

# EFFECTIVENESS OF HOME MANAGEMENT VERSUS OPD MANAGEMENT IN LOW BACK PAIN PATIENTS

## ABSTRACT

### OBJECTIVE

To Study the effectiveness of Home management versus OPD management in Low back pain patients.

### STUDY DESIGN

The study was a quasi experimental study design.

### STUDY SETTINGS & PARTICIPANTS

Participants aged between 30 to 70 years suffering from low back pain for more than 3 months were inducted in the study. They were divided into two groups, one which was provided intervention at home and the other which was given physiotherapy in OPD setting.

### INTERVENTIONS

A pre and post assessment was done at 6 months based on Oswestry low back pain disability questionnaire. Analysis was done by application of Independent sample t test. P value less than 0.05 was taken as significant.

### RESULTS

A total of 100 participants were equally divided for OPD and home management. Oswestry low back pain disability questionnaire was administered pre and post intervention and Independent T test was applied to find the difference between the mean pretest and posttest scores for OPD and home managed patients which were taken 6 months apart. A significant difference was observed as p value was < 0.00

### CONCLUSION

The results of the study concluded that OPD management for chronic low back pain not only reduces pain but also reduces chance of disability. But patient satisfaction was higher in home manage group in comparison to OPD in personal care.

### Key Words

Low Back Pain, Lumbago, Home Management, OPD Management, Physiotherapy LBP, Home vs OPD Physiotherapy

### Muhammad Sarfraz

Assistant Professor  
Ziauddin College of Physical Therapy  
Ziauddin University  
mohdpk23@hotmail.com

### Erum Naz

Physiotherapist  
Physiotherapy Department  
National Medical Center  
Burakpa95@yahoo.com

### Kulsoom Habib

Physiotherapist  
Physiotherapy Department  
Al-Mustafa Trust  
Kulsoom\_physio17@yahoo.com

### Syed Hassan Danish

Sr. Lecturer  
Department of Community  
Health Sciences  
Ziauddin University

### Farah Ahmed

Assistant Professor  
Department of Community  
Health Sciences  
Ziauddin University  
faraga24@yahoo.com

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## INTRODUCTION

The spine consists of 33 vertebrae and five regions that is cervical (7 vertebrae), thoracic (12 vertebrae), lumbar (5 vertebrae), sacral (5 vertebrae), and coccyx (4 vertebrae). Each protecting the spinal cord and provide stability to torso<sup>1,2</sup>. The spine has got two types of curves, primary and secondary<sup>3-5</sup>. Primary curves are thoracic and sacral where secondary curves are cervical and lumbar curves<sup>6,7</sup>. Cervical and lumbar curves being most mobile and are more prone to develop different problems which can be due to posture, muscle spasm or may be due to the problem in disc, present in between the vertebrae<sup>8-11</sup>.

The largest cause of work-related absence and one of the most common medical problems<sup>12</sup> affecting 8 out of 10 people at some point during their lives is low back pain. Low back pain means a pain, or ache, anywhere on the backside of body, in between the bottom of the ribs and the top of the legs<sup>13</sup>, the pain can come on suddenly, slowly or be the direct result of a fall or injury<sup>14</sup>. In most cases, the pain lasts from a few days to a few weeks and usually clears up after about six weeks<sup>5</sup>. Area of Lumbar spine encompass the distance from the 1st lumbar vertebra to the 1st sacral vertebra. The most frequent site of low back pain is in the 4th and 5th lumbar segment.<sup>12</sup> It is predicted that it will affect up to 90% of the world's population at some point in their lives, mostly affecting the age group between 35 and 55 years<sup>14</sup>. Risk factors for LBP include heavy physical work, frequent bending, twisting and lifting; and prolonged static postures. Psychosocial risk factors include anxiety, depression and mental stress at work.

LBP can be arbitrarily divided into acute, sub-acute or chronic, depending on the duration of the complaints. Acute LBP persists for less than six weeks, sub-acute is between six weeks and three months and chronic LBP lasts longer than three months<sup>15</sup>. It is believed that 80-90% of LBP episodes are acute and resolve within six weeks irrespective of the administration or type of treatment. However 5-10% of LBP patients will develop chronic problems<sup>16</sup>.

T M. Damush et al 2003 found that self-management program can improve and maintain functional status, mental functioning, and self-efficacy to manage future symptoms for 1 year among primary care patients with ALBP.<sup>17</sup> K. Cooper et al 2008 determined the patient-centeredness from the patient's perspective in the context of physiotherapy for chronic low back pain. There were 25 patients who received physiotherapy for low back pain within 6 months. There was evidence of betterment in chronic low back pain<sup>18</sup>.

Physiotherapy is one of the effective plans for LBP and can be provided at home as well as in OPD. Exercises and some physiotherapy modalities like hot or cold therapy<sup>19</sup> can be given in some cases, pain modulating agents like TENS<sup>20</sup> can be used for temporary pain relief. Postural control is taught to the patient to overcome any muscle imbalance.

Advantage at home is the level of comfort for patient and especially for those patients who are not able to come in OPD. Advantage at OPD is presence of special modalities. Research is scarce where both the methods were compared both internationally and at the local level. Therefore we want to compare the effectiveness of HOME management and OPD management in low back patients.

## MATERIAL AND METHODS

This was the study of low back pain patients in which 50 participants received physiotherapy sessions at National Medical Center Karachi and 50 participants followed only home program. Handouts and written educational material was given to participants showing recommended exercises with proper body mechanics. The questionnaire was filled at beginning of research and after 6 months by the participants for evaluation.

### Study Design

This was a quasi experimental trial where comparison was done between home management and opd management for LBP

### Duration of Study

The duration of study was 6 month

### Sample Size

The size of 100 people received physiotherapy for Low Back Pain. Sample size was calculated on the basis of prevalence 7%<sup>21</sup> a total of 100 patients were selected.

$$n = Z^2 P (1-P) / d^2 0.05$$

$$= (1.96)^2 0.07$$

$$= 3.8416 \times 0.07 \times 0.93 / (0.05)^2 / 0.0025 = 100$$

### Sampling Techniques

Sampling technique was purposive sampling

### Inclusion Criteria

Patients were selected having age between 30 to 70 years and having LBP greater than three months of duration.

## DATA COLLECTION PROCEDURE

Patients coming to the outpatient department of National Medical Center were included in this study. Those who fulfilled the inclusion criteria were asked to sign the informed consent after being explained the objectives and duration of the study. On the choice of the participants they were assigned either the OPD management group or home management group. All the participants were interviewed and were asked to fill the questionnaire at the time of induction in the study. The questionnaire consisted of close ended questions, First part recorded the demographic profile of the patients and the second part of Questionnaire was based on reliable standard scale (Oswestry low back pain disability), one of the most commonly used outcome measures for individuals with low back pain. The Oswestry Questionnaire encloses ten questions about patients. On every question the patient can choose out of 6 possible answers, but only one can be marked. When the patient doubt of several possibilities, he should mark the one which fits the best. For every part, score is minimal 0 and maximal 5. The lower the score the less restrictions, patient experiences during his daily activities. The sample of 100 participants was divided into two groups, one coming to OPD continuously for physiotherapy treatment while other group was given home programme only (but they came at regular interval for follow ups). Than after six months patients were re examined at National Medical Center and were asked to fill the same questionnaire. Voluntary consent was taken from the patients and confidentiality assurance was provided to those who agreed to JHJHJHJKHKJHKJH

participate in the study.

### DATA ANALYSIS PROCEDURE

Data was entered and analyzed on SPSS version 20. Descriptive variables were both numerical and categorical in nature. Mean and standard deviation was taken out for the numerical variables whereas frequencies and percentages were taken out for categorical variables. Pooled and Paired t test was applied for finding the difference in the mean scores of pre and post test of home versus OPD management groups. P value less than 0.05 was taken as significant.

### RESULTS

A total of 100 participants were recruited in the study with a male to female ratio of 1:2 (33% males - 67% females). The participants were selected on the basis of chronic low back pain greater than 3 months. They were equally divided into OPD management and home management. At the time of recruitment they were given a pretest based on the Oswestry Low back pain questionnaire which was repeated after an intervention period of 6 months. The questionnaire was based on routine daily activities and was divided into 10 areas which assessed the effect of pain on their day to day activities.

Independent T test was applied to find the difference between the mean pretest and posttest scores for OPD and home managed patients which were taken 6 months apart. A significant difference was observed as p value was 0.000. When paired t test was applied to find the difference in the pre and post home scores of home managed group mean score for pretest was  $36.42 \pm 6.9$  and for the posttest was  $16.38 \pm 6.3$  with a highly significant p value of 0.000. When paired t test was applied to find the difference in the pre and post home scores of OPD managed group mean score for pretest was  $19.42 \pm 9.8$  and for the posttest was  $10 \pm 8.9$  with a highly significant p value of 0.000.

When intensity of pain was compared between the pretest and posttest and type of pain management there was a reduction of severity of pain from 40% (n=20) to 8% (n=4) in OPD treated patients as compared to home treated patients where reduction was seen from 96% (n=48) to 14% (n=7). Significant reduction in the number of people suffering from pain was observed. Initially in the pretest, n=34 (68%) of the people in the OPD management group had moderate to severe pain, number decreased to n=15 (30%) after 6 months. As compared to home management group where initially all the participants had moderate to severe pain after 6 months their number decreased to n=23 (46%) Table 1 and Table 2.

Regarding personal care, number of participants who were able to take care of themselves independently in the OPD managed group improved significantly from n=21 (42%) to n=36 (72%) after six months of intervention. Significant difference was also observed in the home managed group as the numbers increased from n=2 (4%) to n=28 (56%) Table 1 and Table 2

Regarding the impact of chronic pain on social life in the OPD managed group n=33 (66%) people had a normal social life and remaining had restricted. Their number improved to n=48 (96%) after 6 months of intervention. Whereas in the home managed group initially there were only n=6 (12%) people who had normal social life and after 6 months their number rose to n=41 (82%).

When asked about the effect of chronic pain on either employment or home making it was observed that initially there were n=24 (48%) in OPD managed group who were able to perform near normal duties. After 6 months their number augmented to n=35 (70%). In home managed group only n=5 (10%) were able to perform their duties as compared to n=27 (54%) after 6 months of intervention.

The effect of chronic pain on travelling when assessed revealed that n=26 (52%) were able to travel without any pain but after 6 months of intervention the number escalated to n=39 (78%) in OPD managed group. Significant difference was observed in the home managed group where 50% of participants showed improvement after 6 months.

Regarding the other variables that were assessed in their daily activities lifting of weights showed that initially n=20 (40%) were able to lift heavy weights and after intervention their number ascended to n=34 (68%) in the OPD managed group. As compared to OPD managed group marked improvement was seen in home managed group where 50% of participants showed improvement after 6 months.

Initially n=11 (22%) participants were able to walk regardless of miles travelled and with or without support in the OPD managed group. Their number was increased by n=19 (38%) after 6 months of intervention. In home managed group there were 13 (26%) people who were bed ridden. After the intervention period they were able to walk a few miles without pain hindering their walking. After the intervention period the number of people in whom chronic pain restricted them to bed became negligible in both groups.

Initially n=24 (48%) participants were able to sit without pain for longer duration of time in OPD managed group. After 6 months intervention another 9 participants showed improvement. Marked improvement was observed in home management group. Initially there was no one in this group who could sit without pain but after intervention n=26 (52%) people were able to sit without pain for longer duration.

For how long participants who were assigned in the OPD managed group can stand without being affected with pain initially it was n=19 (38%) but after 6 months intervention the number levitated to n=34 (68%). In the home managed group there was only 1 participant in this category but after 6 months n=28 (56%) participants showed improvement and they were able to sit without pain.

When inquired about sleeping n=30 (60%) of the participants in OPD managed group could sleep without being disturbed by pain and their number was significantly increased to n=42 (84%) after 6 months. Marked improvement was observed in the home managed group where initially there was only one participant who was able to get a proper night sleep but later on the number increased to n=31 (62%) after intervention of 6 months.

### DISCUSSION

The effectiveness of home management versus OPD management in low back pain patients was assessed using a self administered questionnaire. The two groups were followed over a period of six months and pre and post test were carried out on all the 100 participants.

Table 2: Association between type of Management and Oswestry Low Back Pain Disability Questionnaire (posttest)

		OPD Management (n=50)		Home Management (n=50)		P Value
		n	%	n	%	
Intensity of Pain	Mild	16	32	0	0	0.000
	Moderate	14	28	2	4	
	Severe	20	40	48	96	
Personal Care	Can Look After Independently	21	42	2	4	0.000
	Partially Dependent	23	46	13	26	
	Totally Dependent	6	12	35	70	
Lifting	Can Lift Heavy Weights	20	40	1	2	0.000
	Can Lift Medium Weights	16	32	18	36	
	Can Lift only Light Weights	14	28	31	62	
Walking	Can Walk with/out Support	11	22	15	30	0.000
	Can Walk Max. 1 mile to 100 yards	36	72	22	44	
	In bed most of the time	3	6	13	26	
Sitting	Can Sit without Pain	24	48	0	0	0.000
	Can Only Sit Max. 1 hour	25	50	37	74	
	Cannot Sit at all	1	2	13	26	
Standing	can Stand as long as I want	19	38	1	2	0.000
	Can Stand Max. 1 hour	31	62	40	80	
	Pain Prevents from Standing	0	0	9	18	
Sleeping	Can Sleep without being disturbed by Pain	30	60	1	2	0.000
	Can Sleep only for 2-6 hours	19	38	35	70	
	Pain Prevents from Sleeping	1	2	14	28	
Social Life	Normal Social Life	33	66	6	12	0.000
	Restricted Social Life	16	32	34	68	
	No Social Life	1	2	10	20	
Travelling	Can Travel without Pain	26	52	2	4	0.000
	Can Travel between 30 mins-2 hours	23	46	36	72	
	Pain Prevents from Travelling	1	2	12	24	
Employment/ Home Making	Near Normal Office/Home activities	24	48	5	10	0.000
	Moderate to Light Work	25	50	36	72	
	No Work	1	2	9	18	