Key Concept : Health promotion program, rheumatoid arthritis

Analysis on Effect of Health Promotion Program for the Patients with Rheumatoid Arthritis

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I. Introduction

1. Importance of Study

The prevalence of rheumatoid arthritis was over 1 % of all the population (Lee et al., 1997). Since rheumatoid arthritis is one of the major diseases resulting in disability, it gives a psychosocial burden to the patient's family who provides care. It also gives burden to the national economy since the patient can not participate in economical activities normally for a long period.

Several studies (Oh, 1993; Oh & Kim, 1997; 1998; Lee et al., 1997) have shown that health promotion intervention enhances the physical and psychological performance of the patients with rheumatoid arthritis, and that it also decreases their pain. It was also reported that health promoting behaviors and/or life-styles need to be taught to maximize the effect of medical treatment for patients with RA and that the contents and domains of health promotion program must be comprehensive to enhance the quality of life of the patients with rheumatoid arthritis (Oh & Kim, 1999).

Oh & Kim (1999) developed comprehensive health promotion program for RA (CHPPRA). The CHPPRA was based on a need-assessment which was conducted on interviewing 153 RA out-patients at rheumatoid clinic of university hospital in Seoul, in 1996 (Oh & Kim, 1999). The program approaches holistically to physical, psychological, and social dimensions of health. The program included strategies for changing three domains of cognition, environment, and behavior of patients.

The methods to achieve the desired objectives for CHPPRA and evaluation subjects are as follows :

(1) In CHPRRA, knowledge on management of arthritis, efficacy related to arthritis management, skill for pain management, skill for exercise, establishment of positive self-concept, enhancement of positive thinking, stress management, skill for problem solving, skill for setting goals, skill for requesting help, and skill for communication are all included. Through the improvement of all those strategies, intermediate objectives,

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such as "joint protection, and maintenance of pain management behavior", "maintenance of regular exercise", and "promotion of coping skill in psychosocial dimension" are achieved.

(2) These intermediate objectives are also the methods for achieving objectives in next stage. It implies that through the intermediate objectives, the final objectives such as "minimization of physical symptoms and signs", "maximization of psychosocial function" could be achieved. Each of these final objectives reflects the different dimension of quality of life, respectively. When these objectives are achieved, the quality of life that client perceives is improved. Therefore, through evaluation of these final objectives, the level of achieving final outcome of arthritis health promotion such as quality of life is determined. This study was designed to demonstrate the feasibility of the CHPPRA.

2. The Purpose of Study

This study aimed to examine the effect of the implementation of the CHPPRA for relieving pain, depression, and disability which are the final objectives of CHPPRA and identified as main factors affecting the quality of life of RA patients (Oh & Seo, 1998; Oh & Kim, 1999). The concrete study objectives were as follows :

1) To examine the effect of the program for relieving pain.
2) To examine the effect of the program for relieving depression.
3) To examine the effect of the program for relieving disability.

3. Definitions

CHPPRA : This program was designed to enhance health promoting behaviors and/or life-styles. The program is composed of eleven health promoting strategies: the knowledge about RA; efficacy in arthritis management; self-respect; positive thinking; problem solving; goal reestablishment; help asking; and the skills for pain management, stress management and communication. They are derived from the holistic model, the empirical data, and the need-assessment data (Oh & Kim, 1999). The goals of the program were to ultimately relieve pain, depression, and functional disability which are different dimensions of the quality of life, through polishing those 11 health promoting strategies.

Rheumatoid Arthritis : It is an autoimmune disease which causes an inflammation beginning in synovial membrane. The enzymes secreted from inflammatory cell induce the pain and irritating sensation. And as time progresses, disability is resulted from the destruction of the joint. The characteristics of the disease are swelling and pain of three or more joints, morning stiffness lasting more than at least 1 hour, extreme fatigue, heat sensation and erythema of joint, rheumatoid nodules (Black & Matassarin-Jacobs, 1997).

Pain : It indicates the level of percieved pain by the patients. The perceived pain was measured with the modified Face scale by the researchers, which was originally developed by Andrew & Withey (1976).

Depression : It represents patients' maladaptive emotional state. It was measured with the modified CES-D Scale by the researchers, which was originally developed by Radloff (1977).

Functional Disability : It indicates functional difficulty of activities in daily life (ADL). It was measured with the scale which was originally developed by Jung H. M. (1994), but modified by the researchers.

4. Research Hypothesis

After being administered of CHPPRA, the attendants for the program will relieve pain, depression, and disability, compared with the control group.

5. Study Limitation

Note that in order to test the effect of CHPPRA which was provided in small group this study is performed on both the small expreimental group consisting of 18 patients and the control group consisting of the same number of patients. Thus, care should be taken in generalizing the study result.

II. Literature Review

From the review of various literature on topics of arthritis intervention program, it was noted that most arthritis intervention programs were named as an arthritis self-management program, arthritis self-help program, and arthritis health education program. However, since these arthritis intervention programs were adopted to improve patients' health status and quality of life, and since they included comprehensive domains necessary for promoting individuals' health, they might be considered as a health promotion program which could be applied to particular chronic disease.

1. The goals of arthritis intervention program for RA patients

The goals of the treatment of rheumatoid arthritis are relieving pain, preventing the joint destruction, and conserving and/or preserving the patients' function. Rest, exercise and medications are compositely used for treatment (Ruddy, 1985).

Lorig et al. (1987) emphasized that since the patients should play a major role in the process of managing their illness, the goal of intervention program for arthritis is to help the patients to learn health behaviors and/or to manage the treatment methods properly. They also elaborated that patients could achieve the improved health status, relieved pain, and reduced disability by learning those behaviors and by managing the treatment methods for themselves (Lorig et al, 1987).

Daltroy & Liang (1991) emphasized that the objectives of health program and medical management applied to the chronic illness are identical. The objectives are improvement of the functionality, enhancement of psychological well-being, maintenance of the employment and the satisfied social relationship, and management of the illness behaviors.

2. The contents of the arthritis intervention program

Most arthritis intervention programs (Lorig et al., 1987; Taal, et al., 1993; Lindroth, et al., 1989;) are designed to promote the health status and to enhance the quality of life of the clients by employing various health promoting strategies in physical, psychological, and social dimensions, such as relaxation skill, psychological coping skill, self-efficacy, problem solving skill, communication skill etc.

Lorig et al. (1987) emphasized that successful intervention program should routinize health behaviors as a habit, and also that it should give priority on exercise, coping skill, self-efficacy, and problem solving skill. That is, arthritis intervention programs must focus on effective strategies to obtain health promoting behaviors. They also emphasized that the mechanism with which intervention program is possible to improve the health status of this group is obtained not through changing behavior itself, but through improving their self-efficacy (Lorig et al., 1993).

Taal et al. (1993) modified the arthritis intervention program which was developed by Lorig & Fries (1986) and provided the modified program to patients through experts. Particularly, an individualized exercise program was developed and applied to the patients. In order to motivate the patients to practice exercise at their home, strategies of contraction and goal setting are utilized, and the problem solving skill related to pain and disability is also trained. The knowledge about treatment of rheumatoid arthritis was informed and the booklet containing those informations was provided to patients. Pain management, relaxation techniques, communication skill, and coping strategies for depression are also included as educational contents within the program.

Mazzuca (1982) emphasized that adding psychobehavioral strategies to intervention program could increase effect of the program since the reason that the clients fail to change their behavior is not due to the lack of will or ability for behavior change, but due to the lack of skill of overcoming the influence from habit or environment. Davis et al. (1994) elaborated that since rheumatoid arthritis has dynamic attributes, the clients should learn how to manage exercise, and should learn strategies for energy preservation, pain management, and cyclic fluctuation of the disease.

According to the results of meta-analysis for arthritis intervention programs performed by Oh & Seo (1998), fundamental factors which deteriorate quality of life of individuals with arthritis were pain, depression, and functional disability. And the literature (Lorig et al. 1987; Lorig et al., 1993; Taal, et al., 1993) commonly suggested knowledge of the disease, pain management, exercise and strategies that increase cognitive coping, as the contents or domains that effect on enhancing those factors.

More specifically, knowledge of disease should includes the characteristics and treatment methods according to the types of arthritis, and information about medication (Lorig et al., 1987; Silvers et al., 1985). Pain management includes pain mechanisms and various strategies for relieving pain such as a posture, skills based on physical dynamic principles, and skills of cognitive pain management. Exercise remedy includes exercises that increase flexibility and physical strength and/or exercises that enhance endurance and aerobic capacity (Lorig & Fries, 1986). In addition to these, it was noted that stress management skill such as relaxation technique, problem solving skill, and communication skill were also included in strategies which increase cognitive coping (Oh & Seo, 1998).

3. The effects of arthritis intervention programs

Taal et al. (1993) reported that their arthritis intervention program which administered comprehensive strategies to patients had positive effect on patients' functional disability or joint tenderness. Besides the program also had positive effects on the improvement of relaxation, exercise, self-help behaviors, and self-efficacy related to the patients' functional ability and knowledge. It was also reported that the effects on exercise and self-efficacy was persisted after 14 months later (Taal et al, 1993).

According to the study of Lorig et al. (1993) which reviewed the studies on topics of arthritis intervention program, most arthritis intervention programs were appeared to enhance health behaviors, self-efficacy, and health status of individuals with arthritis. And the effects of the programs were lasted over a long period of time without any reinforcement program.

Lindroth et al (1989) performed the study which evaluated an arthritis education program and reported that the intervention group demonstrated improvements in knowledge, self-reported health behaviors, and disability at 12

months, compared to the control group. However, no differences were reported in pain perception.

From the meta-analysis about the effects of arthritis intervention program on pain, depression, and functional disability, Oh & Seo (1998) reported that the effect size of pain (d) was between .05 and 2.09 and that of depression (d) was between -.34 and 1.01. The effect size of functional disability (d) is -.19~2.75. It is noticed that only pain consistently showed positive effect, but there were circumstances that depression and functional disability showed negative effect. Oh & Seo (1998) contended that these different patterns were emerged from the diversity of methods operating program and giving education, and from the characteristics of the target group.

4. Summary

Contents of literature review were summarized as follows : arthritis intervention programs were provided for the purpose of improving the patients' health status and quality of life. Since they comprehensively include the domains necessary for promoting health, they could be considered as the health promotion program applied to the particular disease. And the literature commonly suggested knowledge of the disease, pain management, exercise and strategies that increase cognitive coping, as the contents or domains included in arthritis health promotion program. It is noted that promoting those domains has significant effects on pain, depression, and functional disability, which can be considered as subdivisions of quality of life.

Ⅲ. Methodology

1. Study Design

Quasi-experimental design using equivalent control group pre-post design was applied to this study. A prospective, non-randomized design with dependent measures was used. The design model is as follows :

Experimental group	O1	X	O2
Control group	O1		O2

Pre-test measures of pain, depression, functional disability of the EG subjects were collected on the first day of intervention. Pre-test measures on the CG subjects were collected at the same time of the day. Measures were repeated at 7 weeks for all subjects.

2. Patients and Sampling Method

1) Patients

The subjects were 36 patients visiting RA out-patient clinic regularly in a University Hospital in Inchon. The diagnosis of classic or definite RA were made by the collaborating rheumatologists based on the diagnostic criteria of American Rheumatoid Association.

Thirty-one subjects were female. The mean age was 49 years old. The mean year of being ill was 6.5 (s.d. =8.72) and that of being diagnosed as RA was 4.7 (s.d. =5.86). Three subjects graduated in elementary school, 6 in junior, 18 in senior high, 6 in college, and 1 in above college. Twenty-five subjects were married, 3 widowed and 3 divorced or separated. Twenty-eight subjects had no job.

2) Sampling Method

Some subjects in experimental group (EG) volunteered for the program after reading the newsletter written about the program. Others did not sign the program until their physician recommended them for participation. Subjects with uncontrolled medical problems, communicative problems or disorders, or are illiterate, were

Table 1. The contents of intervention program

Session	Unit	Hour
1	Pre-test, Overview	2
2	RA Management	2
3	Pain Management	2
4	Cognitive Reconstruction, Self-Image	2
5	Stress Management, Problem Solving Skill	2
6	Goal Setting, Communication Skill	2
7	Exercise, Post-test	2

excluded.

After considering the proportion of sex, age, and illness duration of experimental group, the same number of subjects were selected as control group. All subjects in two equal size of 18-subject groups participated to an end without a single dropout.

EG subjects received the CHPPRA manual and intervention. However, control group (CG) were not exposed to any information or program. They only responded to the questionnaire when asked. None of them had previous experience in health education.

3. Study Intervention

CHPPRA was administered by two researchers. EG were given a manual and an instruction about CHPPRA. They were asked to practice the management skills which they learned.

The intervention course was given with 7 sessions per 7 weeks in a hospital setting. Each session held about 2 hours. The CHPPRA intervention methods were based on a standardized education protocol emphasizing group discussion, lecture, demonstration, and role play. In addition, making contracts between patients and researcher to abide by her/his commitment of complying the instructions and asking to keep diaries to improve compliance, were adopted. Further, to encourage family support in patients' management of RA, home letter on information of RA management were sent to a significant family member.

Program contents were shown in Table 1.

4. Measures

1) Pain

Pain was measured by modifying Andrew & Withey's Face Scale (1976). One item of Face scale was an visual scale of present face image. The 7 visual face images ranging from happy-smile face to unhappy-frown face. For the reliability of Face scale, test-retest correlation coefficient was r=.75. The higher score represents more severe pain.

2) Depression

Depression was measured by modifying CED-S (Randloff, 1977) after pre-test. Higher score implies lower depression. The reliability of CED-S in this study was Cronbach's alpha =.86.

3) Functional Disability

The 26-item scale for measuring the functional disability was designed to assess difficulties of doing ADL such as bathing, walking, ascending or descending stairs, griping, and taking care of household matters. This scale was developed from Jung's instruments (1994) which had been used in her study to measure pain severity in doing activities in daily living. Each item has 4 Likert scores and higher score implies higher

Table 2. Test of group differences on pre-test data (n=35)

MANOVA	Hotelling T	F	p value
	.11	.48	.82
ANOVA	F		p value
Depression	.13		.72
Functional disability	.09		.76
Pain	.37		.55
Year of being diagnosed	.76		.39
Year of being sick	1.92		.18

functional disability.

5. Data Analysis

The principal statistical method was MANOVA/ANOVA in order to test any group differences on dependent variables at baseline and post-intervention. Since some data (e.g., sex, marital status) were measured on categorical level, non-parametric method such as Mann Whitney U test was used. Wilcoxon signed rank test was also performed to find any change within two groups. Data were analysed by using SPSS 7.5 window version.

Ⅳ. Study Results

1) Group Comparison at Pre-test

To test for possible group differences at pre-test, MANOVA was performed on the dependent variables : pain, depression, functional disability, year of being diagnosed, and year of being sick. No overall significant group difference was found (Hotelling's T = .11, F=.48, p=.82). There were no significant differences between two groups in pre-test reports of depression, functional disability, pain, year of being diagnosed as RA, and year of being sick, as can be seen in Table 2. In addition, there were no significant group differences in socioeconomic and demographic variables such as marital status, income, education, and gender as in Table 3.

2) Analysis of Intervention Effects

To examine intervention effects on outcome variables such as pain, depression, and functional disability, MANOVA was performed by using two groups as an independent variable. Overall significant group difference was found on those dependent variables (Hotelling's T =.30, F=3.11, p=.04). To examine on which dependent variables have significant effects, one-way ANOVAs were performed. Significant group differences were found on pain (F=4.35, p=.05), and on depression (F=4.22, p=.05), respectively. However, no significant group differences were found on functional disability (F=.04, p=.84). The results are summarized in Table 4.

In order to find the changes on the outcome variables within each group at the post-test, Wilcoxon signed-rank tests were used to

Table 3. M-Whitney U test of Group differences on categorical variables (n=35)

	Education	income	Marital status	Job status	gender
M-Whitney U	131.5	116.5	131	141	153
Sig (2 tailed)	.67	.49	.67	.93	.79

Table 4. Treatment effect on pain, depression, and functional disability (n=35)

MANOVA	Hotelling's T	F	p value
	.30	3.11	.04
ANOVA	F		p value
Depression	4.31		.05
Functional disability	.04		.84
Pain	4.22		.05

* equal covariance test : Box M =5.79, F=.79, p=.57

compare pre-test and post-test scores on the dependent variables. The results (Table 5) revealed significant progression in pain (Z=-2.36, p=.005) and depression (Z=-2.02, p=.02), but not in functional disability (Z=-.36, p=.36) in experimental group, over the program period. In control group, there were no significant changes in those outcome variables. In a broad sense, the 7 weeks CHPPRA had a major impact on subject's pain, depression, and functional disability.

V. Discussions

It turned out that the RA patients who attended the CHPPRA obtained an overall positive effects on pain, depression, and functional disability compared to the control group. The final goal of the program was to improve the quality of life, and was planned to be achieved by relieving pain, depression, and functional disability. Note that these variables could be conceptualized as the different dimensions of quality of life (Oh & Kim, 1999). Hence the CHPPRA can be considered as a program of improving the patients' overall quality of life. More concretely, the study results showed that the improvement of the patients' quality of life was achieved by relieving pain and depression as predicted.

From this study, it was noted that the CHPPRA had positive effect on relieving depression, and it's effect size was statistically significant with .71. This supports the results of Oh & Seo's meta-analysis (1998) which reported that comprehensive arthritis programs had significant effect on depression.

Oh & Seo 's study (1998) reported, based on Cohen's criterion(1977), that the combined effect size for depression of the comprehensive programs was small (D=.11, 95% confidence interval : .0007-.21). However, this study showed that the effect size for depression was medium size (d=.71). The fact that this study limited the patients with rheumatoid arthritis as target subjects was seen to be one of main reasons why the obtained effect size of this study was larger than that of Oh & Seo's study. According to Superio-Cabuslay (1996), arthritis self-help program could be more effective when program included only rheumatoid

<표 5> The comparison of mean scores between pre-test and post-test for control and experimental groups

	Experimental group (n=17)					Control group (n=18)				
	Pre		Post			Pre		Post		
	$\overline{X}$	S.D.	$\overline{X}$	S.D.	Wilcoxon	$\overline{X}$	S.D.	$\overline{X}$	S.D.	Wilcoxon
depression	18.84	5.48	20.06	4.92	p=.02	19.00	4.65	23.17	4.11	p=.40
function	50.61	16.02	49.50	19.36	p=.36	52.50	14.86	48.35	12.17	p=.22
pain	4.00	1.37	3.28	1.36	p=.005	4.06	1.35	4.28	1.36	p=.35

arthritis patients.

It turned out that the results of significant effect on pain of this study coincided with the results of Oh & Seo 's meta-analysis(1998). They reported that the combined effect of integrated programs on pain was statistically significant (D=.25, 95% confidence interval : .15-.34). While small effect size was calculated in Oh & Seo's study (1998), the effect size on pain calculated in this study was medium size with .70. This different results might be explained by the contention of Superio- Calbuslay (1996), which emphasized that the program could be more effective when it limited the individuals with rheumatoid arthritis as target subjects. Oh & Seo (1998) calculated combined effect size by selecting the studies which only targeted for the individuals with rheumatoid arthritis and it turned out to be .44 (D=.44). The results showed that the combined effect size of the studies with only rheumatoid arthritis was larger than that of those studies including all of arthritis integrated programs.

And in this study, seven expressions of face are used to measure the level of perceived pain. When the patient were asked to choose one of the faces, it is believed that she/he spontaneously chose the face reflecting her/his psychological status as well as the level of pain. Based on this rational, it can be inferred that pain was expressed, combined with depression. More specifically, it can be inferred that improved depression achieved by participating arthritis health promotion program was connected to reducing pain.

This study revealed that the perceived functional disability was not significantly improved by attending arthritis health promotion program. And this results are different from the results of Oh & Seo (1998). They reported that the combined effect size of integrated arthritis programs was statistically significant (D=.16, 95% confidence interval : .05-.26). However, the effect size of functional disability obtained from this study was not statistically significant.

The reason why functional disability turned out to be not significant in this study was that since exercise program which had objective on enhancing functional disability was provided in the last session of the program, the data about the functional disability were collected in the situation where the exercise strategies were not sufficiently employed. In order to compensate for this situation, it can be suggested that exercise management included in the last session should be spread over into all sessions to continuously provide the subject with the piece of information about exercise from the beginning to the end of the program. And doing so, throughout the program, the patient could be encouraged, monitored, and reinforced for practicing exercise.

Conclusively, the CHPPRA can be evaluated as successively achieving the final goal of enhancing the patients' quality of life. And it can be contended that the improvement of patients' quality of life was made by relieving pain and reducing depression.

VI. Conclusions and Suggestions

This study was performed to examine the effect of the 7-week comprehensive health promotion program for relieving pain, depression, and disability by employing quasi-experimental design. The subjects were out-patients of RA clinic in an University Hospital in Inchon from November 11th, 1998 to December 24th, 1998. Experimental group were 18 patients and the control group were 18 patients.

The goals of the CHPPRA to enhance the health promoting skills was provided to patients and the effects of this program on the patients' pain, depression, and functional disability were examined. According to the study results, overall significant group difference was found on

those dependent variables (Hotelling's T =.30, F=3.11, p=.04). To examine on which dependent variables have significant effects, one-way ANOVAs were performed. Significant group differences on pain (F=4.35, p=.05), and on depression (F=4.22, p=.05), however, no significant group differences on functional disability (F=.04, p=.84) were found.

Conclusively, the arthritis health promotion program which was designed to enhance 11 health promoting skills can be evaluated as successively achieving the final goal of enhancing the patients' quality of life. And it can be contended that the improvement of patients' quality of life was made by relieving pain and depression.

From the study results, the suggestions about the future research direction can be made as follows :

1) This study only examined the impact effect of program, but the longitudinal effect of program which examines the effect of program repeatedly during some period of time is necessary to be tested.
2) Since this program has objective to enhance the 11 health promoting skills, the study which examine how these health promoting skills are improved is necessary to be conducted as well as the study on the program's overall effect on pain, depression, and functional disability.

Ⅶ. References

Andrew, F. & Withey, S. (1976). Social indicators of well-being. New York : Plenum Press.

Black, J. & Matassarin-Jacobs, E. (1997). Medical-surgical nursing 5th edition. Philadelphia: W. B. Saunders Company.

Cohen, J. (1977). Statistical Power Analysis for the Behavior Sciences. New York: Academic Press.

Daltroy L., & Liang M. (1988). Patient education in the rheumatic disease : A research agenda. Arthritis Care and Research, 1, 161-167.

Davis, P., Busch, A., Lowe, J., Taniguchi, J., & Djkowich, B. (1994). Evaluation of a rheumatoid arthritis patient education program : Impact on knowledge a self-efficacy. Patient Education and Counseling, 24, 55-61.

Jung Hyang Mi (1994). The effect of muscle relaxation to the rheumatoid arthritis patients' adaptation. Unpublished Doctoral Dissertation, Pusan National University, Pusan.

Kim, Young Ran & Oh, Hyun Soo (1998). Arthritis Health Promotion Program - For instructors. Seoul, Publishing Company Jung Dam.

Lee, E. O., Park, S. Y., Kim, J. I., Kim, I. J., Kim, M. J., Song, K. Y., Lee, E. N., Choi, H. C., Park, J. S., Suh, M. J., Kim, M. S., So, H. Y., Lee, M. R., Park, I. H., Kim, Y. J., Lee, I. S., Lim, N. Y., Lee, K. S., Hur, H. K., Jeoung, Y. S., & Suh, I. S. (1997). The effects of self-help education increasing self-efficacy on the health promotion for the arthritis patients. Journal of Rheumatology Health, 4(1), 1-14.

Lindroth, L., Bauman, A., Barnes, C., McCredie, M., & Brooks, P. (1989). British Journal of Rheumatology, 28, 7-12.

Lorig K. & Fries, J. (1986). The Arthritis Helpbook : A tested self-management program for coping with your arthritis. MA : Addison-Wesley Publishing Company.

Lorig, K. Konkol, L., & Gonzalez, V. (1987). Arthritis patient education : A review of the literature. Patient Education Counseling, 10, 207-252.

Lorig K., & Holman, H. (1993). Arthritis self-management studies : A twelve-year review. Health Education Quarterly, 20(1), 17-28.

Mazzuca, S. A. (1982). Does patient education

in chronic disease have therapeutic value? Journal of Chronic Disease, 35, 521-529.

Mazzuca, S., Brandt, K., Katz, B., Chamber, M., Byrd, D., & Hanna, M. (1997), Effects of self-care education on the health status of inner-city patients with osteoarthritis of the knee, Arthritis & Rheumatism, 40(8), 1466-1474.

Oh, Hyun Soo (1993). Health promoting behaviors and quality of life of Korean women with arthritis, Journal of Nurses Academic Society, 23 (4), 617-630.

Oh, Hyun Soo & Kim Young Ran (1997). A structural model for quality of life in individuals with rheumatoid arthritis, Journal of Nurses Academic Society, 27 (3), 614-626.

Oh, Hyun Soo & Kim Young Ran (1998). Rehabilitation nursing for patients with arthritis, Korean Journal of Nursing Query, 7 (1). 64-84.

Oh, Hyun Soo & Seo Yeon Ok (1998). The comparison between the effects of integrated arthritis self-help programs and the effects of arthritis exercise programs through meta-analysis, Journal of Korean Academy of Nursing, 28 (4), 941-957.

Oh, Hyun Soo & Kim Young Ran (1999). Development of health promotion program for individuals with arthritis - Application of holistic model, Journal of Korean Academy of Nursing, 29 (2), 314-327.

Radloff, L. (1977). The CES-D scale : A self-report depression scale for research in the general population. Application pschology measurement, 1, 385-401.

Ruddy, S. (1985). The management of rheumatoid arthritis. In Kelly, W. N., Harris, E.D., Ruddy, S., & Sledge, C. B. (Eds) : Textbook of Rheumatology. Vol 1, 2nd edition. Philadelphia, W. B. Saunders Comp.

Silvers I., Hovell M., Weisman M. & Mueller, M. (1985). Assessing physician/patient perceptions in rheumatoid arthritis. Arthritis and Rheumatism, 28, 300-307.

Superio-Cabuslay, E., Ward, M., & Lorig, K. (1996), Patients education interventions in osteoarthritis and rheumatoid arthritis: A meta-analytic comparison with Nonsteriodal antiinflammatory drug treatment, Arthritis Care and Research, 9(4), 292-301.

Taal, E., Reimsma, R., Brus, H., Seydel, E., Rasker, J., & Wiegman, O. (1993), Group education for patients with rheumatoid arthritis, Patient Education And Counseling, 20, 177-187.

-Abstract-

This study was performed to examine the effect of a 7-week comprehensive health promotion program for improving pain, depression, and disability by employing a quasi-experimental design. The subjects were regular out-patients of a RA aclinic in an University Hospital in Inchon from November 11, 1998 to December 24, 1998. The Experimental group included 18 patients who participated in an arthritis health promotion program, and the control group included 18 patients who did not.

The 7-week health promotion program, which had the objective to enhance health promoting skills, was provided to patients. The effects of this program on the patients' pain, depression, and functional disability were examined. According to the study results, a significant group difference was found on these dependent variables (Hotelling's T =.30, F=3.11, p=.04). To examine which dependent variables had significant effects, one-way ANOVAs were performed. There were significant group differences in pain (F=4.35, p=.05) and in depression (F=4.22, p=.05) However, no significant group differences on functional disability (F=.04, p=.84) were found.

Conclusively, the arthritis health promotion program, which was designed to enhance 11 health promoting skills, can be evaluated as successfully achieving the ultimate goal of enhancing the patients' quality of life. It can also be contended that the improvement of the patients' quality of life was enabled by relieving pain and reducing depression.

-국문초록-

주요개념 : 류머티스 관절염, 건강증진 프로그램

류머티스 관절염 환자를 위한 건강증진 프로그램의 효과 분석 연구

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본 연구는 연구자들에 의해 개발된 관절염 건강증진 프로그램이 통증, 우울, 활동장애에 미치는 효과를 검정하고자 수행되었다. 유사실험 설계를 적용하여 1998년 11월 11일부터 12월 24일까지 인천시에 위치한 일개 대학병원의 류머티스 내과 외래에서 류머티스 관절염이라는 진단을 받고 통원치료를 받고 있는 환자들 중 중재에 참여한 실험 군 18명과 참여하지 않은 통제 군 18명을 대상으로 수행되었다.

중재는 건강증진적 기술 향상을 목표로 개발된 7주간의 건강증진 프로그램 (CHPPRA)이었으며 프로그램 제공 후 CHPPRA가 통증, 우울, 활동장애에 미치는 효과를 검정하였다. 연구 결과에 따르면 프로그램에 참여 후 이들 변수들에 대한 집단간 차이가 통계적으로 유의하였다 (Hotelling's T =.30, F=3.11, p=.04). 어떤 변수가 이러한 차이를 나타내었는지를 ANOVA 분석을 통해 확인한 결과 우울과 통증은 집단간 차이를 나타내는데 유의한 변수였으나 (F=4.22, p=.05; F=4.35, p=.05 순) 활동 장애는 통계적으로 유의하지 않았다 (F=.04, p=.84).

연구결과를 요약하면 11가지 건강증진 기술 향상을 위해 7주간 제공된 본 건강증진 프로그램은 통증, 우울, 그리고 활동장애 등으로 대변되는 대상자의 삶의 질에 전체적으로 효과가 있는 것으로 제시되었는데 특히 통증과 우울을 감소시킴으로써 대상자의 삶의 질에 긍정적인 효과를 미친 것으로 나타났다.

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