lamellar scales. The predilection site are the scalp, nails, extensor surfaces of the limbs, the elbows, the knees, and the sacral region. The eruption is usually symmetrical and the number varied from a solitary to un-counted. The lesion develops slowly but the abrupt onset of numerous guttate type is not uncommon. Subjective symptoms such as itching or burning may be present and may cause an extreme discomfort to the patients. Accelerated epidermopoiesis has been considered to be the fundamental pathologic event in psoriasis. The transit time of psoriasis keratinocytes is decreased and the deoxyribonucleic acid synthesis time is increased. It has been suggested that it is the heighted proportion of epidermal cells participating in the proliferative process, rather than the actual rate of epidermopoiesis. The result in either case is greatly increased production of keratin (Arnold, Harry L., Udom, Richard B., James, William D., 1982).

Etiology :

The cause of psoriasis is still un-known. A multifactorial inheritance is felt to be operating. Approximately one-third of patients with psoriasis report some relative with disease. It was reported that when one parent had psoriasis, 8.1% of the offspring also developed psoriasis. The incidence of psoriasis has been recorded in 117 monozygotic twins. Of these, 65% were concordant for disease. This percentage contrasts with a 30 percent concordance for psoriasis in 112 dizygotic twins, where at least one twin has psoriasis. The HLA types most frequently reported to be associated with psoriasis were HLA-B13, -B17, -BW16, and recently -CW6 (Fitzpatrick, T.B., Arthur Z.E., Klaus, W., Irwin, M.F., K., F., Austen, 1987). However, there are many cases where there is no genetic component and no correlation with certain HLA tissue genotypes. (Arnold, Harry L., Udom, Richard B., James, William D., 1982).

Incidence and prevalence :

Psoriasis is universal in occurrence. The worldwide incidence varies considerably. Reasons for such variations range from racial to geographic and environmental. Psoriasis is equally common in males and females (Fitzpatrick, T.B., Arthur Z.E., Klaus, W., Irwin, M.F., K., F., Austen, 1987). According to the Thai national survey in 1982, psoriasis patients were found 4.2 % of all skin disease, equally in both

sex. The majority group of patients was 50 years old (Renu, Kotcharat, 1989).

Trigger factors :

There are two categories of trigger factors: the classic, such as trauma and infections, and the non-classic, including genetics, environment, the arthritis genotype/ phenotype, and age, acting either singly or in concert to create a milieu for triggering the expression of disease.

The specific trigger factors has been reported as "Koebner reaction" which described a patient who noted that various traumatic insults to his skin resulted in development of the lesion in that area. Indeed patients who claim to have frequent Koebner reactions appear more likely to have the disease at an early age, and to require multiple therapies to control the disease. Infections also have long been recognized as a trigger for the onset or exacerbation of psoriasis. Streptococal infections play a major role in the exacerbation of psoriasis especially of the guttate type in children. Other clinical studies support the impression that patients perceive their psoriasis as being made worse by stress. Psoriasis has been reported to follow rashes secondary to ingestion of drugs. Systemic corticosteroids and possibly some topical corticosteroids as well, will, upon withdrawal after prolonged used, frequently result in a severe flare of disease. The reported exacerbations of psoriasis

secondary to antimalarial may have been over emphasized in the past. Lithium is a known inducer of psoriasis and can cause exacerbation of existing psoriasis. Beta-adrenergic blockers have been reported to cause a psoriasis-like eruption and flare of psoriasis as well (Fitzpatrick, T.B., Arthur, Z.E., Klaus, W., Irwin, M.F., K., F., Austen., 1987).

A skeleton framework for the pathogenesis of psoriasis has been offered [Fig.1]. Pre-psoriatic is defined as the person with the genotype for psoriasis who has not yet encountered the trigger factors that result in overt disease. Psoriasis exists as a basic aberration throughout the skin, which can be induced, positively or negatively, to disease expression by modifying factors.

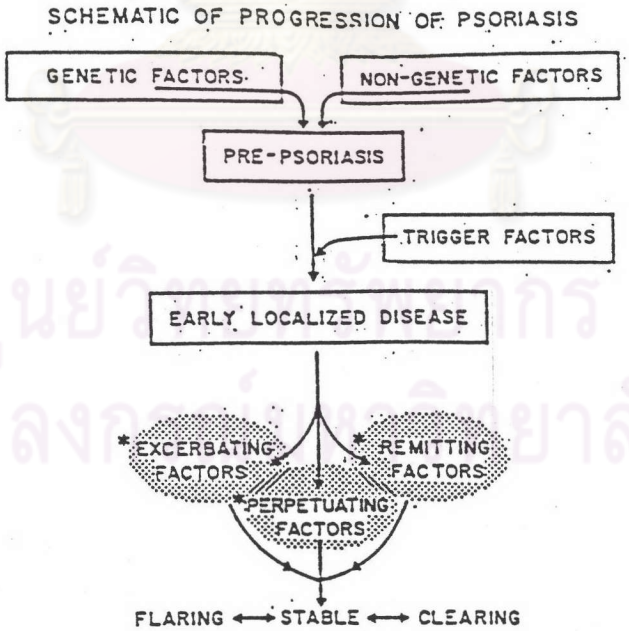

Figure 1. Diagram showing progression of psoriasis and related factors.

Treatment :

It has been found, as with any other diseases of unknown cause, new remedies or regimens are still being tried. Treatment methods will vary according to the site, severity, duration, previous treatment, and the age of the patient. Drugs that have been shown to clear psoriasis effectively differ substantially in their chemistry, route of administration, and mode of action. Whereas treatment with one drug may be effective, more recently the combination of several compounds has been introduced and has helped improve the schedules for clearing.

Topical treatment (in general):

Corticosteroid in creams, ointments, lotions, and sprays is the most frequent therapy in a localized form disease.

Anthralin is a strong reducing agent causing irritant dermatitis when doses are excessive. A modified anthralin treatment regimen is known as the " Ingram method " which is as effective as other topical treatments and suitable for out patient treatment centers.

Tar has a long history in anti-psoriatic therapy. Coal tar solution or liquor carbonis detergent is applied to the lesions before ultraviolet treatment in the " Goeckerman method ". which is an effective and frequently gratifying

method of treatment.

Systemic treatment (in general):

Methotrexate (MTX) is known anti-psoriatic agent to inhibit DNA synthesis. Acute toxicity is rare but for long term therapy may lead to liver damage and cirrhosis.

Oral Corticosteroid must be emphasized because the side effects are so dangerous that their uses should be limited to patients who are in great distress and who do not respond to other measures.

Photochemotherapy (PUVA) by mean of oral ingestion of a potent photosensitizer such as 8-methoxypsoralen (8-MOP) and expose to varying doses of UVA.

Retinoid a derivative of vitamin A, etretinate, has recently been used as a treatment for psoriasis. Best results have been seen in the treatment of pustular psoriasis or guttate psoriasis of recent onset.

Miscellaneous treatment for psoriasis :

Dialysis in a uremic patient.

Benoxaprofen an improvement in psoriasis with the oral ingestion of the nonsteroid, anti-inflammatory drug benoxaprofen in severe psoriasis who did not response to standard measures.

Climatotherapy which can be employed in some areas of the world.

Measures to prevent and control psoriasis :

Prevention in a broad sense refers to limiting the progress of disease at any stage of its course; control refers to reduction in frequency and/or severity of a disease in a population. Measures to prevent and control psoriasis require a knowledge on behalf of both the physician and the patient to recognize genetic and environmental components in the onset and course of the disease. Educating psoriasis about their disease and encouraging them to take responsibility for self-care will lessen the morbidity (Farber, E.M., Nall, L., 1984).

Psoriasis and Self-care :

It is known that the bulk of all care in illness is self-care (Dean, Kathryn, 1989). The chronicity ill like psoriasis have special self-care because of characteristic of the illness and its treatment. Foremost is the long-term nature of the illness, requiring extended. In addition, treatment of chronic illness tends to be complex and multidimensional. Treatment recommendations often include taking medications; following special diets; performing specific health-related behaviours to monitor and assess the condition, enhance well-being, and prevent complications; and changing habits and lifestyle to avoid risk factors.

Furthermore, it is not common for patients to have more than one chronic illness. This adds to the number and complexity of the recommended self-care behaviours (Connelly, Catherine Ecock, 1987). It is accepted by most dermatologists that psoriasis is exacerbated by stressful life event. Given the growing evidence on the physiological consequence of stress reactions and depression, the potential of self-care for prevention of disease and reduction of existing symptomatology may be considerable (Dean, Kathryn, 1989). Anderson conclude that " Anxiety associated with high stress leads to over concentration on emotional and defensive coping mechanisms and insufficient at tension to problem solving coping mechanism, resulting in lower level of performance" (Lazarus, Richard S., Folkman, Susan, 1984).

Much of the hospital-based management of psoriasis revolves around the application of physical remedies, and research. Whilst this is vital and laudable, the social and psychological effects of the condition on the patient often can be forgotten or actively ignored, because they are too time-consuming or difficult to deal with during the consultation (Ramsay, B., O'Ragan, M.A., 1990). The self-care approach is of particular value in dermatological patients who are emotionally or socially disabled because of the visible nature of their disease (Abel, Elizabeth A.). Green adds that "self-care bring with it the possibilities of reducing chronic illness promoting well-being, and raising the level of well-

being" (Segall, A., Goldstein J., 1989).

Health providers' role in Self-care :

It has held the condescending view that self-care is residual and supplementary to professional care when, in reality, it is the other way around (Levin, Lowell S., 1981). The idea and concept of illness and treatment episodes is an extremely useful and integrating approach to self-care. Over the duration of an illness episode, a number of actions are taken in response to an illness; actions that span a continuum: no care, self-care only, most likely in the early stages of the development of an illness, possibly followed by professional medical care that most often will be provided parallel with self-care, i.e. in many cases self-care is more a substitute for professional care not only a natural complement (Bentzen, Neils, Christiansen, Terkel, and Pedersen, Kjeld Moller, 1989). In Dean's words "lay care continues to be viewed as residual and supplemental to professional care in spite of the well documented fact that professional care is the supplemental form of health care" (Segall, A., Goldstein J., 1989). Patient is the primary provider of direct care. Health care professionals function more as educators, facilitator, and supporters of self-care by patients. Support by health care providers are generally available at varying intervals through regularly or sporadically scheduled appointments, not on a daily or even

weekly basis. In addition, persons with chronic illness eternally continue their usual social roles and responsibilities, thus limiting the opportunities to assume a sick role (Connelly, Catherine Ecock, 1987). The result from our pilot study showed that a miss-conceptions knowledges of the disease. Additional information obtained from interviews with dermatologists was utilized by patients and appears to be advantageous. More suggestion, of all dermatologists and physicians who care for patients with psoriasis should be aware that their patients may have an incomplete understanding of their disease. They should make every effort to help patients fully comprehend their condition and become aware of factors that can improve self-care and extrinsic factors that can exacerbate this disease (Lannigan, S.W., Faber, E.M., 1990).

Engel wrote that " the physician's role is, and always has been, very much that of educator and psychotherapist ".

Dermatological treatment is only a part of the therapy. Psychological support and complete patient education regarding the disorder and its therapy are of importance as well. For those professionals dermatologist, nurse, or mental health personnel who take care of severe psoriatic cases, understanding the emotional strains and coping processes demanded of patients whose bodies scale and whose minds crave remedies, is a crucial component of effective care. In

listening to the patient, the physician or nurse may learn of destructive interpersonal patterns such as the secondary gain of illness or the fostering of dependency (Weinstein, M.Z., 1984).

Nursing and self-care :

The general comprehensive theory of nursing as a conceptual framework [Fig.2] was first expressed, refined, used, validated and further developed by Orem since 1958. The theory is the results of the theorist's creative ideas and of inquiry and investigation which made up of three theoretical constructs: theory of self-care deficits and deficits for dependent care when health-derived or health-related, theory of self-care, and theory of nursing system.

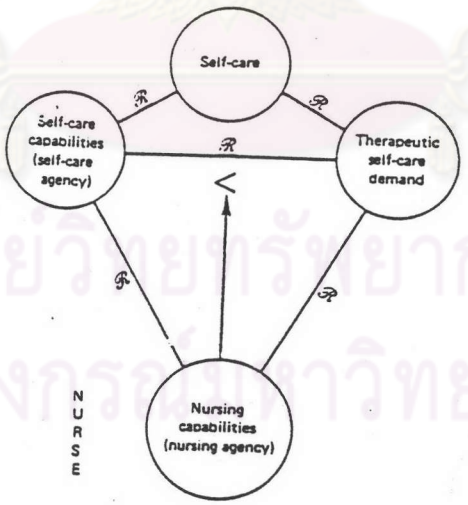

Figure 2. Conceptual framework for nursing (R=relationship; < = deficit relationship, current or projected).

Self-care in Orem's point of view is deliberate action that is practical in orientation. A single self-care practice or a whole system of self-care is therapeutic to the degree that it actually contributes to the achievement of the following results: (1) sport of life processes and promotion of normal functioning; (2) maintenance of normal growth, development and maturation; (3) prevention. control, or cure of disease processes and injuries; (4) prevention of or compensation of disability; and (5) promotion of well-being. The purposes to be attained through the kinds of actions are named self-care requisites which comprise of 3 types identified: universal, developmental, and health-deviation.

1. Universal self-care requisites are common to all human beings during all stages of the life cycle, adjusted to age, developmental state,an environmental and other factors. Eight self-care requisites common to all human beings are suggested.

1) The maintenance of a sufficient intake of air.
2) The maintenance of a sufficient intake of water.
3) The maintenance of a sufficient intake of food.
4) The provision of care associated with elimination processes and excrements.
5) The maintenance of a balance between activity and rest.
6) The maintenance of a balance between solitude and

social interaction.

7) The prevention of hazards to human life, human functioning, and human well-being.

8) The promotion of human functioning and development within social groups in accord with human potential.

2. Developmental self-care requisites are associated with human developmental processes and with conditions and events occurring during various stages of the life cycle and events that can adversely affect development. There are 2 categories of developmental self-care requisites:

1) The bringing about and maintenance of living conditions that support life processes and promote the processes of development.

2) Provision of care either to prevent the occurrence of deleterious effects of conditions that can affect human development or to mitigate or overcome these effects from various conditions.

3. Health-deviation self-care requisites are associated with genetic and constitutional defects and human structural and functional deviations and with their effects and medical diagnosis and treatment. There are 6 categories of health-deviation self-care requisites:

1) Seeking and securing appropriate medical assistance in the event of exposure to specific physical or

biological agents or environmental conditions associated with human pathological events and states, or when there is evidence of genetic physiological, or psychological conditions known to produce or be associated with human pathology.

2) Being aware of and attending to the effects and results of pathological conditions and states.

3) Effectively carrying out medically prescribed diagnostic, therapeutic, and rehabilitative measures directed to the prevention of specific types of pathology, to the pathology itself, to the regulation of human integrated functioning, to the correction of deformities or abnormalities, or to compensation for disabilities.

4) Being aware of and attending to or regulating the discomforting or deleterious effects of medical care measures performed or prescribed by the physician.

5) Modifying the self-concept (and self-image) in accepting oneself as being in a particular state of health and in need of specific forms of health care.

6) Learning to live with the effects of pathological conditions and states and the effects of medical diagnostic and treatment measures in a life-style that promotes continued personal development.

The totality of self-care actions to be performed for some duration in order to meet known self-care requisites by using valid methods and related sets of operations or actions is termed the therapeutic self-care demand (Orem, D.E., 1980).

Nursing role in Self-care :

On the principle that nurses and/or patients can act to meet patients' self-care requisites, three basic variations in nursing systems are recognized:

1. Wholly compensatory nursing systems which have social and technologic dimensions related to the extremely restricted ability or inability of persons to manage themselves and to control environmental conditions. For the nursing viewpoint, nurses are not only major providers and manager of patients' self-care, they are also the makers of judgments and decisions about the self-care requisites of their patients and the designers of nursing care.

2. Partly compensatory nursing systems which is for situations where both nurse and patient perform care measures or other actions involving manipulative task or ambulation. The patient or the nurse may have the major role in the performance of care measures.

3. Support-educative nursing systems which is for situations where the patient is able to perform or can and should learn to perform required measures of externally or

internally oriented therapeutic self-care but cannot do so without assistance. Valid helping techniques in these situations include combinations of support, guidance, provision of a developmental environment, and teaching. There are a number of variations of their system. In the first, a patient can perform care measures but needs guidance and support. Teaching is required in the second variation. In the third, providing a developmental environment is the preferred method of helping. The fourth variation is in situations where the patient is the preferred method of helping. The forth variation is in situations where the patient is competent in self-care but requires periodic guidance that he or she is able to seek; in this variation, the nurse's role is primarily consultative (Orem, D.E., 1991).

According to Catherine's opinion (Connelly, Catherine Ecock, 1987), there are three main goals of nursing intervention in providing ambulatory care in chronically ill patients:(1) to stimulate and enhance effective self-care; (2) to reduce barriers to self-care and (3) to reinforce and support appropriate self-care by chronically ill patient.

PRECEDE Model and Self-care Behaviour :

PRECEDE model, a strategy for identifying health-related behaviours and determining appropriate educational intervention has been developed by Green et al. (1980). PRECEDE is an acronym for predisposing, reinforcing, and enabling causes in educational diagnosis and evaluation. Behaviours associated with health problems can be categorized according to the contributing factors. These factors are described as predisposing, enabling, and reinforcing. They form a component of the PRECEDE model (Fig.3) which classifies identifiable behaviours into specific units and uses these units for developing patient treatment and education plans. Identifying health behaviours and classifying their dimensions in terms of predisposing, enabling, and/or reinforcing factors makes the planning process more efficient and effective (Roenigk, Jr., Henry H., Maibach, Howard I., 1991).

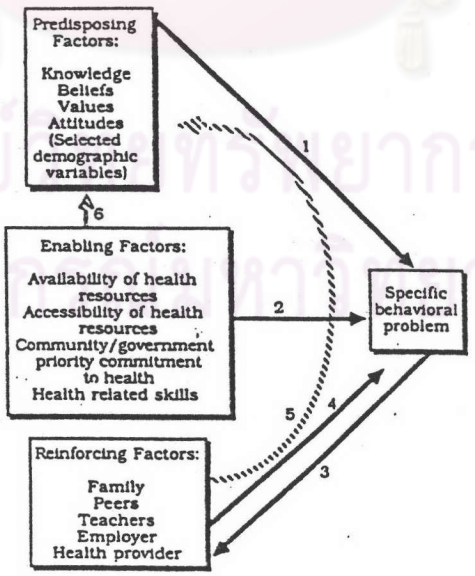

Figure 3. PRECEDE Model

The application of this model through self-care behaviour is initiative from Thavithong's article about further research upon self-care behaviour in one out of four suggestions concerning about economic and population factors influencing to decision making towards self-care behaviour (Thavithong, Hongvivatana, 1991).

Self-care behaviour in the prevention to trigger factors :

Trauma : The most frequent episode of scratch should be aware and insist of trying not to do. Any causes which induce itching must be avoided. The emollient to prevent dryness of the skin is advised to apply regularly. The reduction the chance of getting injured to the skin need to be concentrated.

Infection : The awareness of being low immunity which is risky to the infection should be emphasized. Enough food, rest, exercise and good sleep are the basic for preserve of healthy body.

Drug used : The administration of drug related to any symptom should be carefully ordered or used under the supervision of the physician particularly when the symptom of arthritis occurred.

Emotional stress : Knowing the way to spend the time in the daily life, seeking the right people to be consult, having some hobby for the spare time is needed to be concerned.

Related research :

Farber et al. had done the questionnaire survey of 2144 patients. They found that 40% of female and 60% of male psoriatic patients had ever had a remission period while B. Ramsay and Myra O' Ragan's survey found 55% had never had a complete remission (Ramsay, B., O'Ragan, M.A., 1990), (Faber, E.M., Bright, R.D., Nall, L.M., 1968). Neither of both surveys told us about self-care behaviour. R.G. Jobling's preliminary questionnaire study of psoriatic patients mentioned some of the patients' decision of self-care treatment with the response rate of 64% since 1975 (Jobling, R.G., 1976). J.A.Savin also did the survey among psoriasis patients about their believes in the causes and influences of disease but within few cases answers (58 cases) (Savin, J.A., 1970). Various studies about self-care behaviour and influencing factors had been published but those were not in case of psoriasis (Dean, Kathryn, 1989), (Segall, A., Goldstein J., 1989).