

The Relationship between Self-Image, Interpersonal Relationship, Social Support, Psychological Well-Being and Hope among Hansen's disease Patients

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Abstract

The purpose of this study was to identify the relationship between self-image, interpersonal relationship and psychological well-being of persons affected by Hansen's disease through curve estimation of simple regression analysis. The results of the study firstly indicated that the communication, openness and understanding had a lower linear increase than 45 degree slope with increasing self-image. Despite the U shape increase of satisfaction and friendliness, confidence and susceptibility had an increased inverted U-shape showing a difference in the type of change. Second, positive well-being had an increase of < 45 degree slope with increasing self-image but as negative well-being increased in an inverted U-shape with the increase in self-image, it started decreasing after reaching the 3 points peak of self-image.

Keywords: Interpersonal Relationship, Psychological Well Being, Persons Affected by Hansen's Disease, Self-image

1. Introduction

As of January 2014, there were 11,805 leprosy patients in Korea of which, 9,040 were disabled (including 5,275 people with severe leprosy of 2nd degree or higher), 249 were relapse patients and with a relapse history, and 210 were active patients. The patient average age is 72 years old and they are rapidly becoming an aging population¹ with 87% belonging to the ≥60 years age group, as compared to total subjects. Furthermore, the average age of lepers residing in nursing homes and living facilities accounts for 92% of total subjects. Nursing leprosy patients requires professional mental, physical and psychological care, as well as disease treatment.

Leprosy patients live as a minority group targeted by prejudice and discrimination from society. The prolonged prejudice and negative view of leprosy, causes even recovered patients to live in isolation from the society due to physical disability and social stigma. Anxiety and fear of

the distorted view of the rest of the population causes an avoidance of social activities. Leprosy patients who are unmarried or childless due to castration have lifelong difficulties². Such harsh reality causes a social and psychological crisis called 'integration and despair', which increases in old age leading to despair and frustration^{2,3}. The sense of crisis and loneliness is increased in old age, as compared to the normal elderly population causing a vicious cycle of more severe loss and helplessness.

Meanwhile, self-image is a very important element for living a happy life. Rosenberg⁴ argued that typically self-esteem resulting from elements of inner image, particularly a desire to think better of one's self is the driving force of self behavior and is thus a leading indicator of psychological well-being. The most important condition for a beautiful and happy life is a healthy ego regardless of age. A healthy self-image although a challenge to acquire is an ongoing process from childhood to old age and ultimately improves the overall quality of life⁵.

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Image is a very important element for subjective evaluation in modern society⁶, since once formed, image has the characteristics of gradual self-reinforcement⁷, and requires ongoing conscious management in any relationship^{8,9}. As the importance of image is increasing in the modern era of an aging society, building a generation-wide positive image has become a challenge of the time⁹.

Complexity of leprosy patient lifestyles is characterized by very low self-esteem due to anomalies of appearance and psychological withering¹⁰. They also have a tendency for negative interpersonal relationships because many of them have an anomalous physical image. Interpersonal relationships are formed positively or negatively depending on subjective judgment arising from projected impressions and thoughts from others¹¹. Since human life consists of varied and endless interpersonal relationships, if these are not satisfying and effective alienation and loneliness often result. Therefore, harmonious interpersonal relationships are essential for a happy and prosperous life¹¹⁻¹⁴. Interpersonal relationship between family and intimate friends is particularly important to the elderly because if they cannot solve the interpersonal relationships within their surroundings, stress grows heavier¹⁵. Healthy interpersonal relationships of the elderly does not merely mean the absence of interpersonal problems but can reflect mental health, thus forming positive interpersonal relationships during old age is essential to an improved quality of life¹⁶. Society's negative image of leprosy patients must be reversed to correct distortion and misunderstanding¹⁷. Studies related to self-image have shown that building positive self-image is required for improved quality of life in old age^{15,18-20}. The body²¹⁻²⁴ and self-esteem²⁵⁻²⁷ are jointly configured as sub-factors of self-image.

Therefore, the purpose of this study was to identify the relationship between self-image, interpersonal relationship and psychological well-being of leprosy patients through curve estimation of simple regression analysis as a data base for intervention strategies to improve patient quality of life.

2. Study Method

2.1 Study Subjects

For the subjects and regions of this study, sampling was conducted based on the convenience of the survey and difficulty of the questions, among hospitalized patients

and outpatients of Korean Leprosy Welfare Association's research institute and outpatients in the Deleon and Hungnam regions that consisted of 26% home, 30.2% settlement plantation, 28.8% Sirocco National Hospital and 14.6% living facilities. For settlement, farms and living facilities, one settlement farm each, located in Jenna and Jeonbuk, and the living facilities of St. Lazarus Village and Evergreen Social Welfare Center were selected for the survey. There were a total of 410 leprosy patients included in the analysis.

General characteristics of lepers showed 217 (52.9%) females and 193 (47.1%) males suggestive of a higher response rate among females than males. There were 169 (41.2%) patients in the 70's age group, 88 (21.5%) patients in the 60's age group, 40 (9.8%) patients in the 50's age group, and 19 (4.6%) patients in the 80's or higher age group, indicative that aging was directly reflected in the survey. The marital status showed 182 (44.4%) married patients, 141 (34.4%) widowed patients, and 46 (11.2%) divorced and separated patients. The level of education showed that elementary graduates were the highest with 115 (28%) patients, 97 (23.7%) patients with no education, 83 (20.2%) patients with self-study of Korean and 70 (17.1%) patients who were middle school graduates, suggesting that they all had relatively low levels of education. For religion, Christianity was the highest accounting for 206 (50.2%) patients, and Catholicism accounted for 161 (39.3%) patients. There were 245 (59.8%) patients without a spouse and 165 (39.3%) patients with a spouse. For the number of children, none was the highest accounting for 127 (31%) people, 105 (25.6%) patients had 2 children, 90 (22%) patients had 1 child, and 88 (21.5%) patients had 3 children or more, showing a trend towards no children from castration or giving up marriage due to leprosy. For the number of meetings with the family, none had the highest which accounted for 112 (27.3%) patients, 1~3 times in 109 (26.6%) patients, 10 or more in 91 (22.2%) patients, and 4~6 times in 64 (15.6%) patients, reflecting that there were many patients who were disconnected from the family when they had no children.

For residential facilities, nursing homes and community facilities had the highest representation accounting for 260 (63.4%) patients, single home for 90 (22%) patients, and apartments for 37 (9%) patients. For economic status, those having 1 million won or less were the highest accounting for 298 (72.7%) patients, 100 to 300 million won for 68 (16.6%) patients, and 300 to 500 million won for 32 (7%) patients. For the survey on leisure time, those

that answered 'work on small chores at home' had the highest, which accounted for 208 (50.7%) patients, 'goes to senior homes' accounted for 81 (18.8%) patients, 'work in religious groups' accounted for 70 (17.1%) patients, and 'provide social services' accounted for 21 (5.1%).

2.2 Survey Tools

2.2.1 Self Image

The self image scale of this study consisted of self-esteem, appearance orientation of the body image and appearance evaluation. The 'Self-Esteem Scale: SES' developed by Rosenberg²⁸ was used for self-esteem. This scale consists of 5 positive questions such as self-value, character, confidence and self-esteem, etc, and 5 negative questions such as a sense of defeat, worthlessness and self-depreciation, etc, where the answers were measured using a 5-point Likert scale of 1 being 'not at all' to 5 being 'strongly agree' and higher the score means higher the self-esteem. In this study, the reliability excluding those questions that degrade the reliability was Cronbach's $\alpha=0.627$ which was relatively low.

The body image scale was developed by Cash²⁹ and consists of 15 questions including 10 questions on appearance orientation and 5 questions on appearance evaluation, where the answers were measured using a 5-point Likert scale of 1 being 'not at all' to 5 being 'strongly agree' and higher the score means higher the body image.

The reliability of this study showed Cronbach's $\alpha=0.819$ for appearance orientation and Cronbach's $\alpha=0.589$ for appearance evaluation with the total reliability of Cronbach's $\alpha=0.810$ showing a very low reliability on the appearance evaluation in the patient characteristics.

2.2.2 Interpersonal Relationship

In order to measure the interpersonal relationship, "Relationship Change Scale" developed by Schlien and Guernsey³⁰ was used. A total of 25 questions, consists of 4 questions on satisfaction, 4 questions on communication, 3 questions on confidence, 3 questions on friendliness, 2 questions on susceptibility, 5 questions on openness and 4 questions on understandability. The 5-point Likert scale means higher scores reflecting higher interpersonal relationships. The reliability of this study showed very high Cronbach's $\alpha=0.926$. However, for each sub-factor showed Cronbach's $\alpha=0.412$ for satisfaction, Cronbach's

$\alpha=0.498$ for susceptibility and Cronbach's $\alpha=0.513$ for confidence. Since fewer the number of questions lower the reliability³¹ and considering the loss of information, the questions were used without deletion.

2.2.3 Psychological Well-Being

For the psychological well-being scale, the Bradburn's³² classification model of positive well-being and negative well-being modified and supplemented by Sung Yong Hwang³³ was used. With a total of 25 questions, psychological well-being consists of 10 positive well-being, which includes 3 questions on past satisfaction, 5 questions on current satisfaction and 2 questions on future satisfaction, and 15 negative well-being, which includes 3 questions on alienation, 4 questions on frustration, 4 questions on social disconnection and 3 questions on loss of role. The 5-point Likert scale means higher scores reflect higher positive well-being and negative well-being, and the reliability for positive well-being was Cronbach's $\alpha=0.853$, negative well-being was Cronbach's $\alpha=0.907$ and the total reliability was Cronbach's $\alpha=0.744$.

2.2.4 Data Analysis

The data of this study was analyzed using a frequency analysis, correlation analysis and curve estimation of simple regression based on SPSS PC+ Win. 21.0 program.

3. Resultss

3.1 Correlation between Variables, Mean and Standard Deviation

Bivariate correlation analysis of Pearson for identification of the correlation between selected variables in this study, self-image, interpersonal relationship and positive well-being had a significant positive correlation but partially showed a significant negative correlation with the negative well-being. Based on the frequency analysis, self-image was the highest in appearance evaluation and the interpersonal relationship was the highest in understanding. Next, positive well-being was higher than the negative well-being.

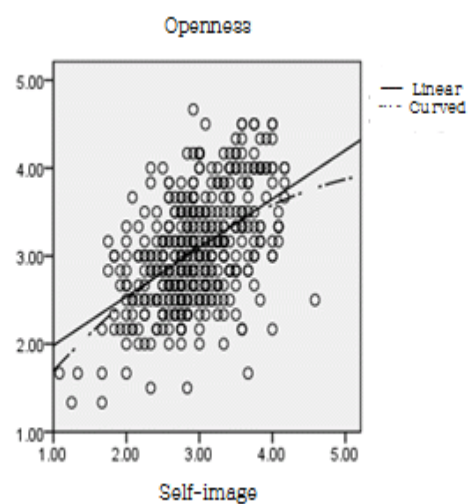
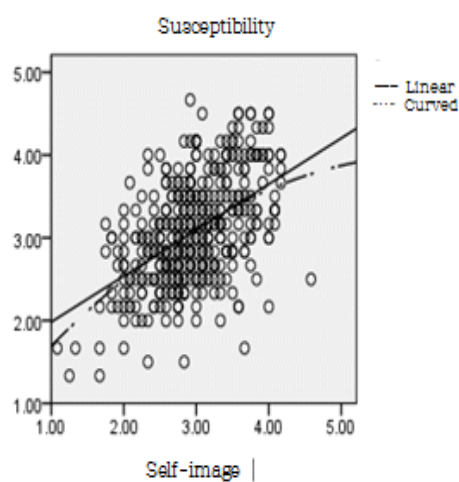
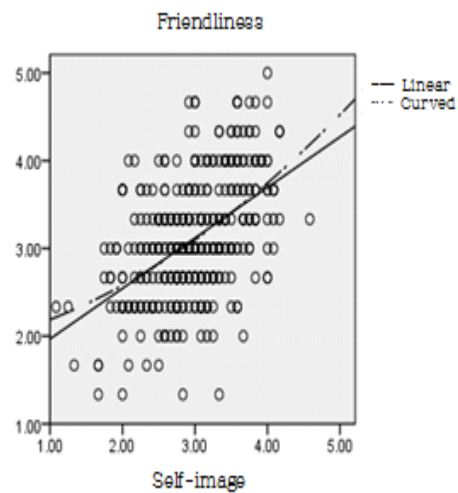
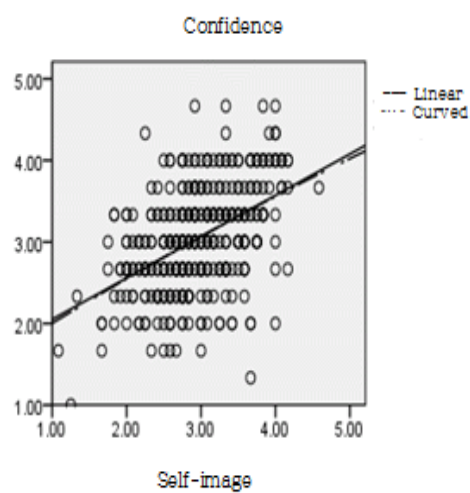
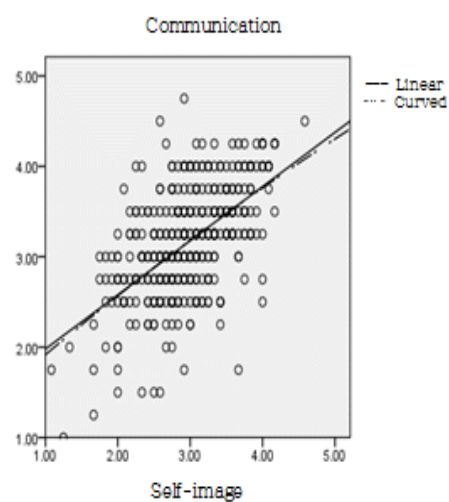
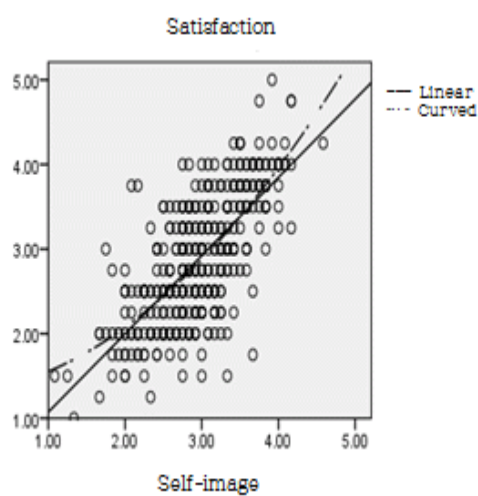
3.2 Changes in Interpersonal Relationship, and Psychological Well-being according to the Self-image of Leprosy Patients

Table 1. Correlation between variables, mean and standard deviation

	1	2	3	4	5	6	7	8	9	10	11	12	M	SD
1	1												2.9515	.47201
2	.503**	1											2.9988	.59313
3	.055**	.380**	1										3.1746	.63117
4	.821**	.517**	.125*	1									3.0159	.61142
5	.393**	.530**	.266**	.453**	1								3.1561	.60511
6	.298**	.442**	.206**	.354**	.560**	1							3.0463	.62090
7	.332**	.531**	.228**	.372**	.594**	.527**	1						3.0984	.67099
8	.353**	.530**	.325**	.407**	.587**	.524**	.504**	1					3.1622	.76756
9	.409**	.589**	.257**	.452**	.673**	.669**	.697**	.571**	1				3.0288	.64883
10	.371**	.619**	.315**	.419**	.719**	.553**	.630**	.650**	.689**	1			3.2000	.67839
11	.482**	.564**	.184**	.487**	.459**	.384**	.396**	.442**	.453**	.494**	1		2.9120	.52788
12	-.442**	-.333**	-.088	-.307**	-.229**	-.196**	-.187**	-.265**	-.195**	-.217**	-.304**	1	2.7317	.58406

1. Self-esteem, 2. Appearance orientation, 3. Appearance evaluation, 4. Satisfaction, 5. Communication, 6.Confidence, 7. Friendliness, 8. Susceptibility, 9.Openness, 10. Understandability, 11. Positive wellbeing, 12. Negative wellbeing.

*p<.05, **p<.01



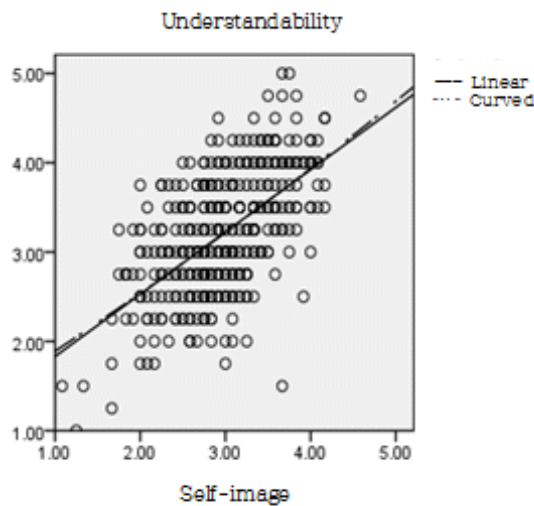


Figure 1. Relationship between self-image and interpersonal relationship.

Curve estimation of simple regression analysis to identify the type of change in interpersonal relationship according to the self-image of patients, showed a significant linear and curved relationship. After comparing the explanatory amount through R^2 value of relationship, among the 7 sub-regions of interpersonal relationship, satisfaction, confidence, friendliness, susceptibility and openness had a higher R^2 value of curve relationship but R^2 value of relationship for communication and understandability

was the same. Therefore, the communication and understanding were explained by linear relationship and the other sub-regions were explained by curved relationship. As a result, the communication and understandability had linearly lower increase than 45 degree slope, and despite the U shape increase of satisfaction and friendliness, the confidence, susceptibility and openness had an inverted U-shape increase showing a difference in the type of change.

Curve estimate of simple regression analysis was conducted to identify the changes of psychological well-being according to the self-image of patients. Since the curve, relationship of positive well-being and linear relationship had the same R^2 value it was explained in linear relationship but the R^2 value of negative well-being had a higher curve relationship, hence this was used for the analysis. As a result of analysis, the positive well-being had a lower increase than 45 degree slope as the self-image increased but the negative well-being had an inverted U-shape increase as the self-image increased.

4. Discussion and Conclusion

First, satisfaction, confidence, friendliness, susceptibility and openness among the interpersonal relationship according to self-image of leprosy patients were well explained by a curve relationship but the communica-

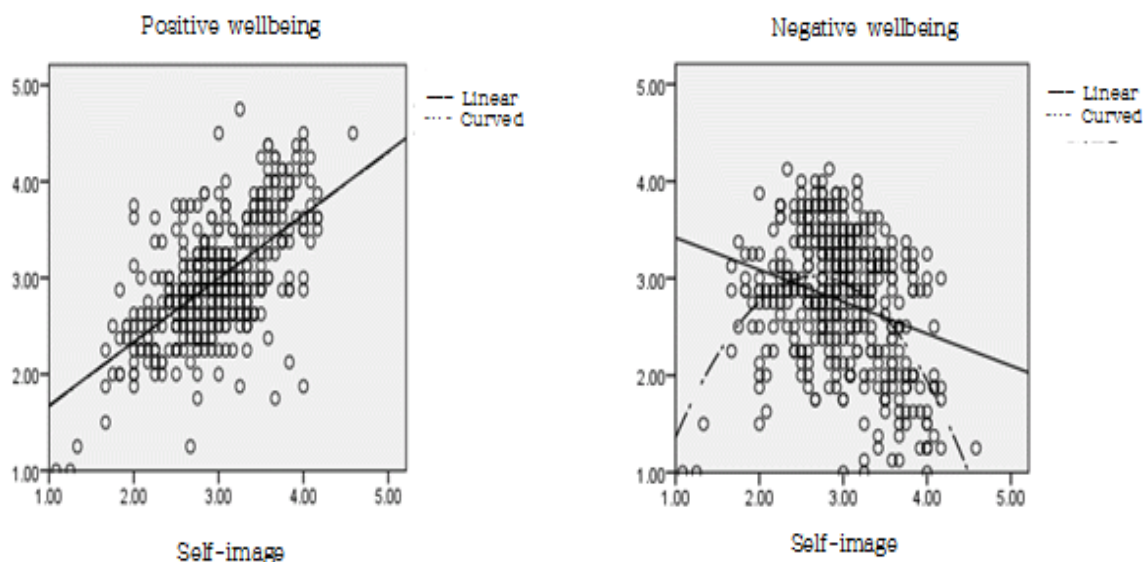


Figure 2. Relationship between self-image and psychological well-being

tion and understanding was well explained by a linear relationship. As a result, the communication, openness and understanding had linearly lower increase than 45 degree slope as the self-image increased, and despite the U shaped increase of satisfaction and friendliness, the confidence and susceptibility had an inverted U-shape increase showing a difference in the type of change.

Second, the changes of psychological well-being according to the self-image of patients were best explained through linear relationship for positive well-being and curved relationship for negative well-being. In other words, the positive well-being had an increase of less than 45 degree slope as self-image increased but as negative well-being increased following the inverted U-shape according to the increase of self-image, it started decreasing after reaching the 3 points peak of self-image.

These results had the following indications. First, because the average patient age was 72 years old, it was difficult to obtain the survey and moreover, we were forced to accept the loss of information since unreliable questions were deleted from the survey tools. Future survey should be more vitalized to supplement the current data. Second, since most of the studies related to leprosy patients deals with medical approach related to leprosy, past history and epidemiology should be considered in future studies on patient well-being. Third, influencing factors should be identified by comprehensive studies on the major factors that influence the patients' psychological well-being, and by actively considering known influencing factors; future programs designed according to patient characteristics should be developed and mediated using a variety of educational tools.

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