

Low back pain: Correlation with anxiety, depression, and well-being and the effect of homeopathic medicines on the physical signs of patients

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ABSTRACT

Background: This study was intended to prove or disprove the accusations that the homeopathic medicines are nothing but placebo by evaluating the reduction in the physical signs in patients with pathological low back pain (LBP). **Objectives:** The present study was conducted to evaluate the relationship between pain and anxiety, pain and depression, and pain and well-being among patients with somatoform LBP and patients with pathological LBP and also to evaluate the reduction in the physical signs in patients with pathological LBP after treated with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo. **Materials and Methods:** The sample consisted of 439 patients including patients with pathological LBP and somatoform LBP. The patients in these two categories were further classified into three groups based on the type of intervention used such as patients treated with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo. **Results:** From this study, it can be concluded that there is a positive correlation between pain and anxiety and pain and depression, whereas there is a negative correlation between pain and well-being among patients with somatoform LBP and patients with pathological LBP. **Conclusion:** The study had shown that the homeopathic therapy was capable of improving the physical signs among patients with somatoform LBP and patients with pathological LBP. Homeopathic medicines in combination with placebos too could produce a significant difference in physical signs when compared to the results with that of placebo.


KEY WORDS: Homeopathy; Pathological Low Back Pain; Somatoform Low Back Pain; Anxiety; Physical Signs

INTRODUCTION

Low back pain (LBP), the most common musculoskeletal disorder, is a major public health problem all over the world. LBP may be associated with pure organic disorder or may appear to be a condition where there is no identifiable organic pathology except for the symptom of LBP which is equally disabling like that of the one with organic pathology. Chronic LBP (CLBP) is a condition where biological, psychological,

and social factors interact and mutually influence each other, both as causal factors and maintaining factors.^[1] Chronic back pain patients are regarded to be somatizing patients who express psychological and social distress through persistent subjective health complaints. A patient with somatoform disorder may experience a similar back pain in a stressful situation without organic changes.

Pain may lead to inactivity and social isolation, and it is often associated with comorbid depression, anxiety, or a substance-related disorder. CLBP as a leading symptom of a somatoform pain disorder is a remnant diagnostic category for many physicians, general practitioners, and orthopedic surgeons. A more precise knowledge of the disorder can prevent chronification. The limited efficacy of treatment for back pain has been attributed to failure to appreciate the psychosocial setting of pain and its associated complaints.

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They may become socially isolated and experience problems with work and family life.

In both, the somatoform back pain disorder and LBP disorder, pain, and functional disability are the characteristic features. Hence, the assessment of pain and disability can be considered as important tools in the evaluation of treatment effectiveness of both these disorders. Somatoform back pain disorder as well as LBP disorder shows depression and anxiety as comorbidity. These may be seen as triggering, aggravating, or maintaining factor for the presenting condition. These factors may also be seen aggravated with the aggravation of back pain. Hence, an evaluation of these two factors, depression and anxiety, is considered important by the investigator for the effectiveness of treatment. As the CLBP disorder is a disabling condition functionally and socially, general well-being measure is also an important outcome measure to evaluate the effectiveness of treatment. In the LBP of organic pathology, a set of clinically validated checklists will help in validating the effectiveness of the treatment. Homeopathy never considers treatment based on the diagnosis, but it gives importance to the totality of symptoms, i.e., the logical totality of the whole symptom array. It takes into account the physical and the mental peculiarities of the patient along with the presenting complaints.

The “placebo effect” can be described as a positive change seen after medical treatment - which is caused solely by the patient’s psychological response being given to the treatment (improvement occurs because the patient expects to get better). Placebo effects are associated with all medical interventions. Placebo-controlled trials - which directly compare an experimental treatment with an inactive “dummy” treatment - have therefore become a routine part of medical research to discover whether new treatments have any “real” clinical effects above and beyond placebo.

Homeopaths strongly believe that the medicines heal not only the physical symptoms but also the psychological symptoms, as the system focuses on the mind-body dualism. For having a deeper scientific exploration, the investigator has selected certain physical variables as well as psychological variables to be studied. The variables are pain and functional disability, anxiety, depression, well-being, and physical signs related to LBP.

The present study was conducted to evaluate the relationship between pain and anxiety, pain and depression, and pain and well-being among patients with somatoform LBP and patients with pathological LBP. This study also was intended to prove or disprove the accusations that the homeopathic medicines are nothing but placebo by evaluating the reduction in the physical signs in patients with pathological LBP after treated with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo.

Objectives

The aims of this study are as follows:

1. To evaluate the correlation between pain and anxiety, pain and depression, and pain and well-being among patients with somatoform LBP and patients with pathological LBP.
2. To evaluate the reduction in the physical signs in patients with pathological LBP after treated with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo.

Hypothesis

1. There will not be any significant correlation between pain and anxiety in patients with pathological LBP
2. There will not be any significant correlation between pain and depression in patients with pathological LBP
3. There will not be any significant correlation between pain and well-being in patients with pathological LBP
4. There will not be any significant correlation between pain and anxiety in patients with somatoform LBP
5. There will not be any significant correlation between pain and depression in patients with somatoform LBP
6. There will not be any significant correlation between pain and well-being in patients with somatoform LBP
7. There will not be any significant reduction in the physical signs in patients with pathological LBP after treated with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo.

MATERIALS AND METHODS

The sample for the study was selected through the camps organized by Back Pain Research Clinic of Dr. Padiar Memorial Homeopathic Medical College, Chottanikkara, exclusively for patients with LBP. Sample for the study was selected using systematic random sampling method. Out of the total number of 1142 patients, 673 patients met with the inclusion exclusion criteria. For the purpose of the study, LBP was categorized into two-LBP with positive physical signs (pathological LBP) and LBP without any recognizable physical signs (somatoform LBP disorder). 218 patients who reported at least one of the signs positive based on the physical examination checklist were randomly selected and included under the category of pathological LBP (Category I). 221 patients who did not have even a single sign positive based on the physical examination checklist were randomly selected and were included under the category of somatoform LBP. The inclusion of the somatoform low back patients was based on the directional susceptibility to movement (DSM) IV (APA, 2000) classification for somatoform diagnostic criteria.

The patients in the Category I and II were further classified into three groups based on the type of intervention used

as - Group I receiving homeopathic medicines, Group II receiving placebo, and Group III receiving homeopathic medicines combined with placebo.

Tools used

1. Hamilton anxiety rating scale^[2]
2. Beck depression inventory^[3]
3. Post graduate institute general well-being measure^[4]
4. Oswestry disability inventory^[5]
5. Personal information data sheet (developed by investigator).

A fully informed written consent was obtained from each and every patient before the beginning of intervention. The completed inventories were scored as per the manuals. The scored data were coded and subjected to statistical analyses.

RESULTS

The correlation between pain and anxiety, pain and depression, and pain and well-being among patients with somatoform LBP and patients with pathological LBP were analyzed and given in the Tables 1-6.

The $P = 0.00$ indicates that there is a high positive correlation between pain and anxiety among patients with pathological LBP. Hence, the hypothesis that there will not be a significant correlation between pain and anxiety in patients with pathological LBP is rejected.

The $P = 0.001$ indicates that there is a significant positive correlation between pain and depression of patients with pathological LBP. This shows that the hypothesis that there will not be any significant correlation between pain and depression in patients with pathological LBP is rejected.

From the values, it can be inferred that the pain and well-being of patients with pathological LBP are negatively correlated which means that well-being of patients with pathological LBP decreases with increase in pain and increases with a decrease in pain. This shows that the hypothesis that there will not be any significant correlation between pain and well-being in patients with pathological LBP is rejected.

There is significant positive correlation ($P = 0.001$) between pain and anxiety of patients with somatoform LBP. It can be inferred that the hypothesis that there will not be any significant correlation between pain and anxiety in patients with somatoform LBP is rejected.

Table shows that there is a positive correlation ($P = 0.000$) between pain and depression in patients with somatoform

Table 1: Correlation coefficient and P value of pain and anxiety of patients with pathological LBP group after correlation analysis

Parameters	Values
Correlation coefficient	0.307**
P - value	0.000

**Correlation is significant at 0.001 level. LBP: Low back pain

Table 2: Correlation coefficient and P value of pain and depression of patients with pathological LBP

Parameters	Values
Correlation coefficient	0.222**
P - value	0.001

**Correlation is significant at 0.001 level. LBP: Low back pain

Table 3: Correlation coefficient and P value of pain and well-being of patients with pathological LBP

Parameters	Values
Correlation coefficient	-0.161*
P - value	0.017

*Correlation is significant at 0.05 level. LBP: Low back pain

Table 4: Correlation coefficient and P value of pain and anxiety of patients with somatoform LBP

Parameters	Values
Correlation coefficient	0.252**
P - value	0.000

**Correlation is significant at 0.001 level. LBP: Low back pain

Table 5: Correlation coefficient and P value of pain and depression of patients with somatoform LBP

Parameters	Values
Correlation coefficient	0.250**
P - value	0.000

**Correlation is significant at 0.001 level. LBP: Low back pain

Table 6: Correlation coefficient and P value of pain and well-being of patients with somatoform LBP

Parameters	Values
Correlation coefficient	-0.199*
P - value	0.003

*Correlation is significant at 0.05 level. LBP: Low back pain

LBP. Hence, the hypothesis that there will not be any significant correlation between pain and depression in patients with somatoform LBP is rejected.

It can be inferred from the values that well-being and pain of patients with somatoform LBP are negatively correlated ($P = 0.003$). Hence, the hypothesis that there will not be any significant correlation between pain and well-being in patients with somatoform LBP is rejected.

Mean scores, standard deviations, percentage changes, and *P* value of physical signs of patients with pathological LBP after treatment with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo are given in Table 7.

Table shows that the $P = 0.000$. The value is highly significant (0.01 level) which indicates that there is significant difference in reduction of physical signs among patients with pathological LBP between patients who received homeopathic medicines or placebo or homeopathic medicines in combination with placebo. This indicates that the categories had significant difference in the reduction of the scores after treatment with the Category I which received homeopathic medicines showing a better reduction in their score followed by the Category III which received homeopathic medicines in combination with placebo. The Category II which received placebo had the least reduction in the score. Hence, the hypothesis that there will not be any significant reduction in the physical signs in patients with pathological LBP after treated with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo is rejected.

Findings of the Study

1. Anxiety of pathological LBP increased with increase in pain and decreased with decrease in pain
2. Depression of pathological LBP increased with increase in pain and decreased with decrease in pain
3. The feeling of well-being of patients with pathological LBP improved with the decrease in pain and worsened with increase in pain
4. Anxiety of somatoform LBP increased with increase in pain and decreased with decrease in pain
5. Depression of somatoform LBP increased with increase in pain and decreased with decrease in pain
6. The feeling of well-being of patients with somatoform LBP improved with the decrease in pain and worsened with increase in pain
7. The patients with pathological LBP who received homeopathic medicines had a higher reduction in physical signs followed by the patients who received homeopathic medicines in combination with placebo. The patients who received placebo had shown the least reduction of the three groups of patients with pathological LBP.

DISCUSSION

This study was conducted to evaluate the correlation between pain and anxiety, pain and depression, and pain and well-being among patients with somatoform LBP and patients with pathological LBP. The results obtained showed that there is a positive relationship between pain and anxiety and pain and depression of patients with pathological LBP. A negative relationship was obtained in the case of pain and well-being of patients with pathological LBP. This study also was intended to prove or disprove the accusations that the homeopathic medicines are nothing but placebo by evaluating the reduction in the physical signs in patients with pathological LBP after treated with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo. Patients with pathological LBP who received homeopathic medicines had better improvement. Homeopathic medicines in combination with placebos too could produce significant difference in physical signs when compared to the results with that of placebo. This shows the importance of homeopathic therapy in genuinely improving the pathological LBP physical signs.

A study by Sagheer et al.^[6] had shown that the individuals with LBP were at high risk of experiencing anxiety and depression. According to Herr et al.,^[7] treatment modalities to address anxiety and depression are necessary integral component of pain management. Burba et al.,^[8] in a study, had verified that patients with somatoform pain disorder are prone to have anxiety as an accompanying feature. They state that management of anxiety is necessary in giving relief to somatoform pain disorder patients.

De Waal et al.^[9] in a study on 1046 somatoform patients of general practitioners have found that anxiety and depression with somatoform disorders were 3.3 times more likely than expected by chance. Many other studies too had shown significant association between the somatoform disorders and anxiety as well as depression.^[10] Burba et al.^[8] in a study have described depression as an accompanying factor to pain. Our results are in well agreement with all these studies as we observed a positive relationship between pain and anxiety and pain and depression. Similar findings were obtained in the case of patients with somatoform patients also. Witt et al.^[11] on a study to evaluate the individualized homeopathic treatment for patients with CLBP has shown that the treatment

Table 7: Mean scores, standard deviations, percentage changes, and *P* value of physical signs of patients with pathological LBP after treatment with homeopathic medicines, placebo, and homeopathic medicines in combination with placebo

Test	Homeopathic (n=73)	Placebo (n=70)	Combination (n=75)	<i>P</i> - value
Pre-test	3.84±2.43	2.09±2.15	2.80±1.52	0.000
Post-test	1.99±2.01**	1.54±1.16**	1.89±1.30**	
Percentage change	48.2	26.3	32.5	

**Significant difference at 0.001 levels. LBP: Low back pain

improved the quality of life of LBP patients. The finding of the present study agrees with the finding of Witt et al.

CONCLUSION

From this study, it can be concluded that there is a positive correlation between pain and anxiety and pain and depression, whereas there is a negative correlation between pain and well-being among patients with somatoform LBP and patients with pathological LBP. The study had shown that the homeopathic therapy was capable of improving the physical signs among patients with somatoform LBP and patients with pathological LBP. Homeopathic medicines in combination with placebos too could produce a significant difference in physical signs when compared to the results with that of placebo.

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