Galore International Journal of Applied Sciences and Humanities
[Indexed, Peer Reviewed Journal]
Vol. 9; Issue: 1; January-March 2025
Website: www.gijash.com
Research Paper *P-ISSN: 2456-8430*

Study to Know the Impact of Lumbago on Quality of Life of Ikkat Handloom Weavers of Pochampally and Intervention with Cobaltum 200C - A Cross-Sectional Study

Prof. Dr. P. Venkateshwar Rao[1], B. Sreevani[2]

[1]Department of Homoeopathic Materia Medica, [2]Intern;
MNR Homoeopathic Medical College and Hospital, Sanga Reddy, Telangana, India.

Corresponding Author: Prof. Dr. P. Venkateshwar Rao

DOI: https://doi.org/10.52403/gijash.20250103

ABSTRACT

Lumbago is a musculoskeletal disorder of back causing pain in between the lower edge of ribs and the lower fold of the buttocks. It occurs more often in traditional handloom weavers due to their prolonged sitting posture and nature of work. It was seen that in physical illnesses like back pain has an impact on quality of life by the means of physical, mental, social and environmental aspects. Low back pain is important cause for absenteeism in traditional weavers which reflects in productivity of work and livelihood. Based on the literature there are many commonly used homoeopathic medicines for backache like Arnica, Aesculus, Rhus tox. But nowhere accuracy in effectiveness of Cobaltum had been discussed even though it was mentioned as effective remedy for Backache in literatures. This study is designed to know the impact of chronic or sub-chronic and mechanical type of lumbago on quality of life in traditional Ikkat handloom weavers of pochampally along with efficacy of Cobaltum200C. Physical pain can take control over the daily routine, emotional and interpersonal relationship in weavers. The study also helps to define quality of life among the traditional weavers according to different domains like physical, psychological, social and environmental. This is an initiative to bring community-based research to address the problem and provide effective homoeopathic aid among economically challenged communities.

Keywords: VAS Scale, WHOQOL-BREF-Sale, Cobaltum200C, Lumbago

INTRODUCTION

Low back pain (LBP) is pain that is experienced in between the corners of the lower ribs (costal margins) to the fold of the lower buttocks (gluteal folds), namely the lumbar-sacral area (L1- L5) and with or without radiations to the legs and feet [1]. Low back pain is also called as lumbago belongs to ICD-10 of international classification of disease. It involves muscles nerves and bones of the back. These can be classified as acute, sub-chronic or chronic based on the duration of pain below and above 6 weeks. This can also be classified mechanical, nonmechanical and referred pain based on cause. Life-time prevalence of low back pain is in between 60% and 80% [2]. Musculoskeletal-mechanical diseases include muscle strain, muscle spasm and osteoarthritis, herniated nucleus pulposus,

herniated disc, spinal stenosis and compression fracture. Red flags for spinal pathology in case of low backpain are age less than 20yrs and more than 55yrs, progressive pain, sweats, weight loss, major trauma, thoracic pain, tuberculosis, carcinoma [3].

Lumbago occurs more often in traditional handloom weavers due to their prolonged sitting posture and nature of work. It was seen that in physical illnesses like back pain has an impact on quality of life by the means of physical, mental, social and environmental aspects. This study is designed to know the impact of chronic or sub-chronic and mechanical type of lumbago on quality of life in traditional Ikkat handloom weavers of pochampally along with efficacy ofCobaltum200.

PAIN PERCEPTION:

Pain is generally an unpleasant feeling in response to an event that can potentially damage the body's tissues. It occurs due to Gate control theory of Pain. There are four main steps in the process of feeling pain. They are Transduction, Transmission, Perception, and Modulation [4]. The nerve cells that detect pain have cell bodies located in the dorsal root ganglion and fibres that transmit these signals to the spinal cord and multiple brain areas like thalamus, somatosensory, limbic system and frontal cortex. Parts of the pain sensation and processing system may not function properly, creating the feeling of pain when no outside cause exists, signaling too much pain from a particular cause, or signalling pain from a normally non- painful event. In addition, the pain modulation mechanisms may not function properly. These phenomena are involved in chronic pain.

NATURE OF WORK, IKKAT HANDLOOM WEAVERS:

Pochampally Ikkat handloom is traditional textile dyeing technique that is used to create intricate designs and patterns on fabrics. One member winding threads into Bobbin. When onemember of the weaver family marks intricated designs on the warp threads moving the hands expertly with concentration. Other member weaving on pit loom moving hands steadily turningthreads to beautiful tapestry [5].

LOW BACKACHE IN TRADITIONAL WEAVERS:

Low back pain (LBP) in traditional weavers is a very common but largely self-limiting condition. It is caused by sitting for a long time in a monotonous position, causing tension on back muscles and can lead to the surrounding soft tissue damage [6]. Such working methods are unavoidable as this occupation is the only thing that makes both ends meet. It is now widely accepted that CLBP disorders are multi-factorial in nature. However, the presence and dominance of the Patho-anatomical, physical, neuro-physiological, psychological and social factors that can influence the disorder is different for each individual [7].

COBALTUM IN WEAVERS:

Boericke, Hering and Clarke mentions that aching pain in spine, small of back, aggravated by sitting and better by rising, walking or lying down [8]. Modalities are characteristics to weavers.

LITERATURE REVIEW

Roland-Morris Disability Questionnaire (RDQ) is a quality of life (QOL) questionnaire targeted for evaluating lumbago. Principal component analysis has revealed that RDQ consists of two components representing general, and mental or social aspect of lumbago. Defining thecomponent structure and determining the procedure to obtain the subscales would make the most use of RDQ, and contribute to the better evaluation of patients with lumbago [9].

A Study stating Methyl cobalamin, an activated form of vitamin B12 is a potent painkiller supports our current study with intervention of cobaltum as it is a component

of methyl cobalamin. MeCbl alleviated pain behaviours in diabetic neuropathy, low back pain and neuralgia. MeCbl improved nerve conduction, promoted the regeneration of injured nerves, and inhibited ectopic spontaneous discharges of injured primary sensory neuron [10].

An article suggesting Importance of assessing pain intensity as subjective factor along with considering multidimensional aspects like psychological aspects like Kinesio phobia, fearavoidance, anxiety, pain self-efficacy, sleep quality, physical, social aspects like sick absenteeism and environmental aspects of quality of life in treating individuals with CLBP. These factors help to decide treatment plan [11].

In A double blinded randomised controlled trial to know the Efficacy of intramuscular methyl cobalamin injections in treating non-specific chronic low back pain found out, Intramuscular methyl cobalamin is both an effective and safe method of treatment for patientswith nonspecific low back pain, both singly or in combination with other forms of treatment. intramuscular injections of 500 mcg parenteral methyl cobalamin in 1 ml solution three times a week for two weeks were administered [12].

In the Metals in Homoeopathy, a review of more than 50 paediatric clinical cases by Patricia le roux mentioned cobaltum in chapter 9 with indications for Lumbago spina bifida, sciatica and dermatitis. Cobaltum has affinity to act on neurasthenic states with modalities like aggravation on sitting, lying and amelioration by walking [13].

MATERIALS & METHODS

This study was conducted among the handloom weavers of Pochampally who are suffering from low back pain from more than 6weeks, out of which 30 weavers were selected by simple random method. Ethical clearance was taken by Ethical committee. A Standard case proforma was used for obtaining the patient's details and the same was used to record them. Before undertaking the study, Consent Forms were given to the patients and were informed regarding the study in detail. Sample of 42 weavers of all age groups and other health conditions were selected based on simple random method. After evaluating sample with all inclusion (Weavers in the occupation for minimum 2 years, mechanical cause like muscle strain, sprain, ankylosing spondylosis, lumbar spondylosis, degenerative changes, lumbar herniation, Sub-chronic and chronic type of lumbago. Age group of 20yrs to 60yrs) and exclusion criteria (Chronic alcoholics, pregnant women, renal causes, urogenital causes, respiratory cause, trauma. Acute lumbago, Age group of above below 20yrs and above 60yrs) 1weaver with prosthetic stunt, 5weavers above the required age group, 2 weavers of hypersensitivity and 4 chronic alcoholics are excluded from the study. 30 weavers are selected for the study. Data was obtained from 30 weavers by WHO-BREF Quality of life Scale and VAS Scale before intervention with cobaltum. Sample groups were asked to administer the remedy cobaltum 200C once in a week i.e. on every Sunday for study period of 8weeks,5 pills in early morning. Data of pain intensity and quality of life score are obtained from the patients after intervention with cobaltum200C after 8 weeks of study period.

STATISTICAL ANALYSIS

Statistical analysis is done by correlational test and ‘paired t’ using Microsoft excel and IBM SPSS software 26 version

RESULT

Sample of 30 handloom weavers are with mean age of 48.16yrs (S. D=9.225), highest age is 59 and lowest age is 27 and among them 14 (46.6%) were females and 16(53.3%) were males.

Table.1. Result of VAS score data before and after intervention

	Vas score Before	Vas score after
Mean	7.3566cm	5.5933cm
sample standarddeviation	1.123cm	1.4450cm
High value	9.2cm	8.3cm
low value	5cm	2.8cm

Fig 1 Data of number of individuals based on severity of pain before 4(a) and after 4(b).

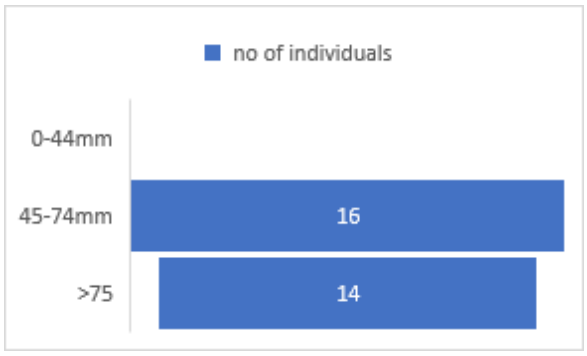


Fig 4(a)

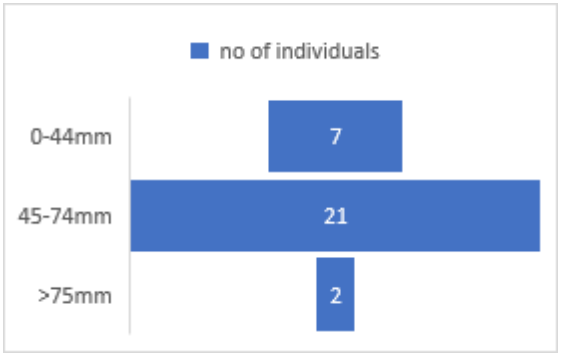
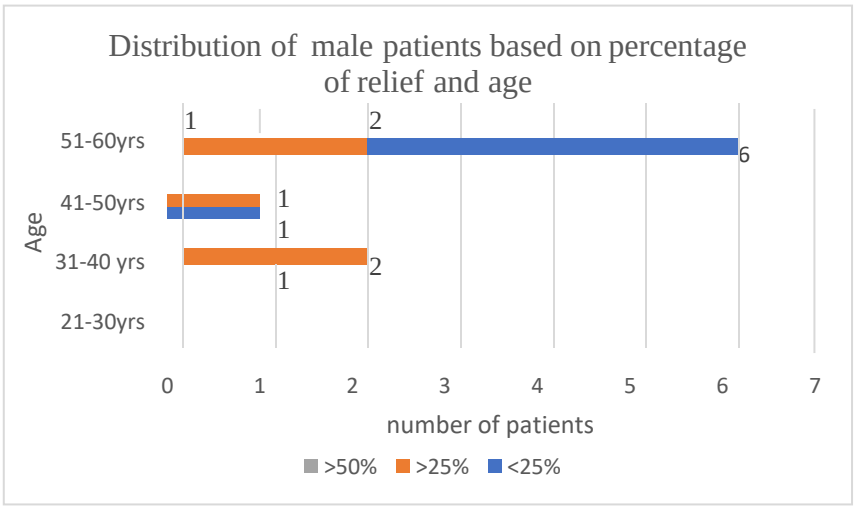


Fig 4(b)

Inference: 16 weavers had 45-74mm and 14 weavers had >75mm of pain intensity before intervention. Whereas 7 weavers had 0-44mm, 21 weavers had 45-74mm ,2 weavers had >75mm of pain intensity after intervention.

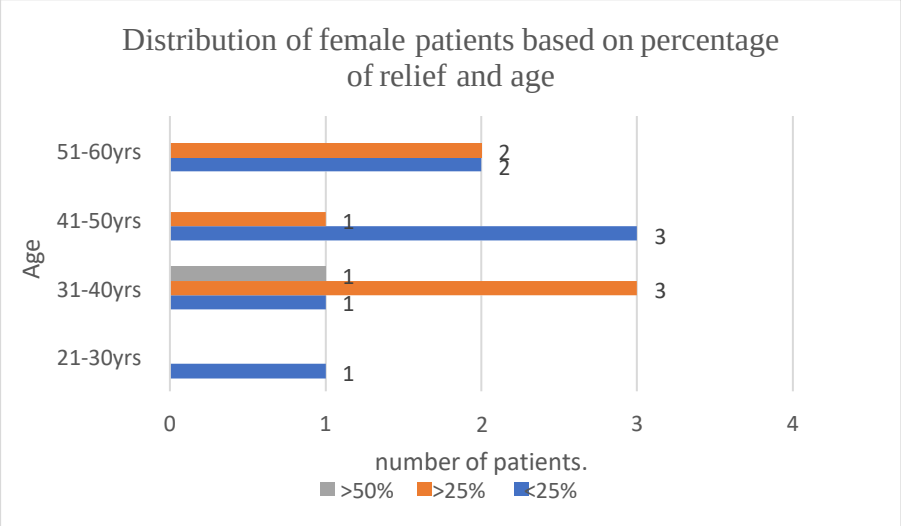
Percentage of pain relief was calculated from the before and after Values of Vas score shows that 58% is maximum percentage of relief and 5% is lowest percentage of relief. 15 weavers from the population had < 25% relief while 11 weavers had >25% relief and only 2 members had >50% relief. 2 weavers among the sample had increase in pain in pain intensity by 12% and 3% which is very slight and negligible.

Fig 2 showing distribution of male weavers based on % of relief and age



Inference: Among the male patients of 51-60 yrs. of aged,1patient had 50%,2 patients had >25% ,6 patients had <25% relief. Among 41-50 yrs,1 patient with >25% and 1 patient with <25% relief. Among 31-40yrs, 2 patients with >25% and 1 patient with <25% relief

Fig 3 showing distribution of female weavers based on percentage of relief and age



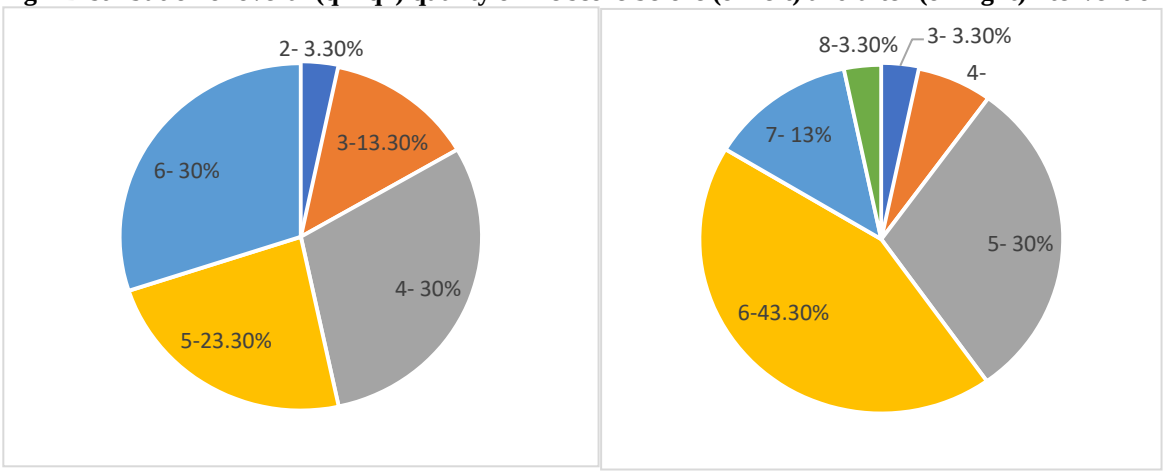
Inference: Among the male patients of aged 51-60 yrs, 2 weavers had >25% and 2 weavers has <25% relief. Among 41-50 yrs. of age, 1 weaver had >25% and 3 weavers had <25% relief. Among 31-40yrs of age, 1 had >50%, 3 weavers had >25%, 1 had <25% relief. Among 21-30yrs of age, 1 had <25% relief.

Table.2. Result of overall(q1+q2) quality of life score before and after treatment.

	overall qolbefore	**overall qol after**
	(q1+q2)	(q1+q2)
mean	4.63	5.66
standard deviation	1.139	1.011
high value	6(30%)	8(3.3%)
low value	2(3.3%)	3(3.3%)

% showing percentage of people rated the score for quality of life

Fig 4 Distribution of overall(q1+q2) quality of life score before (on left) and after (on right)intervention



% showing percentage of people rated the score for overall quality of life

Correlation between VAS score and quality of life.

Correlation was analysed by Spearman correlation test as both pain intensity and quality of life are quantified with 0-100 mm and 0-100 transformed score respectively. As we assume monotonic relationship between intensity of pain in back and

quality of life, Spearman's rank coefficient correlation test was used.

Table-3. Correlation coefficient between Vas score and all domains of QOL both before and after

	physical before	**psychological before**	**social before**	**environmental before**	**overall qol before**
VAS Before	-0.278	-0.065	0.024	-0.217	-0.292
	physical after	psychological after	social after	environmental after	overall qol after
VAS After	-0.679	-0.32	0.103	-0.209	-0.427

Table-4. Sig (2 tailed) for Correlation between VAS scote and all the domains of QOl before and after

	physical before	**psychological before**	**social before**	**environmental before**	**overall qol before**
VAS Before	0.137	0.732	0.902	0.25	0.117
	physical after	psychological after	social after	environmental after	overall qol after
VAS After	0	0.084	0.588	0.269	0.018

Comparison of data before and after intervention

Fig 5 Data of VAS score before and after the intervention

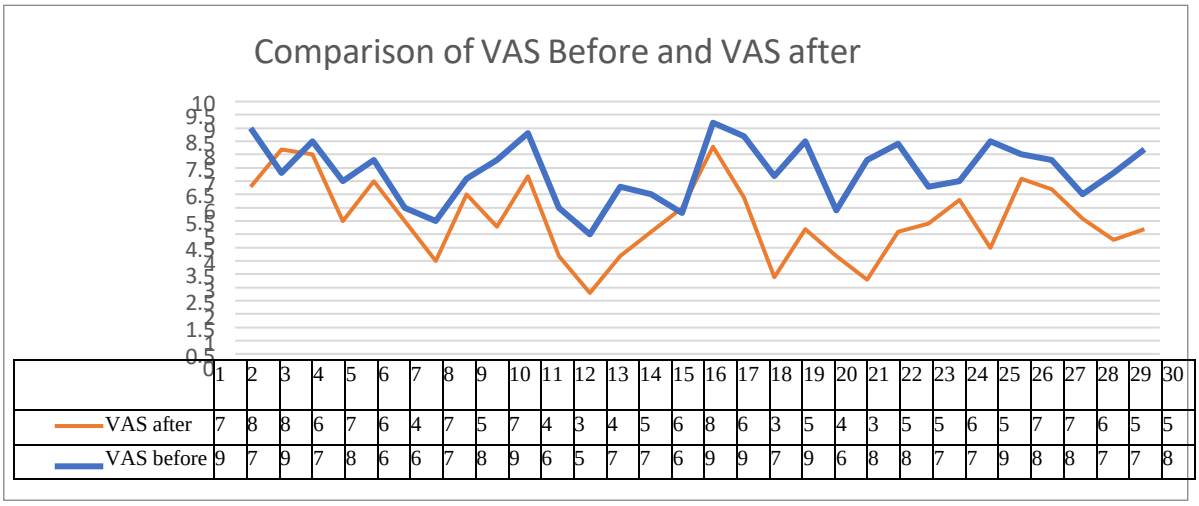


Fig 6 Data of Psychological QoL score before and after

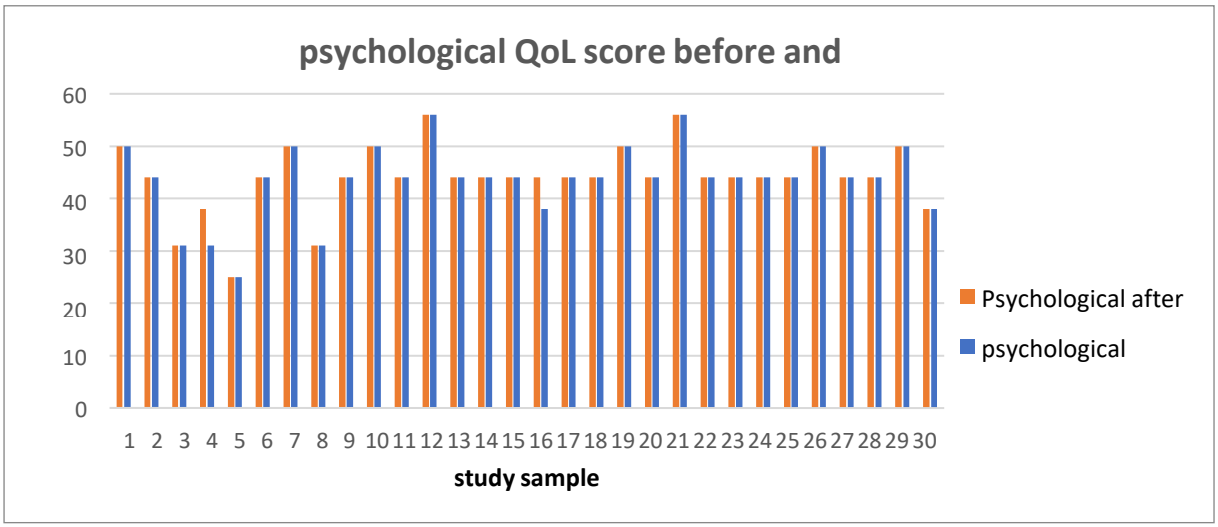


Fig 7 Data of physical Qol score before and after

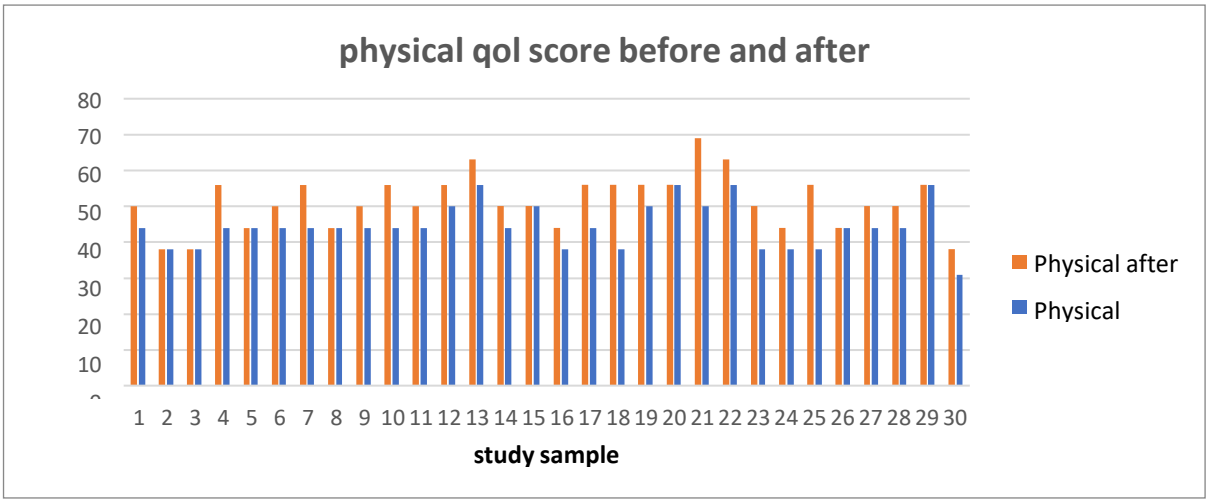


Fig 8 Data of social Qol score before and after

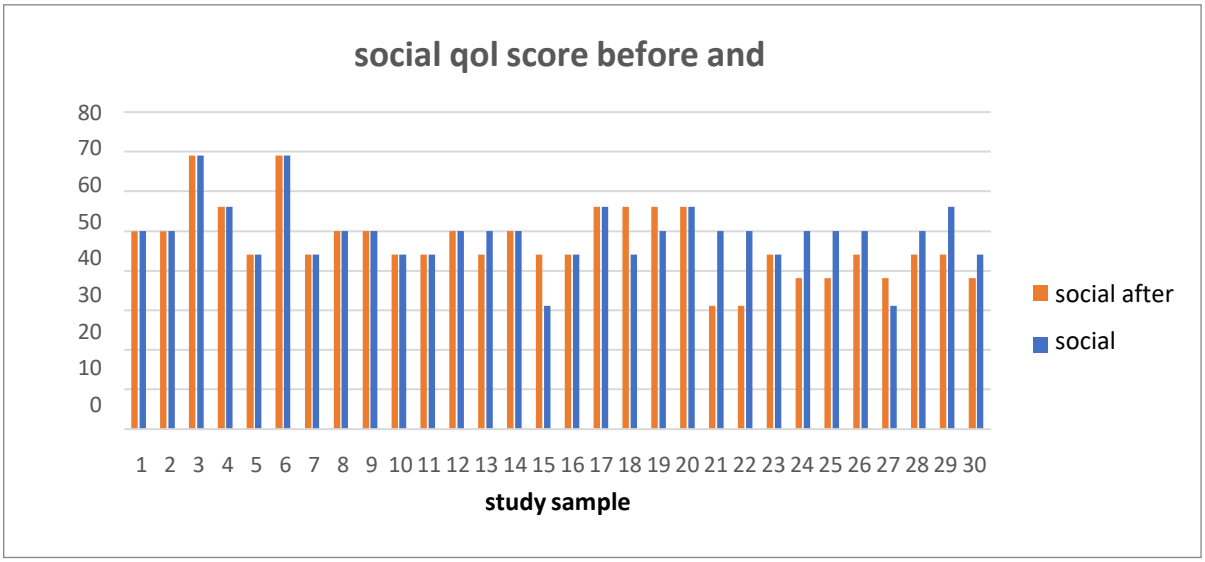


Fig 9 Data of environmental qol score before and after

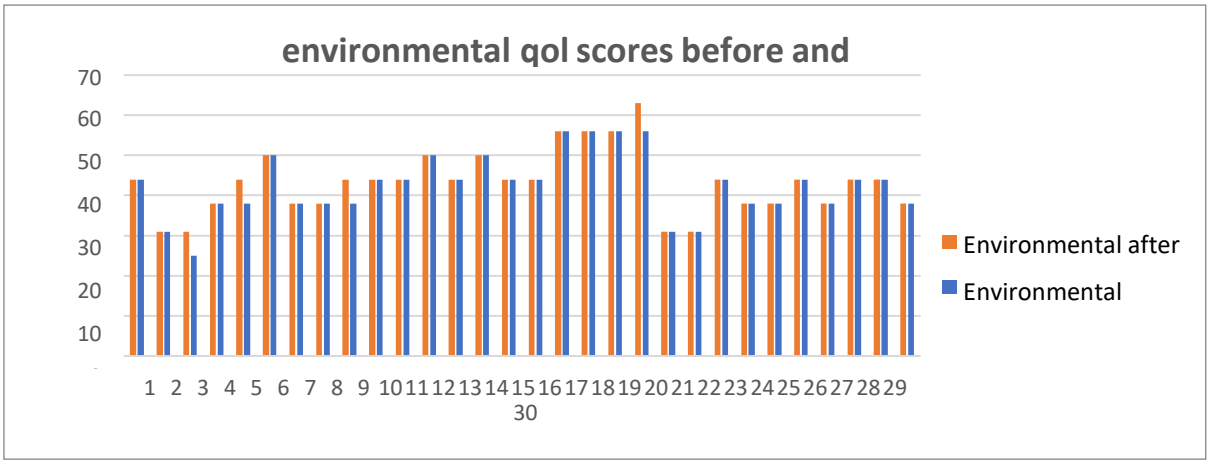


Fig 10 Data of overall qol score before and after

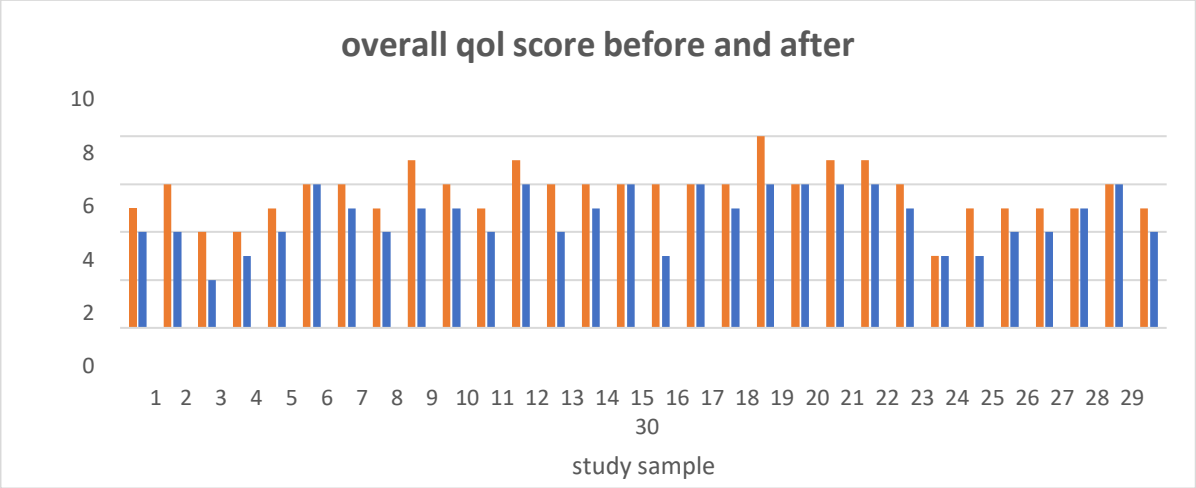


Table-5. Comparison between Vas scores all the domains of QOL both before and after

Pair	paired differences mean	T	Df	Sig(2-tailed)
Vas before	1.763	7.668	29	0.000(Highly significant)
– Vas after				
Physical before – Physical	-6.733	-6.577	29	0.000(Highly significant)
after				
Psychological before-	-0.433	-1.435	29	0.162
Psychological after				
Social	2	1.486	29	0.148
before – Social after				
Environment before –	-0.833	-2.106	29	0.044
environment after				
Overall qol	-1.033	-7.5263	29	0.00(significant)
before and after				

Result obtained while assessing Objective-1, shows moderate to high intensity of pain based on perception of traditional Ikkat weavers according to VAS scale (50mm - 92mm) in samplebefore intervention.

Pain has definitely an impact on quality of life, also as it is a multifactorial aspect that even has impact of endurance, work load coping skills, personality and self-esteem of an individual on quality of life. This explains objective -2.

Assessing objective -3, Before the intervention, Negative correlation between pain intensity and overall quality of life, physical, psychological and environmental aspects of quality of life indicates that increase in pain there is decrease quality of life each aspect, low r value less than-0.4 or value towards 0 indicates weak correlation suggesting that it is not sole factor to influence quality of life. Statistical significance in p value >0.05 indicating low or no significance in the correlation. Low Positive correlation with no statistical significance between pain intensity and social aspect suggested no relation. Correlation of pain intensity with physical domain is stronger when compared to other domains.

Correlation after intervention between VAS score and physical was significant with rs value (correlation coefficient) of -0.678 which is negative correlation explains as increase in pain there is decrease in quality of life as r values lies between -0.59 to -0.80 indicates it has marked correlation (value toward 1 has high correlation). R^2 which is coefficient of determination measures proportion of variation depended on the variable, in this instance the R^2 value is 0.46

that means 46% proportion of variation in dependent (pain intensity and quality of life) variable explained by independent variable. Whereas r_s value with overall quality of life after intervention shows -0.427 which is moderate negative correlation explains as 18% of variation depended on pain intensity explained by independent variables. Thus, correlation of pain intensity with overall quality of life and physical are significant with p value less than 0.05 after the treatment. While psychological, social and environment aspects there is no significant correlation as correlation coefficient (r value) lies between 0.02 to 0.3 which indicates lower strength of association with p value more than 0.05 with no significance. Assessing objective-4, Intervention of Cobaltum200C for duration of 8 weeks had found to be effective in Backpain with the significant statistical difference ($p=<0.05$). The intervention found to be effective in improving quality of life with significant difference (paired t) in overall quality of life, physical and environmental aspects and has no significant difference in psychological and social aspects. Correlation of pain intensity with overall quality of life and physical domain are marked with statistical significance. To improve quality of life in Psychological, social aspects intervention with counselling may help.

DISCUSSION

Data of physical domain from Quality-of-life questionnaire obtained from the current sample can be more reliable while social domain least reliable as personal questions regarding sex life and relationship with friends may not be answered accurately.

As a multifactorial aspect there are various influences that determine quality of life like income, self-esteem and health related aspects. Perception of Pain intensity and quality of life was also influenced by endurance, thought process, fear of pain, coping skills and actual pathology.

Mechanical non-specific chronic Low Back Pain in traditional handloom weavers is an occupational disease. Stuart Close in his philosophy, in General Pathology has mentioned occupational diseases in the classification of diseases which are due to continuous exposure toa cause [14].

Cobaltum is a homoeopathic remedy obtained from cobalt metal and potentised to infinitesimal doses. It is useful for lumbago as indicated by Boericke Repertory under locomotor system, Back, pain in general, aching, dull, constant backache, in italics [15].

As mentioned in literature in boericke repertory and materia medica duration of action of cobaltum is 30 days, and repetition of medicine done weekly once for 8 weeks [16].

Intramuscular methyl cobalamin is both an effective and safe method of treatment for patients with nonspecific low back pain suggest reason for the efficacy of our intervention with cobaltum in minute doses as methyl cobalamin has cobaltum element in it.

Cobaltum 200c contain quantity in Avogadro number which is very minute when compared to lethal dose of more than 7-10micrograms/L per day [17]

Homoeopathy is best medical intervention to limit the side effects of steroids and non-specific effects of medicines which can only give temporary relief and relapse of the complaint. As the homoeopathy uses minimum doses of medicines avoids side effects.

Supportive measures like passive exercise, physiotherapy and lumbar belts, splints along with medicinal intervention would help to provide desirable outcome from the treatment of such Musculo skeletal diseases.

Scope for further study with interventions for visual defects, Neurological diseases like peripheral neuropathy and psychiatric conditions like depressions in the population of pochampally handloom weavers.

CONCLUSION

This current study concludes that pain intensity has an impact on overall and physical quality of life in an individual and intervention of cobaltum200C is proved

effective in both managing pain and improving overall, physical and environmental aspects of quality of life.

Correlation found between pain intensity and overall, physical, psychological and environmental aspects was low negative with low or no significance before intervention proved its multifactorial influence that quality of life is not solely depends on pain intensity but r value showing negative defines relation between two aspects.

After intervention, pain intensity showing negative correlation and significant p values (<0.05) with overall quality of life and physical aspects of life proves that decrease in pain intensity has influence on respective quality of life aspects significantly.

As per the results comparing before and after intervention significant difference was obtained in pain intensity, overall quality of life, physical and environmental aspects of quality of life which modified by intervention only. Thus, hypothesis of impact of back pain on quality of life with efficacy of the intervention with cobaltum200c is proved.

Thus, current research concludes in support of alternative hypothesis in terms of proving correlation of pain intensity with overall and physical quality of life along with effectiveness of Cobaltum200C.While in correlational study p value is indicated no significance in most of the domains of quality of life and failed to completely reject the null hypothesis yet r_s value showing direction and strength as negative and low respectively are valuable results.

Our current study summarises that Ikkat traditional handloom weavers experiencing moderate to high intensity of pain in Back has negative impact on their quality of life in general and all aspects of quality of life except in social aspect. Effectiveness of cobaltum200C had successfully proved to manage lumbago in our sample of traditional weavers with statistical significance. It has also shown the noticeable improvement after intervention in overall, physical and environmental aspect of quality of life with statistical significance.

Pain intensity strongly depends on physical Quality of life and moderately depends on overall quality of life. Thus, intervention in physical and psychological aspects along with medicine could improve the quality of life among population of Traditional weavers.

Declaration by Authors

Ethical Approval: Approved

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Vrbanić TS. Low back pain--from definition to diagnosis. Rheumatism. 2011 [cited2023Nov26];58(2).Availablefrom: https://pubmed.ncbi.nlm.nih.gov/22232956/
2. Bailey and love's, Short practice of surgery (The spine)27th edition,2018
3. Penman, Ralston, Strachan, Hobson, Davidson's principles and practice of medicine. (Low back pain),24 edition, Elsevier limited international edition,2022, Pg no-1003.
4. Institute of Medicine (US) Committee on Pain, Disability, and Chronic Illness Behavior, Osterweis M, Kleinman A, Mechanic D. The anatomy and physiology of pain. Washington, D.C., DC: National Academies Press; 1987 Available from: https://www.ncbi.nlm.nih.gov/books/NBK219252/
5. Process of Pochampally Ikkat weaving. pochampally.com. Available from: https://pochampally.com/pochampally-ikkat-weaving/
6. Yuliana Suryati BNN. Analysis of working postures on low back pain in traditional songket weaving craftsmen. Journal of Epidemiology and Public health. [cited2023Nov26]. Available from: file:///C:/Users/akhil/Downloads/abdush,+09.+Yuliana+Suryati%20(2).pdf
7. O'Sullivan P. Diagnosis and classification of chronic low back pain disorders: Maladaptive movement and motor control impairments as underlying mechanism. ManTher.2005[cited2023Nov26];10(4):242–55.Availablefrom: https://pubmed.ncbi.nlm.nih.gov/16154380/

8. William Boericke, Pocket Manual of Homoeopathic Materia Medica,9th edition, dec 2017, IBPP (New Delhi) page number-215
9. Yoh K, Yoshizawa M, Kuwabara A, Tanaka K. Multi-component structure of Roland-Morris Disability Questionnaire (RDQ), a lumbago-specific QOL (quality of life) measure. Jpn Clin Med. 2011;2: JCM.S6224. Available from: https://journals.sagepub.com/doi/full/10.4137/JCM.S6224
10. Zhang M, Han W, Hu S, Xu H. Methylcobalamin: A potential vitamin of pain killer. Neural Plast. 2013 [cited 2023 Nov 26];2013:1–6. Available from: https://pubmed.ncbi.nlm.nih.gov/24455309/
11. Tagliaferri SD, Miller CT, Owen PJ, Mitchell UH, Brisby H, Fitzgibbon B, et al. Domains of chronic low back pain and assessing treatment effectiveness: A clinical perspective. Pain Pract. 2020 [cited 2023 Nov 26];20(2):211–25. Available from: https://pubmed.ncbi.nlm.nih.gov/31610090
12. Chiu CK, Low TH, Tey YS, Singh VA, Shong HK. The efficacy and safety of intramuscular injections of methyl cobalamin in patients with chronic nonspecific low back pain: a randomised controlled trial. Singapore medical journal. 2011 [cited2023Nov26];52(12).Available from: https://pubmed.ncbi.nlm.nih.gov/22159928/
13. Le Roux P. Metals in homeopathy. Editions Publibook; 2007.Available from: https://books.google.co.in/books?hl=en&lr=&id=_FNArMH31bsC&oi=fnd&pg=PA11&dq=cobaltum+in+back+pain+in+Homoeopathic+&ots=irqILbVe1u&sig=su2d_fcDKGOBhdO9Z3_bz9IETzo&redir_esc=y#v=onepage&q=cobaltum%20in%20back
14. Stuart Close, Genius of Homoeopathy-Lectures and essays on Homoeopathic philosophy, March2017, Indian books and Periodicals Publishers, Page number-89
15. Boericke Repertory, William Boericke,2017, Pocket Manual of Homoeopathic Materia medica,9th edition, IBPP, PAIN in general, aching dull, constant(backache), cob (in Italics), page number-861
16. William Boericke, Pocket Manual of Homoeopathic Materia Medica,9th edition, dec 2017, IBPP (New Delhi), page number-1087
17. Venkatraman V, Wong MK, Shalita C, Parente B, Lad SP. Cobalt-Induced Toxicity and Spasticity Secondary to Hip Arthroplasty: Case Report and Review of the Literature. Cureus. 2020 Dec 29;12(12): e12368. doi: 10.7759/cureus.12368.

How to cite this article: Venkateshwar Rao, B. Sreevani. Study to know the impact of lumbago on quality of life of Ikkat handloom weavers of pochampally and intervention with Cobaltum 200C - a cross-sectional study. *Galore International Journal of Applied Sciences & Humanities*. 2025; 9(1): 21-31. *DOI: https://doi.org/10.52403/gijash.20250103*

******