

A New Approach to the Whole Body Intervention Program(General Coordinative Manipulation Program) of Nonspecific Back Disorder.

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ABSTRACT

Since areas of pain and dysfunction of musculoskeletal typically suffered by the patients with back disorders spread all over the body, WBIP(GCM Program) for the primary treatment and management is required.

The purpose of this study is to analyze if WBIP(GCM Program) based on the hyper/hypomobility pattern of Four Body Types can identify the effective treatment of back disorders and the effect on the postural balanced restoration of the spine and extremities. Non-specific back disorder is still a major reason for sick leave. And moreover, its been reported that there was often recurrence to the patients whose symptom had been diminished. As a WBIP(GCM Program) based on kinematic chain patterns of Four Body Types, this study gave a new information on the effective diagnosis, treatment and management of non-specific back disorders.

337 patients above the twenty-five years old with the non-specific back disorders at the hospital and oriental medical clinics at Kyungnam and Busan areas in South Korea from August 24th, 2000 to Feb 23rd, 2001 have randomly been assigned to four experimental groups such as Whole Body Intervention Program Group, Physical Therapy Group like modality treatments, Acupuncture-Treatment Group, and Placebo Control Group.

According to intervention program applied to the each four group for three times per week(twelve times per 4weeks), as the time-series methods, we compared and evaluated the body status of the pretest with that of post treatment completion of four week, three month, and six month, respectively.

As the analytical method of measurement, our researchers used the Moire Interferometry Unit and Postural Kit that could measure the postural balance of spine and extremities.

The collection of data was performed in the designated hospital and oriental medical clinics. For the analysis of the data, the SPSS 10.0 package program was used. X2-test has been taken in order to compare and analyze characteristics and GPES of the patients in four experimental groups. Repeated Measure ANOVA and Tukey post hoc test has been adopted in order to compare the effects of the balanced restoration of the spine and extremities among four Groups categorized for this study. Statistical significance was accepted at the 0.05 level of confidence

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The effect of the balanced restoration on the spine and extremities of the patients with non-specific back disorders has been proved in all of the Groups. As for the restoration degree, however, WBIP(GCM Program) Group produced the highest effectiveness in terms of the fact that it had a dense moiré in comparison with the other three Groups and that the Moirés of both sides had the same level by the time($p<0.01$).

WBIP(GCM Program) based on four tilting types of scapular and ilium and hyper/hypomobility pattern took a higher effect on the balanced restoration of the spine and extremities through a whole body as well as the treatment of back disorders than the other three Groups which the usual remedy without classification of body type had been applied to.

1. Introduction

Low back pain is one of the most common conditions managed in primary care(Hagen & Thune, 1998), the burden of chronic low back pain on society is enormous in terms of both patient suffering and cost (Spitzer, 1987). Many treatments have been advocated, but not many have proven to be effective(Deyo, 1983; Bell and Rothman, 1984).

Especially, it is known that the recurrence of Back Disorder is prompted by a poor posture in repeated ADL and habit, and that it is not expected to perfectly treat Back Disorder as long as a primary treatment isn't taken(Cailliet, 1988).

In this respect, I has been studying joint mobility pattern over the whole body getting a Idea out of the facts that displacement of spine and extremities of the patients with Back Disorder spread all over the body and could be classified by the relative tilting of right and left scapulars and iliums into four groups. and I maintained that Back Disorder is closely related with Joint Mobility Pattern according to Body Type of the patients(Moon, 1996).

Therefore, the purpose of this study is to investigate the efficiency of a WBIP(GCM) Program model according to four Body Type for non-specific back disorders in comparison to Electrotherapy Group, Acupuncture-treatment Group, Herbal Medication Group.

2. Methods

2.1. Subjects

A randomized controlled trials with a prospective parallel-group design, 337 volunteers with NSBD were recruited from four private clinics in Korea between August 2000 and

February 2001.

2.1.1. Inclusion criteria

Subjects age 25 years or older with non-specific back disorder were selected in this study. Non-specific back disorders correspond to diagnostic categories 1 and 2(back pain with or without referral to proximal extremity) of the classification system proposed by the Quebec Task Force on Spinal Disorders(Spitzer, 1987). These disorder include a broad range of conditions with muscles, joint, ligament, disc, or degenerative involvement.

2.1.2. Exclusion criteria

Studies that include patients with back disorder with definite or possible neurological deficit including long tract signs, and those that include patients with back disorder caused by other pathological entities such as diffuse connective tissue diseases(for example : rheumatoid arthritis), arthritis associated with spondylitis(for example: ankylosing spondylitis, Reiter's syndrome, psoriatic arthritis), rheumatic syndromes associated with infectious agents, metabolic and endocrine diseases associated with rheumatic states, neurological diseases, neoplasm, fractures, dislocation were excluded.

Studies that assess invasive interventions such as Diabetes Milletus, Coronary artery disease, Fragile skin, Hemophilia, Fibronic skin, secondary tuberculosis, Illiteracy, surgery and injections were excluded.

2.2. Procedure

2.2.1. Random allocation

When subjects came for the first treatment, pre-treatment measurements were taken. Then subjects were randomly allocated into one of four groups.

Group 1: Whole Body Intervention Program Group(89 patients)

Group 2 : Electro-Therapy Group(82 patients)

Group 3 : Acupuncture-Treatment Group(85 patients)

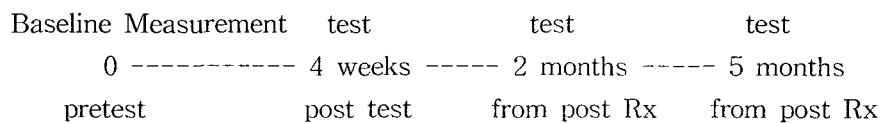
Group 4 : Herbal Medication Group(81 patients)

2.3. Outcome Measurement

The outcome measures were taken on four occasions:

- When the patient entered the study
- When treatment was completed,
- 2 months after the subjects last treatment, and 5 months after the subjects last treatment

and PASS(Postural Analysis Score Sheet) and GPES(Global Perceived Effect Scale) is to be done four weeks, three months, and six months post treatment, respectively, which is aimed at studying treatment effects and frequency of recurrence of Back Disorder.



2.4. Intervention Designs

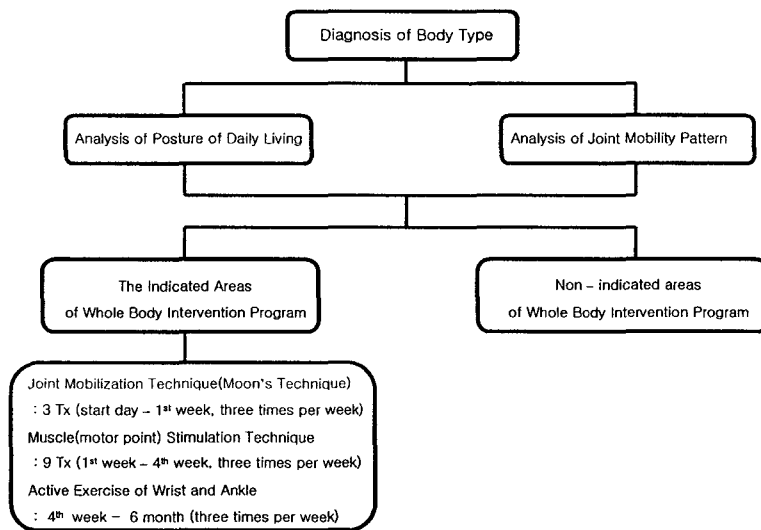
According to intervention program applied to the each four group for three times per week (twelve times per 4 weeks), as the time-series methods, we compared and evaluated the body status of the pretest with that of post treatment completion of four week, three month, and six month, respectively.

2.4.1. Whole Body Intervention Program Group

Whole Body Intervention Program was consisted of the way of Diagnosis and Treatment according to the Whole Body Characteristics (Moon, 1996) regarding the body types (Table 1).

- Diagnosis on the body types of patients based on the classification of four types of the tilting of scapular and ilium.
- Analysis of postural condition of daily living based on Whole Body characteristics regarding each body type.
- Analysis of joint mobility condition (only flexion and extension) based on the joint mobility pattern on the joints of spine and extremities regarding each body type.
- Among the compared and analyzed test results of patient based on the postural pattern of daily living and the joint mobility pattern on the joints of spine and extremities, only items that correspond to the whole body characteristics of diagnosed body type can be prescribed to the indicated area of Whole Body Intervention Program.

Table 1. The Propulsive Strategy of Whole Body Intervention Program Modeling



2.4.2. Other Groups

Electrotherapy Group

Duration : twelve times

Method : General Physical Therapy

- Pain relief ; Heat, TENS, and U/S
- Biomechanical interventions as needed ; orthotics, use of cane, taping, etc

Frequency : three times per week(4 weeks)

Location : Emphasis on back treatment may include pelvis, lower extremity

Acupuncture-Treatment Group

Duration : twelve times

Method : 12 main meridians plus 8 extra meridians

Frequency : three times per week(4 weeks)

Skin preparation : use of alcohol to sterilize skin

Needles : Size - 40mm long × 0.25mm diameter

Depth - 5mm ~ 15mm

Location : acupoint

Stimulation : manual

Te chi : operation to the counter-direction to get Te chi of 80 percent

* The use of acupuncture can be applied to multiful area, but mainly will be concentrated on back(ipsilateral ê contralateral acupuncture)

Herbal Medication Group

Duration : start day - 4 weeks

Method : Herbal medicine for pain control.

Frequency : three times per week

2.5. Statistics

For the analysis of the data, the SPSS 10.0 package program was used. X²-test has been taken in order to compare and analyze characteristics and GPES of the patients in four experimental groups. Repeated Measure ANOVA and Tukey post hoc test has been adopted in order to compare the effects of the balanced restoration of the spine and extremities among four Groups categorized for this study. Statistical significance was accepted at the 0.05 level of confidence

3. Results

3.1. Characteristics in back disorders patients

As a result from the survey of sexes of three hundred thirty seven patients, it was found that female was more than male by three to one hundred seventy. The ages ranged from thirty five to forty four in all of four Groups. The statures ranged from one hundred seventy one to one hundred seventy nine centimeters in all of Groups. The weights ranged from sixty to sixty nine kilograms in all of Groups. The body Types ranged type I in all of Groups. The duration of symptoms ranged from eight to twelve weeks in all of Groups.

3.2. Characteristics in displacement of spine and extremities of patients with Back Disorder according to four Body Types (Pre-treatment)

According to the results of the analysis of characteristics in displacement of spine and extremity in all of Groups prior to the treatment, one hundred thirty one patients of Body Type I who had a anterior-tilted type mainly in left scapular and ilium showed characteristics in displacement of Body Type like Rt head tilt, Lt scapular protraction, Lt forward ribcage, Rt umbilicus tilt, Lt lumbar scoliosis, Lt iliac crest High, Lt flexions of shoulder & elbow, Rt wrist flexion, Rt extensions of hip & knee, Rt ankle dorsiflexion, and ninety nine of Body Type II had the opposite. The upper extremity of the fifty five patients of Body Type III mainly had the similar features with that of Body Type I while the lower extremity mainly had the similar ones with that of Body Type II. And, fifty two patients of Body Type IV had the opposite symptom to Body Type III. These results had the similarity with other studies(Moon, 1996, 1999).

3.3. The Changes of Body Type of Back Disorder patients according to tilting pattern of Scapular and Ilium

According to the consequences of the changes of Body Type to four Groups, any transformations could be found in WBIP(GCM Program), ET, AT, and HM Group altogether. However, the extent of the changes to WBIP(GCM Program) Group was remarkably higher than those to the other Groups.

3.3.1. The Changes of Body Type to WBIP(GCM Program) Group

As for the changes of Body Type after four week treatment(Table 15), twenty three of thirty eight subjects of Body Type I have been transformed to Body Type II(25.8%), fourteen of twenty three of Body Type II to Body Type I(15.7%), seven of sixteen of Body Type III to Body Type II(7.9%), four of twelve of Body Type IV to Body Type I(4.5%). This shows that patients of WBIP(GCM Program) Group had a great amount of changes in Body Type, and especially, Body Type I, II had many changes in most parts of spine and extremities Six of thirty eight subjects of Body Type I(6.7%), two of twenty three of Body Type II(2.2%), three of sixteen of Body Type III(3.4%), and two of twelve of Body Type IV(2.2%) remained unchanged after three month treatment.

Compared with four week treatment, the changes to Body Type after three month treatment had a feature that transformation to Body Type I, II decreased while transformation to Body Type III, IV increased.

As for the changes of Body Type after six month treatment, eighteen of thirty eight subjects of Body Type I have been transformed to Body Type IV(20.2%), eleven of twenty three of Body Type II to Body Type III(12.4%), nine of sixteen of Body Type III to Body Type IV(10.1%), nine of twelve of Body Type IV to Body Type III(10.1%)

The changes after six month treatment had a feature that transformations have been mainly made to Body Type III, IV in all parts of spine and extremities.

3.3.2. The Changes of Body Type to ET Group

As for the changes of Body Type after four week treatment, four of twenty four subjects of Body Type I have been transformed to Body Type III and IV with the same portion (2.4%), seven of thirty one of Body Type II to Body Type IV(8.5%), four of twelve of Body Type III to Body Type I with the same portion (2.4%), four of fifteen of Body Type IV to Body Type I(4.9%). This shows that patients of ET Group didnt have a great amount of changes in Body Type, but a little ones to a part of items.

Twenty two of twenty four subjects of Body Type I(26.8%), twenty six of thirty one of Body Type II(31.7%), six of twelve of Body Type III(7.3%), and ten of fifteen of Body Type IV(12.2%) remained unchanged after three month treatment.

Compared with four week treatment, the changes to Body Type after three month treatment had a feature that there werent distinct differences and that transformation of Body Type in all Body Types decreased.

As for the changes of Body Type after six month treatment, one of twenty four subjects of Body Type I have been transformed to Body Type III(1.2%), three of thirty one of Body Type II to Body Type I, III, and IV with the same portion (1.2%), two of

twelve of Body Type III to Body Type I(2.4%), two of fifteen of Body Type IV to Body Type II(2.4%). Compared with pre-treatment, the changes to Body Type after six month treatment had a feature that there werent distinct differences and that immaterial transformation of Body Type in all Body Types had been made.

3.3.3. The Changes of Body Type to AT Group

As for the changes of Body Type after four week treatment, seventeen of thirty six subjects of Body Type I have been transformed to Body Type IV (20%), twelve of twenty two of Body Type II to Body Type III(14.1%), nine of fourteen of Body Type III to Body Type II (10.6%), seven of thirteen of Body Type IV to Body Type I(8.2%)

This indicates that patients of AT Group had a great amount of changes especially in upper extremity of the center of scapular, and that a little ones happened to some parts of items of either spine or extremity.

Twelve of thirty six subjects of Body Type I(14.1%), six of twenty two of Body Type II(7.1%), six of fourteen of Body Type III(7.1%), and four of thirteen of Body Type IV(4.7%) remained unchanged after three month treatment.

Compared with four week treatment, the changes to Body Type after three month treatment had a feature that transformations of Body Type in all Body Types decreased. As for the changes of Body Type after six month treatment, six of thirty six subjects of Body Type I have been transformed to Body Type III(7.1%), four of twenty two of Body Type II to Body Type I (4.7%), four of fourteen of Body Type III to Body Type I and II with the same portion (2.4%), three of thirteen of Body Type IV to Body Type I(3.5%). Compared with three month treatment, the changes to Body Type after six month treatment had a feature that transformations of Body Type in all Body Types decreased.

3.3.4. The Changes of Body Type to HM Group

As for the changes of Body Type after four week treatment, five of thirty three subjects of Body Type I have been transformed to Body Type IV (6.2%), five of twenty three of Body Type II to Body Type III(6.2%), three of thirteen of Body Type III to Body Type II (3.7%), four of twelve of Body Type IV to Body Type I and II with the same portion(2.5%).

Twenty seven of thirty three subjects of Body Type I(33.3%), sixteen of twenty three of Body Type II(19.8%), nine of thirteen of Body Type III(11.1%), and nine of twelve of Body Type IV(11.1%) remained unchanged after three month treatment.

As for the changes of Body Type after six month treatment, two of thirty three subjects of Body Type I have been transformed to Body Type III(2.5%), two of twenty three of Body Type II to Body Type III (2.5%), two of thirteen of Body Type III to Body Type I and II with the same portion (2.5%), one of twelve of Body Type IV to Body Type I, II and III with the same portion(1.2%).

As stated in the above, the changes of Body Type to HM Group had a similarity to

ones to ET Group until four weeks after treatment. As time went on, however, the level of the changes got lowest among four group.

3.4. Effects of Balance recovery of spine and extremities of patients with Back Disorder according to four Body Types (Post treatments)

3.4.1. The effects of Balance restoration to spine and extremities of 131 subjects of Body Type I (fig. 1).

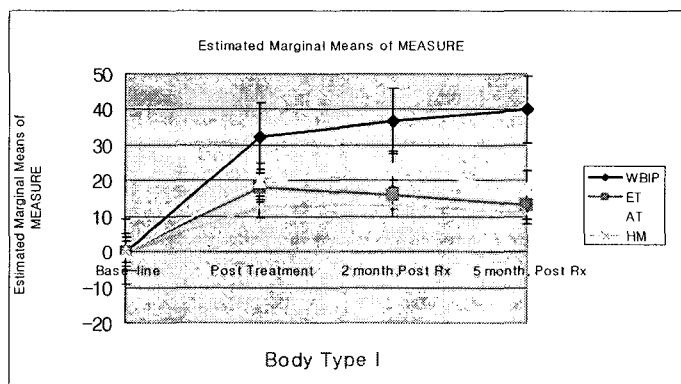


fig 1. Collective effects of Balance restoration of 4 groups(Body Type I)

WBIP(GCM Program) Group got average scores of 32.45 after four weeks, 36.74 score after three months, and 40.03 score after six months, respectively.

ET Group got average scores of 17.92 after four weeks, 16.00 score after three months, and 13.38 score after six months, respectively.

AT Group got average scores of 19.67 after four weeks, 23.06 score after three months, the highest one, and 17.78 score after six months, respectively.

Similar to ET Group, HM Group got average scores of 12.48 after four weeks, 12.97 score after three months, and 11.03 score after six months, respectively.

As the above, WBIP(GCM Program) got a much higher scores than the other Groups, and it was within the statistical resulting from Repeated Measure ANOVA($p < 0.01$) and Tukey post hoc test ($p < 0.01$).

3.4.2. The effects of Balance restoration to spine and extremities of 99 subjects of Body Type II (fig. 2).

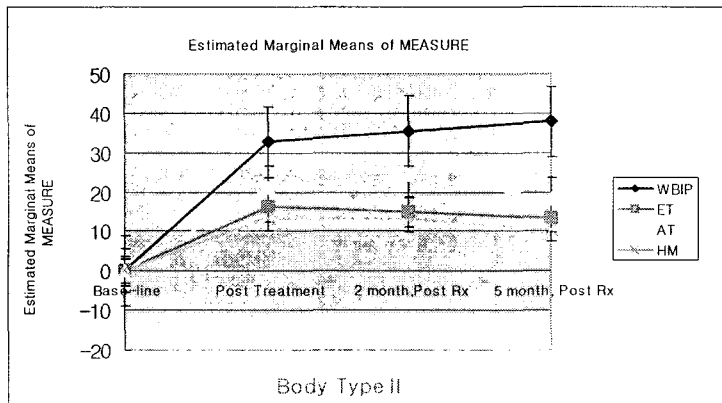


fig 2. Collective effects of Balance restoration of 4 groups(Body Type II)

WBIP(GCM Program) Group got average scores of 32.70 after four weeks, 35.52 score after three months, and 37.91 score after six months, respectively.

ET Group got average scores of 16.32 after four weeks, 14.87 score after three months, and 13.42 score after six months, respectively.

AT Group got average scores of 21.14 after four weeks, 24.50 score after three months, the highest one, and 18.23 score after six months, respectively.

HM Group got average scores of 13.43 after four weeks, 12.96 score after three months, and 10.57 score after six months, respectively, suggesting similar level from four weeks to three months but lower level after six months.

As the above, scores of Body Type II grew higher from WBIP(GCM Program) Group, AT Group, ET Group to HM Group in order, and it was within the statistical resulting from Repeated Measure ANOVA($p < 0.01$) and Tukey post hoc test ($p < 0.01$).

3.4.3. The effects of Balance restoration to spine and extremities of 55 subjects of Body Type III(fig. 3).

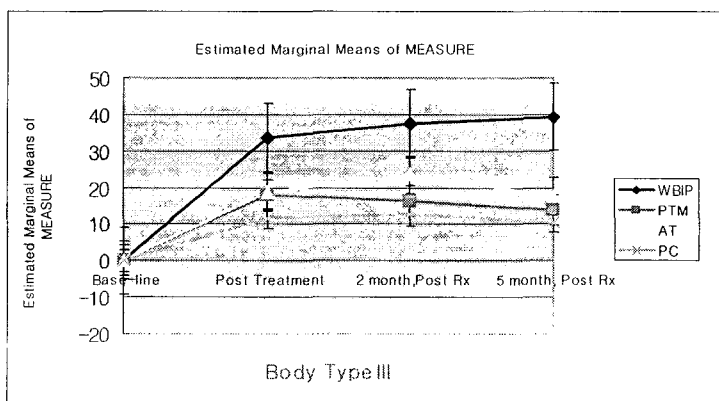


fig 3. Collective effects of Balance restoration of 4 groups(Body Type III)

WBIP(GCM Program) Group got average scores of 33.63 after four weeks, 37.44 score

after three months, and 39.38 score after six months, respectively.

ET Group got average scores of 18.25 after four weeks, 16.33 score after three months, and 13.92 score after six months, respectively.

AT Group got average scores of 18.71 after four weeks, 23.50 score after three months, the highest one, and 17.79 score after six months, respectively.

HM Group got average scores of 11.54 after four weeks, 12.46 score after three months, the highest one, and 10.54 score after six months, respectively.

As the above, WBIP(GCM Program) got a much higher scores than the other Groups, and it was within the statistical resulting from Repeated Measure ANOVA($p < 0.01$) and Tukey post hoc test ($p < 0.01$).

3.4.4. The effects of Balance restoration to spine and extremities of 52 subjects of Body Type IV(fig. 4).

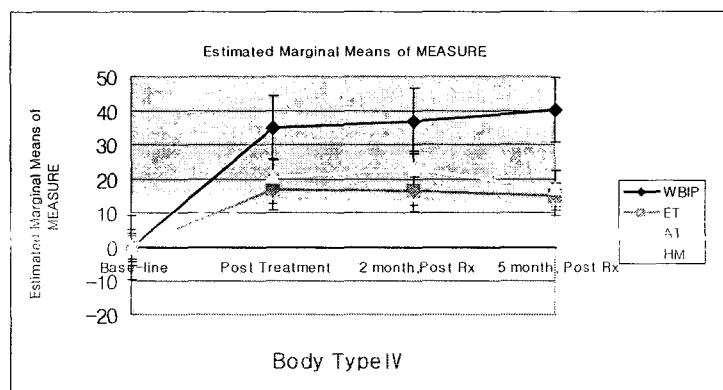


fig 4. Collective effects of Balance restoration of 4 groups(Body Type IV)

WBIP(GCM Program) Group got average scores of 35.00 after four weeks, 37.00 score after three months, and 40.33 score after six months, respectively.

ET Group got average scores of 16.80 after four weeks, 16.53 score after three months, and 14.87 score after six months, respectively, suggesting it got lower as time went on.

AT Group got average scores of 18.71 after four weeks, 23.00 score after three months, the highest one, and 17.31 score after six months, respectively.

HM Group got average scores of 11.54 after four weeks, 12.92 score after three months, and 12.92 score after six months, respectively. suggesting similar level from four weeks to three months but a little lower level after six months.

As the above, WBIP(GCM Program) got a much higher scores than the other Groups, and it was within the statistical resulting from Repeated Measure ANOVA($p < 0.01$) and Tukey post hoc test ($p < 0.01$).

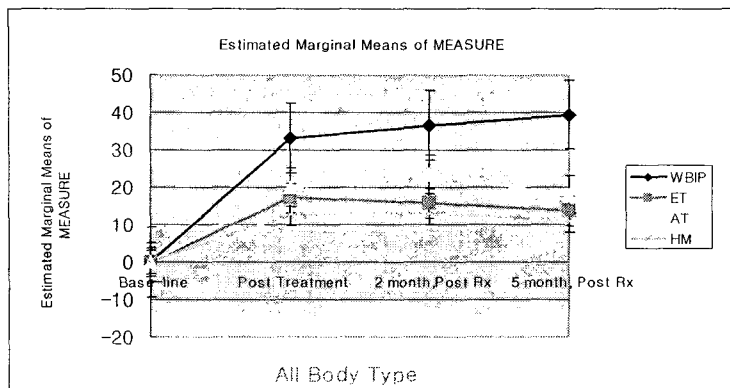


fig 5. Collective effects of Balance restoration of 4 groups(All Body Type)

According to collective results of four Body Types after four week treatment, WBIP(GCM Program) Group got average scores for twenty four items in PSS, at 33.07 point, ET Group got average scores of 17.16, AT Group got average scores of 20.05, and Similar to ET Group, HM Group got average scores of 12.89, respectively($p < 0.01$). WBIP(GCM Program) scores were about twice as high as ET and higher than the other two Groups. Complete recovery effects according to the results of an analysis of GPES, WBIP(GCM Program) group had sixty one patients take the effects(68.5%), more than eleven of ET(13.4%), twelve of AT(14.1%), and two of HM group(2.5%), respectively

As for the frequencies of recurrence, there were nine in HM Group, five in ET Group, three in AT Group, and just one in WBIP(GCM Program) Group(fig. 6).

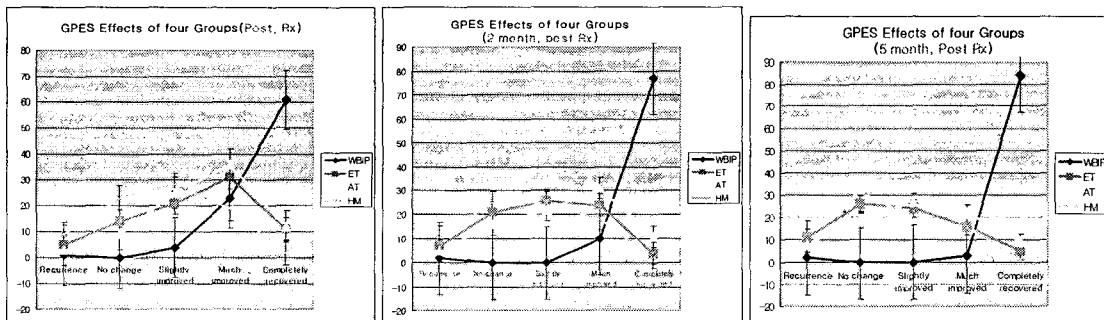


fig. 6. Treatment effects of back disorder and the frequencies of recurrence(GPES effects)

According to collective results of four Body Types after three month treatment, WBIP(GCM Program) Group got average scores of 36.58, ET Group got average scores of 15.72, AT Group got average scores of 23.49, and HM Group got average scores of 13.01, respectively ($p < 0.01$). AT scores were also higher than ET and HM while WBIP(GCM Program) scores were higher than those of the other three Groups.

Complete recovery effects according to the results of an analysis of GPES, WBIP(GCM Program) group had seventy seven patients take the effects(86.5%), more

than four of ET(4.9%), eleven of AT(12.9%), and two of HM group(2.5%), respectively.

As for the frequencies of recurrence, there were eleven in HM Group, seven in ET Group, five in AT Group, and just two in WBIP(GCM Program) Group.(Table 14).

According to collective results of four Body Types after six month treatment, WBIP(GCM Program) Group got average scores of 39.40, ET Group got average scores of 13.74, AT Group got average scores of 17.82, and HM Group got average scores of 11.10, respectively ($p < 0.01$).

Complete recovery effects according to the results of an analysis of GPES, WBIP(GCM Program) group had eighty four patients take the effects(94.4%), more than five of ET(6.1%), nine of AT(10.6%), and one of HM group(1.2%), respectively.

As for the frequencies of recurrence, there were thirteen in HM Group, eleven in ET Group, eight in AT Group, and just two in WBIP(GCM Program) Group.(Table 14). The reason for extremely low recurrence frequencies of WBIP(GCM Program) Group were caused by the effects of advice self exercise(wrist and ankle) of the patients as well as the treatment of structure and function depending on Body Type.

The results indicates that WBIP(GCM Program) scores were remarkably higher than those of the other three Groups and it grew more effective as time went on, which means that four Groups contribute to Balance recovery of spine and extremities of patients with Back Disorder, and that WBIP(GCM Program) is more effective than the other three Groups(Figure 1~6).

Consequently, WBIP(GCM Program) group which classifies Back Disorder in line with the tilting pattern of Scapular and Ilium into four Body Types and utilizes joint mobility Pattern is more effective on Balance recovery of spine and extremities compared with three Groups.

4. Discussion

It is widely known that the musculoskeletal imbalance is mainly caused by spinal scoliosis, and that the primary cause among them is muscle imbalance(Oliver & Middleditch, 1991). Soderberg(1984) and Newman(1985) claimed that changes to body position caused by muscle imbalance are occurred by the difference between the heights of both Hip and shoulder, and that the level of imbalance of a body can be measured by comparing. One of the most important things in treating Back Disorder the difference of both heights.

One of the most important things in treating & management of Back Disorder is to restore the balance of spine and extremities by decreasing a excessive tone of muscle while not increasing abnormal tone of other ones(Moon, 2001).

Treatment indication areas and non-indication areas of WBIP(GCM Program) were differentiated by proper joint mobility pattern of each patient.

The balance restoration of spine and extremities was necessary to be maintained by inhibiting mobility of increase mobility joints and facilitating mobility of decrease mobility joints. According to the results of an analysis of effects of Balance recovery, it was found that all of test Groups contributed to Balance recovery of spine and extremities per each Body Type in all areas for assessment. As for the level, however, WBIP(GCM Program) Group was more effective than others where general treatment of Back Disorder had been taken. It is considered that it was because the design of the treatment for WBIP(GCM Program) Group controlled tonicity by facilitating the range of motion of decrease mobility joints and inhibiting that of increase mobility joints based on joint mobility pattern according to tilting pattern of scapular and ilium.

5. Conclusion

The purpose of this study is to analyze if Whole body Intervention Program based on the joint mobility Pattern of Four Body Types can identify the effective treatment of back disorder and the effect on the postural balanced restoration of the spine and extremities. The results are as follows.

- There were changes to Body Types of the patients with Back Disorder of four Groups, especially the extent of the change of WBIP(GCM Program) Group was larger than that of other Groups.
- Patients with Back Disorder didnt show any distinct differences by Age, height, and weight except the facts that most of both male and female patients ranged from thirty-five to forty-four years old.
- As for characteristics in displacement of spine and extremity according to four Body Types, patients of Body Type I who had a anterior-tilted type in left scapular and ilium showed characteristics in displacement of Body Type like Rt head tilt, Lt scapular protraction, Lt forward ribcage, Rt umbilicus tilt, Lt lumbar scoliosis, Lt iliac crest High, Lt flexions of shoulder & elbow, Rt wrist flexion, Rt extensions of hip & knee, Rt ankle dorsiflexion, and Body Type II had the opposite.

The upper extremity of Body Type III mainly had the similar features with that of Body Type I while the lower extremity mainly had the similar ones with that of Body Type II. And, patients of Body Type IV had the opposite symptom to Body Type III.

- According to the results of an analysis of effects of Balance recovery of spine and extremities in accordance with four Body Types, it was found that all of test Groups contributed to Balance recovery of spine and extremities per each Body Type in all areas for assessment. As for the level, however, WBIP(GCM Program) Group was more effective than others where general treatment of Back Disorder had been taken.

The frequencies of recurrence after six month treatment according to the results of an analysis of GPES were thirteen in HM Group, eleven in ET Group, eight in AT Group, and just two in WBIP(GCM Program) Group. However, the frequencies of

complete recovery effects after six month treatment according to the results of an analysis of GPES, WBIP(GCM Program) group had eighty four patients take the effects(94.4%), more than five of ET(6.1%), nine of AT(10.6%), and one of HM group(1.2%), respectively. The effects on treatment and prevention of recurrence of WBIP(GCM Program) Group was very remarkable

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