

Culture

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Article abstract

This article reports on the treatment of 10 non-native patients with psoriasis by a Cree Indian healer. The traditional treatment ceremony is described, and the changes in the course of the disease over a six-month period are documented using the patient's subjective reports of symptoms, outline tracings of selected lesions, videotapes and photographs. The study is unique in two ways: (1) it included a variety of documentary procedures seldom allowed by native healers and it was conducted under conditions that facilitated evaluation; and (2) to the researchers' knowledge, it is the first study of traditional native medicine with long-term follow-up of participants. Initially, all patients responded to the treatment, but by the sixth month improvement remained in only six patients. Difficulties encountered when conducting research on traditional healing are discussed and future research directions are indicated.

A Cree Indian Treatment for Psoriasis: A Longitudinal Study

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This article reports on the treatment of 10 non-native patients with psoriasis by a Cree Indian healer. The traditional treatment ceremony is described, and the changes in the course of the disease over a six-month period are documented using the patient's subjective reports of symptoms, outline tracings of selected lesions, videotapes and photographs.

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Initially, all patients responded to the treatment, but by the sixth month improvement remained in only six patients. Difficulties encountered when conducting research on traditional healing are discussed and future research directions are indicated.

Le traitement du psoriasis par un Indien guérisseur Cree est présenté. La cérémonie traditionnelle du traitement ainsi que l'évolution de la pathologie chez 10 malades, durant six mois, sont détaillées en utilisant des récits subjectifs de symptômes, circonscription de lésions, vidéos et photographies.

Les aspects distincts de cette étude sont les suivants: (1) l'inclusion d'une variété de procédures documentaires peu utilisées par les guérisseurs autochtones facilitant ainsi l'évaluation du traitement; et (2) selon cette chercheuse, cette étude de médecine traditionnelle autochtone comprenant une évaluation à long terme des participants est l'une des premières du genre.

Initialement, tous les participants ont répondu favorablement au traitement. Toutefois, après une période de six mois, une amélioration des symptômes n'était évidente que chez six des participants. Finalement, les difficultés rencontrées au niveau de la recherche dans ce domaine sont discutées en incluant également des suggestions de recherches futures.

The historical devaluation of traditional medicine has resulted in few studies examining the outcome of traditional medicine. Most of the research has focussed on the role of the shaman (Balzer, 1983; Bean, 1976; Lebra, 1982; Hultkrantz, 1985; Warner, 1976), the documentation and analysis of the healing ritual *per se* (McCreey, 1979), the reasons for the choice of a traditional or western practitioner (Kennedy, 1984; Finkler, 1981a) or the biochemical analysis of herbal remedies used (Holmstedt and Bruhn, 1983). This research has contributed to the efficacy of traditional medicine to the medicinal properties of the herbal remedies (e.g., Holmstead and Bruhn, 1983) and/or the placebo effect arising from the ritualistic component (Moerman, 1979; Vogel, 1970).

In spite of this interest in traditional healing, few studies have examined the effectiveness of traditional healing. Most of this work has examined mental illness (Jilek and Todd, 1974, Kleinman and Sung, 1979; Levy, Neuta and Parker, 1979) or culture-bound syndromes (Simons and Hughes, 1985). One exception is the work

by Finkler (1980, 1981b, 1985), who has documented the practice of Mexican spiritualist therapists, the type of clientele and illness treated by these therapists and the outcome of this treatment. In summary, Finkler examined 108 patients and made two follow-up home visits to determine the patients' compliance with treatment and treatment outcome. Measurements of this outcome included the patients' subjective reports of illness symptoms and the administration of the Cornell Medical Index in order to compare the presence and absence of symptoms. In this sample, 38 (35.3%) considered the treatment to be a failure, 28 (25.9%) thought the treatments successful, 21 (19.4%) were undecided and 21 (19.4%) could not be classified (Finkler, 1985).

The purpose of this article is to describe an interdisciplinary study of a Cree healer's treatment for psoriasis and to discuss how the nature of traditional medicine required modifications to the research design. This research differs from the work of Finkler in that the healer, a Woods Cree, asked to demonstrate his healing, not in his own setting, but in a medical clinic. The patients were not Cree Indians, but Anglo-Canadians who did not share (or know of) his cultural beliefs. The treatments and results were fully documented over time using video-tape, audio-recordings and photographs and the progress of healing was also monitored by physicians, who provided medical coverage for the healing sessions.

The Healer

The healer is a 36-year old Woods Cree Indian from Northern Alberta, Canada. It was recognized that as a child he had the gift of healing, and he inherited his grandfather's medicine bundle. He did not open this bundle until a few years ago, and since this time, he has sought out Cree medicine men for instruction. Although he treats about 400 patients per year, he describes himself as a specialist in skin diseases and migraine headaches and as one who is "still learning."

The healer became known to researchers at the University of Alberta because of his knowledge of traditional skin tanning techniques. In the process of videotaping these techniques (Young 1985), the healer revealed his healing ability and offered to cooperate if we wished to document his healing procedures. His reasons for wishing to participate were to demonstrate to the native young people and the medical profession that native medicine "works," has value and to obtain enough support to open a native healing clinic on the reserve.¹ This was a rare opportunity, since it is well known that native healers are extremely reticent to discuss or disclose information pertaining to traditional Indian doctoring which is conducted behind closed doors (Johnston, 1960; O'Neil, n.d.).

Photographs of skin diseases in a medical text were used so that the healer could identify the skin conditions he considered he could cure. Those identified were diabetic skin ulcers, eczematous dermatitis, psoriasis, rosacea and acne. Psoriasis was chosen for this research as it was considered medically low risk, was relatively common and the visible lesions enabled documentation of any changes in the condition during the healing process.

Psoriasis

Psoriasis is a skin disease of unknown etiology. In approximately one-third of the cases, there is a family history of psoriasis that suggests a genetic predisposition to the disease (Fry, 1984; Moschella, Pillsbury and Hurley, 1975). Psoriasis is also precipitated by increased emotional stress (Baughman and Sobel, 1970, 1971a, 1971b; Farber and Nall, 1974; Fava, Perini, Santonastaso and Fornasa, 1980; Shanon, 1979), trauma, endocrine factors (Moschella, Pillsbury and Hurley, 1975), drug therapy and climatic factors (Fry, 1984). The disease occurs in all populations, with the incidence varying from 1-6%, and it has low incidence (1-2%) in North American Indians (Baker and Wilkinson, 1979; Simons, 1949). Males and females are equally affected, and the disease onset is usually in the middle years.

The disease follows an irregular chronic course marked by remissions and exacerbations of unpredictable onset and duration (Moschella, Pillsbury and Hurley, 1975). The lesions are circumscribed, raised with sharply delineated borders, usually dark red in color and covered with silvery white scales. When the scales are removed, the area is red and moist with capillary bleeding points (i.e. 'Auspitz's sign' [Fry, 1984]). The lesions result from epidermal hyperplasia and dermal capillary derangements, with the number of germinative basal cells increasing. This results in upward proliferation of the dermal papilla and a shortened transit time for basal cells from the normal 28 days to three days. Healing usually occurs without scarring.

Lesions are usually located on the trunk, elbows, scalp and knees (Farber and Nall, 1974). Nails may be involved in 30% of the cases. Although many patients report itchiness, cracking and bleeding of the lesions, the disease does not impair general health. However, there is evidence that the appearance of the psoriatic lesions causes considerable impact on the individual's personal and social life, may restrict employment opportunities and cause shame, embarrassment, anxiety, lack of confidence and depression (Jowett and Ryan, 1985). These psychological problems and the accompanying skin discomfort are an incentive for the individual to seek treatment and to adhere to the treatment regime or to seek alternate therapy.

Medical treatments consist of the following therapies: bland emollients (such as vaseline petroleum jelly or mineral oil); keratolytic therapy (such as plastic occlusive dressings); corticosteroids, either topical or intralesional; coal tar preparations, including a coal tar shampoo for scalp lesions; ultra-violet light phototherapy, dialysis, and PUVA therapy (a type of photochemotherapy which uses psoralens and subsequent exposure to longwave ultraviolet light, UVA), and Anthralin or Methotrexate (Farber and Nall, 1974, 1984; Fry, 1984; Lowe, 1983; Schneidman, 1982). The disease usually commences in a localized region and becomes increasingly severe over several years duration. The disease is not considered "curable."

Research Design

Considerations: At the beginning of the study, none of the researchers had witnessed a healing ceremony, did not know what was involved, how long the ceremony would take or what the risks were for the participants. Therefore, a pilot study, treating two patients, was conducted between November and January, 1985. This permitted the healer to become accustomed to being observed and allowed the researchers to refine methods to measure the lesions. Organizing the main healing series, with 11 patients, was still difficult. Native patients were ambivalent about participating in a project that would reveal traditional secrets and refused to participate, and non-native patients, though anxious to be healed, were ambivalent about participating in traditional ceremonies that were not generally condoned by the medical profession. Finding a sufficient number of psoriatic patients willing to undergo native treatment procedures required extensive advertising in local Edmonton newspapers. The sample size was further limited by the numbers of patients that it was possible to treat in a healing session, which, with documentation of lesions, extended over three hours for 11 patients. It also required that the study be conducted in Edmonton, rather than the healer's home on the reserve, which was a five-hour drive north of the city. Those who participated were a self-selected group who had tried other therapies without success, and were willing to try Native medicine as a 'last resort.' Details of participants are included in Table 1.

Arrangements were made to conduct the study in the basement of a health clinic. The building had to be without a smoke alarm (due to smoke from the burning of incense) and menstruating women absent. Furthermore, treatment had to begin before the sun set (which is early, about 3:00 p.m. in winter in northern Canada), further limiting the availability of patients, many of whom were employed.

Although this setting put the healer at a disadvantage (as it required travelling to the city and working in an

alien environment), the arrangement also had its advantages. It made it possible for medical coverage to be provided in case of emergency and for the physicians to observe the treatment procedures and to evaluate the patients before and after treatment.²

Procedures: At the initial treatment, the physicians examined each participant and noted the extent of the disease. Documentation included the history of psoriasis and treatments previously used, the location and extensiveness of the lesions by drawing patches on an outline figure and photographing the skin lesions. To record the changing size of lesions, one patch was selected and its edges traced on clear plastic. The patients' subjective reports of the amount of skin irritation and changes in the lesions (such as the amounts of cracking, flaking and bleeding) were also recorded throughout the project.

All healing ceremonies were videotaped³ and tape recorded, and numerous photographs were taken. In addition, the healer was interviewed extensively regarding his beliefs, practices, treatments and procedures.

Following treatment at the clinic, the study was moved to an acreage near Edmonton so that the patients could take part in sweat lodge ceremonies. These two phases of the study, the clinical and the sweat lodge phases, took approximately six months to complete. The documentation was repeated at every treatment, and at the last session patients were again examined by the physicians and the amount of healing assessed.⁴ After completion of the treatment series, patients were reexamined every few weeks for the purpose of documentation.

Traditional Treatment

In Woods Cree, psoriasis is referred to as *yo me ne mit*, a term that also includes eczema. The same traditional treatment is used for both diseases. Explanations of causality were unclear, but the healer attributed the disease to a "deficiency in the blood" that might be caused by well water, an infectious agent, or something unknown. The individual wishing to be healed must request treatment from the healer. This is done formally with the presentation of a packet of tobacco (to open the doors of the spirit world and to replace those things that will be taken from nature and used to heal) and a yard of plain cotton cloth. The cloth "print" must be in one of the following colors: white (representing North or the Great Spirit), yellow (East and the eagle), red (South and the mouse), blue (West and the bear) or green (middle and Mother Earth).⁵

In preparation for the healing ceremonies, the room was purified by burning fungus, sage or sweet grass and walking the incense around the room three times. The smoke was used to purify the patients, the pipe, the cloths, the herbs and the medicine. The healer prayed in

Table 1: Description of Subjects

Subject ¹	Demographic Data		History			
	Age(yrs)	Sex	Duration	Previous ³ Location	Treatment	Phase ²
1	50	Male	10 yrs	Beard	Coal tar shampoo	Mild
2	41	Female	10 yrs	Elbows Trunk-ant. & post. Ears Legs & thighs	Halog Unguent	Intermed.
3	34	Male	12 yrs	Scalp & ears (R & L) Abdomen Fingernails Elbows Shins, knees	UV light Methotextrate	Intermed.
4	50+	Female	20 yrs	Ears (R & L) L Breast Elbows Perianal Scalp Axilla (R & L)	Halog Unguent	Severe
5	64	Female	10 yrs	R & L arm R & L leg L ankle	Halog Unguent	
6	39	Female	2-3 yrs	Scalp	Cortisone cream Coal tar shampoo	Intermed.
7	15	Male	10 yrs	Scalp Back Elbows Thighs & legs	Megavitamins UV light	Intermed.
11	45	Male	11 yrs	Scalp & face L chest & abdomen Elbows & arms R & L axilla Back, thighs & legs	Cortisone cream Coal tar shampoo	Intermed.
12	65	Male	4 yrs	Dorsal R & L hands	?Cream	Steady
13	48	Female	2 yrs	Arch L foot R & L leg	Halog Unguent	Intermed.

1 Subject numbers were assigned when inquiries were first made by potential subjects. As there were several "no shows," the numbering of subjects is not sequential.

2 Subjective evaluation of the severity of the disease by each patient at the beginning of the course of treatment.

3 R = right, L = left

Cree and requested assistance from the bear, buffalo or the eagle spirit. Then, the pipe was passed three times around the circle of participants. All actions were carried out in a clockwise direction to signify harmony with nature and the direction that the sun travels around the earth. The healer prepared himself for the healing by chewing a bitter herb which he then rubbed onto his hands and face. This forms "invisible gloves" that protect him from the disease and transform his hands so that the Great Spirit can work through him.

During the healing ceremony patients stood on the print (i.e., cloth) they had presented to the healer and faced the direction indicated by the color of the cloth. Tobacco was sprinkled in a circle around a patient, and the incense was also passed three times around. The healer then applied the lotion to the lesions, again working around the body three times in a clockwise direction. As he worked, he constantly talked to the person receiving the treatment, stating that this solution would kill the disease and that he/she soon would be

healed. The patients were given an herbal tea whose purpose is to purify the blood and drive the disease to the surface of the skin where it can be killed by the lotion. This cleansing of the body is supposed to trigger the body's own defenses so that the body can take over the healing process.

At all times, the healer stressed that although sincerity on the part of the healer and faith on the part of the patient are necessary it is the Great Spirit that does the healing (Young, Morse, Swartz and McConnell, n.d.). Patients were warned that the disease might "flare up" and that this would be the Great Spirit testing their faith.

After the treatment, the tobacco which had been sprinkled around a patient was shaken to the center of the cloth and tied in a bundle. This cloth, representing to the spirits the disease of the patient being doctored, was then taken to the reserve and tied on a tree. From there, disease is destroyed by natural forces such as fire, wind or decay. As the cloth decays or is destroyed by fire, the disease is carried away in the wind. Patients were given some lotion to apply at home (at least once daily) and some herbs to brew with tea. They were instructed to take the tea several times each day.

Sweat lodge ceremonies were conducted every several weeks to elicit the spirits' assistance with the healing and to open the pores. Lotion was applied following the ceremonies. Throughout the treatment period, the patients' progress was monitored by the healer who inspected the lesions every few weeks and reapplied lotion. After several weeks and when progress of some patients with severe psoriasis was less than

expected, the eagle ceremony was performed. For this ceremony, the wings of an eagle are moved ceremoniously around the patient to "shake off" the disease.

Although some healers accept gifts when the patient initially requests treatment, in this study, healing was completed with a gift-giving ceremony. The patient was instructed to reflect on the personal worth of the treatment: to overvalue or to undervalue the treatment might result in resentment or regret, which in turn might cause recurrence of the symptoms.

Results of Treatment

Two subjects were involved in the pilot study and 11 subjects in the main study. As one participant withdrew very early in the treatment, we will report on 10 subjects in the main study. The stages of disease of participants are described in Table 1. The course of the disease for each participant during treatment is shown in Table 2.

The treatments had observable effects on the lesions: the herbal lotion stung the lesions and initially made the lesions appear to redden. Most patients experienced an immediate reduction in the amount of itching and reported that the lesions felt thinner and less "pickable," that they no longer bled or cracked, and that there was a dramatic reduction in the production of scales. After several weeks, the patients reported that affected areas felt more flexible and more like normal skin. As shown in the examples in Figure 1, healing began with the large plaques breaking into smaller "islands."

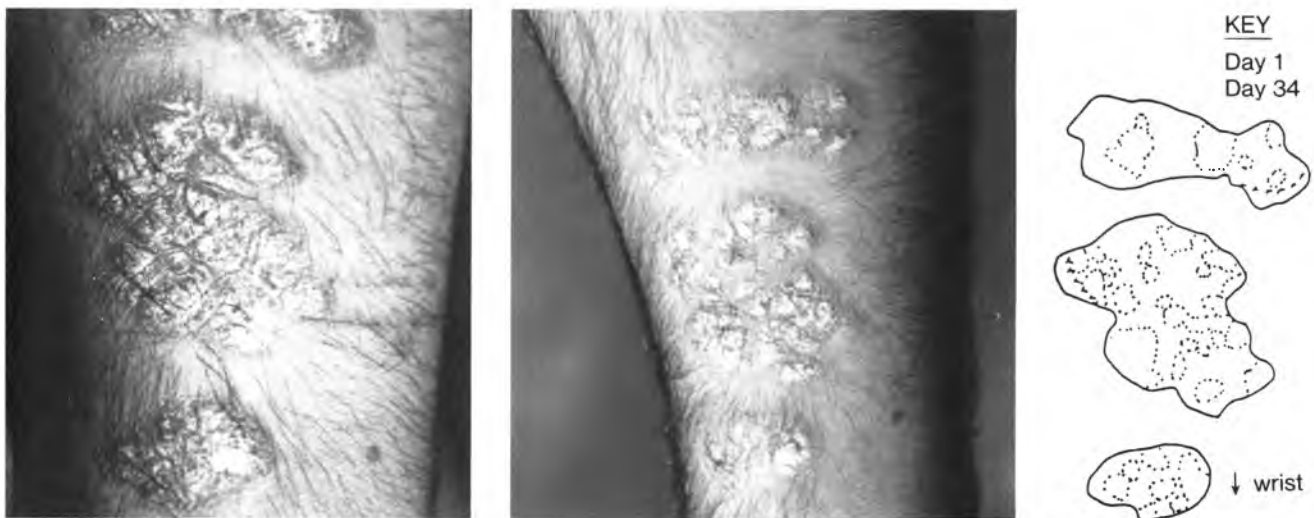


Figure 1: Photographs and outline of lesions, right arm, day 1 and day 34 (subject #3).

Table 2: Course of Disease During Treatment

Subject # ¹	Week 1 ²	Week 2	Approximate Time Week 4	Week 22	Physicians' Evaluation
#1	↓ itch After 3-4 days a new spot appeared L inner arm	↑ itch	New patches on arm & corner of each eye	Returned to coal tar shampoo	No change
#2	Still some itching Lesions thinner, Paler, Less crusting	No itching Lesions feel Thinner, softer Edges gone L ear dry R ear healed	Arms 'islands' Back-dry & scaling Elbows-healed ++ Legs-R calf itching raised & scaling L ear scaling ++ R ear healed, rough skin only	All lesions slowly getting thinner and flexible Color more like normal skin	Improved
#3	Very dry No bleeding or cracking Thinner, Edges gone	Edges healed Itching gone Some islanding Less crusting	Dry Still crusting	Areas raised Crusting	No change
#4	↓ itch Lesion flatter New area on wrist	Itching + Flutter, not crusting Lesions pinker	Drier behind ears L breast-flat, red-shiny Elbows-healed, rough skin only	Pt discouraged Scalp worse Condition same as first visit	No change
#5	No itching	Same color, Feels hot Flutter	Old lesions almost healed New spots behind knee and R chin	Suddenly became worse ↑ areas on thighs & legs Small area L cheek 2 small new areas center back	No change
#6	↓ itching Less crustiness One area seems worse	Area on front of scalp ↓ Itchiness returns if lotion not used	Front scalp healed Flaking & itching on occiput New spot L shoulder & post L knee	Improved 1 lesion on hairline	Improved
#7	Areas smoother No crusting	Elbows-red, smooth & flat Lower legs healed Back-rough skin only	Arms-new areas Thighs healed Scalp-some dry itching areas	Elbows-healed, rough skin only Scalp-small flaking areas Back-flaking, pink and rough	Improved
#11	Dramatic improv. Healing evident on face and cheeks L chest thinner & drier ↓ itching & flaking	Lesions on legs ↓ 50% No Bleeding Lesions dry	Flaking & scaling on scalp. Face clearing, none in beard. Ears healed. Legs raised red flat areas. Areas ↓ in size Itching less	Still some crusting on scalp Excellent reponse on face & back Backs of legs paler, thinner lesions	Improved
#12	Still red	Less red	Some dryness Patches of redness Skin resuming normal appearance	Much improved Skin color almost normal	Improved
#13	Feels flatter thinner new patches less itchy, pinker new patches on leg		Area almost healed small pink area remains some dry skin small red spot	Healed except for one small spot few area inside thigh	Improved

1 Pilot cases omitted

2 Key: ↓ = decreased, ↑ = increased

R = right, L = left

+ = slight, ++ = moderate, +++ = severe

In some patients, the lesion occasionally spread or increased in redness, but this area was not raised or thickened as was the original lesion. As the lesions became thinner, the edges flattened and merged with normal skin, and the lesions could not be outlined. The redness of the lesions was gradually reduced to pale pink and then to the color of the surrounding skin.

Healing occurred most rapidly at the beginning of the treatment. For those whose treatment was considered "successful," healing continued slowly throughout the treatment period, while on others the healing process slowed as the condition reverted to the original state. It is also important to note that the healing of the lesions was not uniform over the entire body. For example, healing for Subject #11 was most dramatic on the face and legs (Figure 2), while lesions on the abdomen were relatively resistant to healing, and the elbows of Subject #4 improved dramatically, while the wet psoriasis behind the ears improved only temporarily. In the case of Subject #5, while existing lesions were healing, small lesions would appear on new areas.

The effect of the herbal tea alone could not be assessed, but biochemical analysis showed that it contained antibacterial properties.⁶ There did not appear to be any adverse effects from the herbal tea other than the complaint of one participant that it made her stomach "gassy". Wild goose grease, which was applied to areas which were largely cleared, was absorbed rapidly into the skin and prevented dryness and cracking of the lesions.

The main observable effect of the sweats was to remove the plaques or scales which could be seen hanging or peeling off immediately afterwards (see Figure 3). The healer preferred to apply the herbal lotion at this time, when "the pores were open."

At the end of six months, the patients were again examined by the physicians. Four subjects were considered to have no change in their lesion or to be healing within normal variation (i.e., subjects' #1,3,4 and 5), and the remainder of the subjects were considered to be greatly improved (i.e., subjects #2,6,7, 11,12 and 13).



Figure 2: Healing process on legs, day 1 and day 141 (Subject #11).



Figure 3: Subject #3, chest. Skin lifting off after sweat.

Discussion

This descriptive study of the Cree Indian ritual and therapy for psoriasis is unique. To the researchers' knowledge, this is the first study of traditional medicine with long term follow-up of participants. However, the small sample size and lack of control do not permit evaluation of treatment, and the results of the treatment should be considered as 10 case studies.

In this light, the healer was disappointed that only six of the ten patients improved, as he claimed that in previous experience with native patients, permanent cures were achieved, and in a shorter period of time. The difficulty in evaluating the treatment is compounded in this instance by the nature of psoriasis that tends to get better in the summer and worse in the winter (Baker and Wilkinson, 1979), psoriasis frequently gets worse in periods of stress and improves when the stress is reduced (Baughman and Sobel, 1971b). Moreover, the Cree healer's treatment is less effective than conventional methods of treatment (topical and systemic) which normally result in 80-95% clearance of symptoms (Baker and Wilkinson, 1979; Fry, 1984). It should be pointed out, however, that the effectiveness of contem-

porary treatments for psoriasis is usually regarded as a state of temporary remission since medical personnel believe that there is no absolute cure for the disease. There is consensus among researchers that "relapse is the rule, however completely the lesions are treated and by whatever the method" (Baker and Wilkinson, 1979:1337). Therefore, despite the cyclical nature of psoriasis, if the disease does not flare in the six patients who best respond to treatment, this will be further indication of the healer's methods.

It should also be noted that the rate of improvement might have been higher were it not for artificial constraints placed upon the study. For example, the healer was not working in his normal context and the subjects did not share the same culture as the healer, so any placebo effect stemming from the religious aspects of the treatment would be less pronounced (Young, Morse, Swartz and McConnell, n.d.). The healer reported having to "pray harder" in the clinic and noted that healing would have been easier in a tipi outside, closer to nature.

A methodological problem in the study was the measurement of the severity of the disease. Although

subjective patient reports of the severity of the disease have been used previously (Baughman and Sobel, 1971a, 1971b) and are used by physicians to measure progress when evaluating therapy, more sophisticated quantitative techniques, such as histogeometric measures of tissue changes, are available (Soltani and Van Scott, 1972). These more objective measurements should be included in future research.

The results might have been more impressive were it not for the lack of adequate herbal medicine. The research commenced in the winter when fresh supplies of herbs were not available, and the healer reported having insufficient stock for so many patients. The quality of the lotion also may have varied. One herbal solution was not brewed long enough and was too weak. This resulted in an acute shortage of medicine for two weeks until another batch could be prepared. Furthermore, the lotion smelled offensive, and only the most committed subjects used it constantly. The smell was so strong (and persisted in spite of washing) that in the pilot study one participant tried to remove the odor with tomato juice, thereby exacerbating the lesions, and another reported that he was sent home from work on sick leave until the treatment was completed. With this type of naturalistic research design, the quality of the medicine and compliance of the subjects could not be monitored, but when the subjects confided that they did not use the lotion as often as directed because of the smell, this was documented.

One difficulty in assessing the results of treatment is lack of information about the ingredients in the medication used by the healer. Although the tea consists of a single herb brewed in water, the herbal solution applied to the skin is a combination of approximately eight herbs simmered together and allowed to sit over a period of several days to three weeks. Although some of the ingredients are known to the researchers, we do not have precise knowledge of all ingredients or how they are combined. This is because native medicines are frequently passed down in medicine bundles from one generation to the next and may be considered sacred or privileged information, not to be shared with outsiders. The healer was also concerned that if herbs are identified and their usage specified, they might be harvested to extinction. The healer did, however, allow the herb that was used in the tea to be analysed by chemists at the University of Alberta in order to demonstrate that native medicines are not merely placebos. Chemical analysis confirmed that the herb contains a relatively powerful anti-bacterial agent.⁶

Related to the problem of identifying the herbs used is the problem of specifying their effects. Ayer and Browne (n.d.), in a discussion of modern drugs derived from plants, have suggested that in addition to active ingredients which may play a role in controlling disease, herbal remedies may also contain biologically-active

compounds with undesired side-effects. This problem is compounded by the inability to precisely control drug dosage. In this study, however, harmful side-effects were not observed.

The final difficulty was with the research design, which was a compromise between obtaining participants and conducting the study in an alien environment or not conducting the study. The researchers recognize that moving the research site into a clinic away from the healer's setting was a violation of the assumptions in the ethnographic method⁷ and may have affected the healer's ability to cure. Further, in order to evaluate the efficacy of the treatment, additional research using experimental design and a large sample is needed. As well as having a control group composed of non-native patients who are not treated, it would be particularly valuable to have two groups of native psoriatic patients: one which receives treatment and one which does not. Further, comparison with other therapies would be interesting. However, setting up such experiments poses immense difficulties and expense. In the meantime, the present study, despite its limitations, should contribute to the present void noted in the medical anthropological literature concerning the mode and outcome of traditional therapies.

NOTES

1. Note that the goal of the healer (i.e., to demonstrate efficacy) differed from that of the researchers who were primarily interested in description.

2. There was some opposition to the project: the physicians were concerned about legal liability in such a situation and, the University, which provided a seed grant for this project, was severely criticized by a medical dermatological association for supporting quackery.

3. Videotape coverage of the project was provided by the Department of Radio and Television at the University of Alberta. Video footage was edited into two documentary video cassettes: *The Psoriasis Research Project* documents the healer's treatment procedures, both medicinal and ceremonial. In *A Cree Healer*, the healer talks about traditional native medicine and the controversies he has encountered in permitting scientific documentation of his methods. Both video documentaries can be obtained from the Project for the Study of Traditional Healing Practices, c/o Department of Anthropology, University of Alberta, Edmonton, Canada T6G 2H4.

4. This evaluation was conducted by two physicians. As there was no control group in this study (due to the difficulty in obtaining the necessary number of subjects) the physicians knew that all participants had received treatment. The evaluation followed standard medical procedures.

5. There are no references in the literature to the color and animal symbolism associated with directions. Although the principles are the same as those used by most Native groups, the symbols used differ.

6. Preliminary analysis of the herb by chemists at the University of Alberta indicates that it possesses strong antibacterial activity against Gram positive (e.g., *S. aureus*, *P. vulgare* and *P. aeruginosa*) and Gram negative (e.g., *E. Coli.*) bacteria. Antifungal and antiviral tests are currently under way.

7. For a discussion of this problem, and differences in the research paradigms used by the medical and the anthropological professions, see Morse, McConnell and Young (n.d.).

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