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ROLE OF KINESIOPHOBIA ON PAIN, DISABILITY AND QUALITY OF LIFE IN PATIENTS WITH CHRONIC LOW BACK PAIN: A SYSTEMATIC REVIEW

***Usama Mehmood*[1*], *Aqsa Tahir*[2]**

[1]Physiotherapist, Department Of Physical Therapy, The University Of Lahore, Pakistan

[2]Physiotherapist, Department Of Physical Therapy, The University Of Lahore, Pakistan

ABSTRACT

Background of the Study: The majority of people suffered with low back pain (LBP) at least once during their lifetime. As such, LBP is a highly prevalent and costly condition. People respond inappropriately as a result of current or possible risks and establish defensive habits (for example, hyper-vigilance) that aim at avoiding new injuries. A continued reconciling of studies which provide various answers for the same issue will be necessary for treatment decisions. This study is performed to conclude the function of Kinesiophobia and check it on Pain, Disability and Quality of Life in Patients that are suffering from Chronic Low Back Pain: A Systematic Review.

Methodology: A Systematic Review has been conducted. Secondary data collected from Electronic database including PubMed, Medline and Cochrain Library from inception to 2010. Total 554 Article found out of which 10 articles included in the study after excluding the duplicate article, Quality screening through Pedro Scale, and article don't fulfilling the inclusion criteria of the study. Review completed within 9 months after approval of synopsis.

Results: According to this Review total Sample size was 554 with mean Sample size 130±90, mean Age 46±5 years, Mean of Pain Intensity (VAS 0-10) 6.12±1.5, mean Pain Duration 30±14, mean Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68) 37±6.5, mean Disability (Oswestry Disability Index 0-100%) 56±27, mean Quality of Life (SF 36 0-100) 39.17±15.197.

Conclusion: TSK scores showed a statistically significant correlation with Pain, Disability, education level, and SF-36 QOL. As the education level decreases, kinesiophobia scores increase and as kinesiophobia scores increase, Level of disability increases and the quality of life decreases. Patients with kinesiophobia presented greater pain intensity, a greater fear of movement and of performing physical activities and it was also associated with worse quality of life.

Keywords: *Pain, disability, kinesiophobia, quality of life, chronic low back pain, pain intensity*

Introduction

The majority of people suffered with low back pain (LBP). They must experience once a time low back pain during their period of life. As such, LBP is a vastly widespread and expensive ailment[1]. The situation is the 2nd important source of disability in the general populations[2]. There are also several proven variables (cognitive, biological, physical, and social, mental,occupational)

*Physiotherapist, Department Of Physical Therapy, The University Of Lahore, Pakistan

Email: usamam940@gmail.com

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that results in underprivileged prognosis subsequent the start of low back pain[3]. This helps us to understand why several persons do not heal from an occurrence of lower back pain, often contributing to a plunging slide of detrimental bodily, societal and emotional effects [4]. In this respect, a substantial body of empirical indicates that disability, pain and standard of living are correlated with kinesiophobia[5,6]. In addition, long-term studies have demonstrated so, an elevated degree of starting point of kinesiophobe predicts adverse deviations in quality of life[7], and also a meaningful change in handicap plus discomfort[8, 9].A study of kinesiophobia's prognostic effect on these outcomes will further enhance awareness of persistent LBP processes and thus allow enhanced decision-making in the clinical field [10]. Although kinesiophobia is typically measured through the Tampa Scale for kinesiophobia (TSK), no particular test is available to measure fear of movement[11]. It induces motor activity changes that impact the efficiency of organizational processes as well as control of pain and pain-related disability[12].The occurrence of kinesiophobia in chronic aching varies from 50% to 70%. This is likely in two ways: direct aversion (e.g., discomfort or trauma) or social education[13]. Second, pain-related information processing in patients with Chronic LBP may be correlated with how kinesiophobia is viewed. Kinesiophobia first affects how people walk, perhaps to prevent discomfort in the original target[14,15]. In this respect the greatest evidence has been found that weakness, pain, and standard of living are correlated with kinesiophobia[16,17]. However, confirmation is contradictory in the intensity of the importance and direction of the results[8,18]. Clinical decision-making calls for a continuous peaceful coexistence of research findings that can provide different responses to the very same discussion and also provides practitioners and patients with a summary in which uncertainty remains[19].A comprehensive examination of the results will lead to better results than any research has achieved and will make it possible for researchers to gather and analyze all the data from primary studies. The goal of this comprehensive examination would therefore be: investigate the degree to which patient with chronic back pain has connected kinesiophobia with discomfort, incapacity and quality of life. The objective is to determine the “Role of Kinesiophobia on Pain, Disability and Quality of Life in Patients with Chronic Low Back Pain: A Systematic Review”

Methodology

Study Design

Systematic Review

Key Data Bases

An automated search of PubMed, Medline and Cochrane Library will be undertaken from inception to August 2010.

Grey Literature Review

Trial registers, clinical study reports, dissertations and thesis, conference abstracts and proceedings.

Study Selection

Next, names and summaries will be screened. Secondly, the complete text of the manuscripts will be reviewed. Fourth, a decision shall be produced by consent and involvement in the event of any inconsistencies. A short guideline will also be used to direct the collection of the appropriate studies in this review.

Types of Study to be Included: Longitudinal, Cross-sectional and case-control trials.

Duration of study: The analysis will be carried out within nine months of the synopsis acceptance.

Sample selection criteria

In order to decide what experiments can be part of the ongoing clinical analysis, the P.E.C.O.S (P Patient, E- exposure, C-comparator; O- outcome, S-study design) structure will be adopted. Any research must run into the following

Inclusion Criteria

1. Observatory trials investigating the potential validity of kinesiophobia in individuals with chronic LBP and their correlations with the results descripted below. (Cross-sectional, case management and longitudinal). When clinical trials only reported reasonably detailed observations from the baseline test, analysis methods among kinesiophobia and result variables stood restricted toward the initial evaluation.
2. Studies with individuals with chronic LBP have described constant or episodic pain over 3 months across the lower back in this analysis
3. Only research were included in the test kinesiophobia with TSK.
4. The gender, nationality and tracking period of respondents (in longitudinal studies) would not be limited.
5. Studies of general public, principal, secondary or tertiary treatment seeking patients.
6. Would include were only documents available in English.
7. Only when a link is identified regarding kinesiophobia and the foregoing results methods: pain, injury either or both quality of life, would research be included.

Exclusion Criteria

1. Pain management research, subacute and non-musculoskeletal chronic pain. Research.
2. Studies surrounding the diagnosis of significant psychological illnesses with which Chronic LBP is involved.
3. Chronical LBP experiments measuring or examining this aspect before surgery or postoperative surgery linked to previous divides.
4. Kinesiophobia research trials in persistent LBP people after injury.
5. Revisions investigates the impact of kinesiophobia in trial pain model.
6. Testing kinesiophobia in a clinical activity or rehabilitation (e.g., in vivo exposure).
7. Case papers, editorials, summaries, and medical reviews.

Prisma Flow Diagram

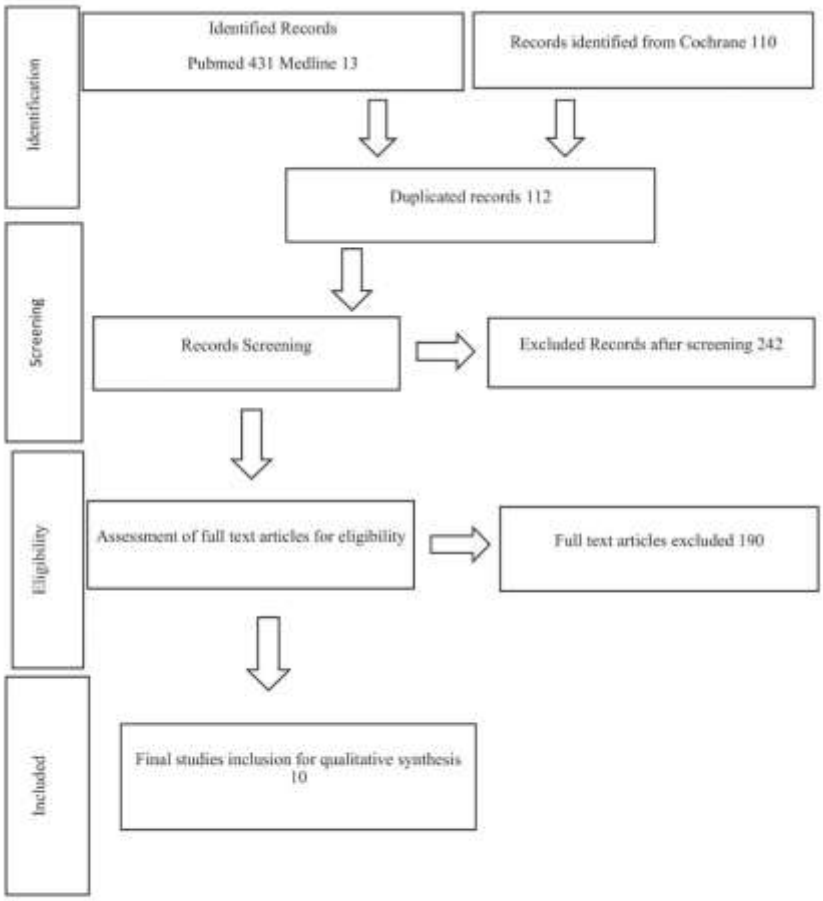

Fig no.1. Flow chart showing Preferred reporting item for Systematic Review.

Data extraction

The research information (first reporter, year of publishing), survey volumes, respondent attributes (mean age, pain length, state of pain), tests on kinesiophobia, the outcomes (pain, injury, standard of living), follow-up durations (longitudinal analysis), and the purpose of the study will be extracted. A mail was sent to the original writers if needed to collect more knowledge on observations from a report.

Quality assessment

An altered form of the Newcastle-Ottawa Scale (NOS) assesses the probability of bias of each sample. Four fields are covered in this improved version for bias evaluation risk: research selection of research procedures (selection bias), uncertainty control techniques (performance bias), arithmetical methodologies (detection bias) and contact measures and result measurement (material bias). The four realms consist of seven products. The scores for of component are between 0 (significant risk) and 3 (low risk). The highest score will then be 21 points for each analysis. Qualitative data analysis with a classification scale of five experimental data standards will be conducted[20].

Statistical analysis

Research are classified according to results: injury, suffering and quality of life for primary research. Due to participant age, confidence interval, age discomfort, result assessments, a variant of the self-recounted kinesiophobia checklist (e.g. TSK-11 or TSK-17), statistics methodology and nature of the experiments of most research that could be suitable for met analysis, a meta-analysis cannot be conducted. A comprehensive quantitative method will therefore be given (the most appropriate statistical measure with a reliable estimate). We will derive the approximation from the model for certain experiments with many degrees of adaptation for confounders in various models.

Results

A systematic Review has been conducted among the online databases including PubMed, Medline and Cochrane Library. We found Number of Article 431 from PubMed, 13 from Medline and 110 from Cochrane Library, After initial check we found 112 duplicate Article, Then further Screening has been done and according to this screening 242 Articles were Excluded from the Present Systematic Review because they do not fulfill the inclusion criteria of the study, According to Eligibility Criteria of the Study we have to include only those Articles Which are freely available and the are available in full text. So 190 Articles were not full text Articles so we have excluded these Studies. Then Quality of the studies have been checked by Pedro Scale and Finally 10 Studies were included. Because they fulfil inclusion Criteria, and meets the standards of Quality assessment by Pedro Scale.

Outcome Measures

TSK scores showed a statistically significant correlation with Pain, Disability, education level, and SF-36 QOL.

Data for this Systematic Review has been collected from 2013 to 2020, Among Studies Included, 01 was published in 2020, 02 in 2019, 04 in 2018, and 01 in each including 2015, 3014, 2013. Total Sample size was 1309. Different parameters were recorded including Mean age in years, Intensity of Pain measure in VAS (0-10) Duration of Pain in months, Kinesiophobia was measure with (Tampa Scale of Kinesiophobia 0-68), Disability level was measured by Disability (Oswestry Disability Index 0-100%), Quality of Life was measured in Quality of Life (SF 36 0-100) follow the table 1:

Sr. No.	Author	Year	Sample Size	Mean Age	Pain Intensity	Pain Duration	Kinesiophobia Measures	Disability	Quality of Life
			N		VAS 0-10	Months	TSK 0-68	ODI0-100	SF 36, 0-100
S.1	Jonas Verbrugghe	2020	101	44	6		34	42	
S.2	Sevtap	2019	87	50	7		41		61
S.3	Nuray Alaca	2019	89	42	7		43	98	40
S.4	David Cruz-Diaz	2018	64	38	5		30	30	
S.5	Josielli Comachio	2018	32	47	8	42	44	28	38
S.6	Josielli Comachio*	2018	123	47	8	44	44	38	38
S.7	Alejandro Luque	2018	350	41	4		36	92	8
S.8	M. Monticone	2015	150	54	4	22	28	68	52
S.9	Marco Monticone	2014	20	58	5	15	29	52	41
S.10	Rogério Sarmento	2013	193	44	8		42		36

Table 1: Mean Statistics

According to this Review total Sample size was 1309 with mean Sample size 130±90 minimum sample size was 20 and maximum was 350, mean Age 46±5 years with minimum Age was 38 and Age was 58, Mean of Pain Intensity (VAS 0-10) 6.12±1.5 with minimum Pain Intensity (VAS 0-10) was 4 and maximum was 8, mean Pain Duration (Months) 30±14 months with minimum Pain Duration (Months) was 15 and maximum Pain Duration (Months) was 44, mean Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68) 37±6.5 with minimum Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68) was 28 and maximum Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68) was 44, mean Disability (Oswestry Disability Index 0-100%) 56±27 with minimum Disability (Oswestry Disability Index 0-100%) was 10 and maximum Disability (Oswestry Disability Index 0-100%) was 98, mean Quality of Life (SF 36 0-100) 39.17±15.197 with minimum Quality of Life (SF 36 0-100) was 8 and maximum was 61, follow the table 2:

Descriptive Statistics						
	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Sample Size	10	20	350	1309	130.90	90.456
Mean Age	10	38	58		46.54	5.998
Pain Intensity (VAS 0-10)	10	4	8		6.12	1.536
Pain Duration (Months)	4	15	44		30.55	14.563
Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68)	10	28	44		37.12	6.506
Disability (Oswestry Disability Index 0-100%)	8	28	98		56.00	27.255
Quality of Life (SF 36 0-100)	8	8	61		39.17	15.197

Table 2: Descriptive Statistics

Discussion

Data for this Systematic Review has been collected from 2013 to 2020, Among Studies Included, 01 was published in 2020, 02 in 2019, 04 in 2018, and 01 in each including 2015, 3014, 2013. Total Sample size was 1309. Different parameters were recorded including Mean age in years, Intensity of Pain measure in VAS (0-10) Duration of Pain in months, Kinesiophobia was measure with (Tampa Scale of Kinesiophobia 0-68), Disability level was measured by Disability (Oswestry Disability Index 0-100%), Quality of Life was measured in Quality of Life (SF 36 0-100) [21]. According to this Review total Sample size was 1309 with mean Sample size 130±90 minimum sample size was 20 and maximum was 350, mean Age 46±5 years with minimum Age was 38 and Age was 58, Mean of Pain Intensity (VAS 0-10) 6.12±1.5 with minimum Pain Intensity (VAS 0-10) was 4 and maximum was 8, mean Pain Duration (Months) 30±14 months with minimum Pain Duration (Months) was 15 and maximum Pain Duration (Months) was 44, mean Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68) 37±6.5 with minimum Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68) was 28 and maximum Kinesiophobia Measures (Tampa Scale of Kinesiophobia 0-68) was 44, mean Disability (Oswestry Disability Index 0-100%) 56±27 with minimum Disability (Oswestry Disability Index 0-100%) was 10 and maximum Disability (Oswestry Disability Index 0-100%) was 98, mean Quality of Life (SF 36 0-100) 39.17±15.197 with minimum Quality of Life was 8 and maximum was 61[21].Jonas Verbrugghe et, al. conducted analysis during 2020, the sample size of disability was 101, mean age: 44.2y (SD 1⁄4 9.6); this study showed kinesiophobia (TSK, 17e63) 34.01(6.10); intensity of pain (NPRS, 1e10) 5,67(1,60), discapacitance (Modi, percent), 21.08(10.10), data 101 pe Diagnostic Disability (NSD 1⁄4 9.6)). In the chronic non-specialized low back pain (NSPR, 1e10) The tests were not correlated with discapacity, neurological or pain-related causes. Back muscle mass variability (R2 1 1⁄4 0.44, f 1⁄4 $p < 0.01$), muscular abdominal strength (R2 1/40 0.68, f 1/2 $p < 0.01$). Aerobic capacity can only be demonstrated through demographic covariations including age, gender, weight. This is the only

explanations that can be found in the following variations. This research demonstrated the absence of biopsychosocial influences to understand the heterogeneity of the abdominal, back and aerobic outcomes in CNSLBP individuals with defined in the current sample. This data help the accurate analysis of the findings of these tests[21].A analysis carried out by Sevtap Gunay Ucurum and. Al, in 2019, the aim of this analysis was for a sample size of 87 patients with mean age (year)50 ±5 TSK scores of 41 (49-45), Rest VAS 4 (2-6) VAS 7 (5-8), SF 36 GH 61(45–75) SF 36 MH 72, (52–80), Median age of 40, (40-59), 2014. The analysis was designed to detect a relation between pain seriousness, kinesiophobia and quality of life for non-specific chrónico-neck patient patients. The average VAS value at rest was 4 (2–6), and during the exercise the median VAS value was 7 (5–8). The average STR ratings were 41, the average SF-36 were 61 and the average SF-36 were 72 and the average SF-36 were 52 to 80. There is a small connexion between the TSK values, ethnicity, degree of education and the total wellbeing SF-36 (r = 0.206, p= 0.023; r = 0.235, p=0.004; r = 0.236 / p = 0.027). Kinesiophobia and the other variables were not related. TSK ratings demonstrated a correlation with the overall health values of ethnicity, education and SF-36. In conclusion, with the amount of education declining, the amount of kinesiophobia rises and the quality of life declines as kinesiophobia grows[22].A 2019 report by Nuray Alaca, Hande Kaba, Ayce Atalay and Roussel N. The goal of this trial was to establish differences in consistently low back pains with sample size 89 and the median age of participants, between seriousness of impairment and avoidance of movement and painful beliefs, was to be assessed by 42.29± 6.05, TKS 43.4±5.72, VAS (rest) 4.72±2.19 VAS (activity) 7.05 ± 1.54, ODI 49.72 18.66, SF 36 (Physical function) 39.83 ± 20. , There is a solid connection with the TKS appraisals, ages (r: 0.227/p < 0.05), natural PBQ evaluations (r: 0.250/p < 0.05). Our examination demonstrated raised degrees of kinesiophobia and comparative uneasiness, paying little heed to injury seriousness. We presume that LBP recuperation medicines ought to give psychological consistence directing that limits dread shirking action and transform negative torment discernments into helpful ones[23].Mostly people affected with musculoskeletal diseases at least for once in their lifetime[24]. In people with persistent lower-back pain and obesity, kinesiophobia may play a role in increasing pain-related disability and pain intensity[25]. To identify the hurdles that can influence rehabilitation outcomes, kinesiophobia screening should be addressed in routine clinical practice[26].

Conclusion

Kinesiophobia, pain, impairment, and quality of life have been statistically significantly associated. TSK scores reported a significant association with pain, impairment, level of education, and SF-36 QOL. Kinesiophobia scores increase as the level of education decreases, and as kinesiophobia scores grow, the level of impairment rises and the quality of life decreases. Patients with kinesiophobia had a higher degree of pain, a greater fear of movement and physical activity, and a poorer standard of living was also associated.

AUTHORS' CONTRIBUTION:

The following authors have made substantial contributions to the manuscript as under:

Conception or Design: Usama Mehmood

Acquisition, Analysis or Interpretation of Data: Aqsa Tahir

Manuscript Writing & Approval: Usama Mehmood & Aqsa Tahir

All authors acknowledge their accountability for all facets of the research, ensuring that any concerns regarding the accuracy or integrity of the work are duly investigated and resolved.

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INFORMED CONSENT: Written Informed Consent was taken from each patient.

CONFLICT OF INTEREST: The author (s) have no conflict of interest regarding any of the activity perform by PJR.

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ETHICS STATEMENTS: The study has been approved by the Ethical Board of University of Lahore, Pakistan.

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