EVALUATION OF PSYCHOLOGICAL FACTORS OF FEAR AVOIDANCE AND LEVEL OF DEPRESSION, ANXIETY, AND STRESS DUE TO LBP IN LBP PATIENTS.

Soumitra Yadav[1], Neelu Pawar[2], Shadma Siddiqui[3]

[1,2,3] Faculty of Paramedical Sciences, SAM Global University, Raisen

ABSTRACT :

Background: Patient have inadequate knowledge about the cause of back pain due to psychological factors i.e. fear, anxiety and stress persist in Low back pain, which effect the recovery of Low back pain, Studying the extent of patient knowledge about low back pain may help clinicians design effective low back pain treatment strategies. The Depression, Anxiety and Stress Scale – 21(DASS-21) will also be used in this study which is a set of three self -report scales designed to measure the emotional states of depression, anxiety and stress. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect.

Objective: To evaluate the psychological factors of fear avoidance and level of depression , anxiety, and stress due to LBP in LBP Patients.

Methodology: Survey method has been conducted in the age-group of 30-80 year. The Patient having lumbar spinal stenosis, lumber herniated disc, lumber muscle sprains and strains, Sciatica, degenerative disc disease of lumber, spondylolisthesis, myofascial pain, lumber spondylosis of both genders. They will be informed about the procedure and questionnaires and informed consent will be taken from them.

Outcome: Outcome of data which measures throughs some questionnaire and scales are as follows ; Low Back pain Knowledge Questionnaire (LKQ),Oswestry Disability Index (ODI),Fear Avoidance Belief Questionnaire (FABQ), Depression Anxiety Stress Scale – 21 (DASS-21) and Numerical Pain Rating Scale (NPRS)

Result: A significant positive correlation at P≤0.05 was obtained between ODI, and FABQ at work. It-represent that in older adults more fear of LBP is associated with more disability.

Keywords: DASS, FABQ, LKQ, NPRS, LKQ

Introduction:

Low back pain is defined as "pain and discomforts, localized below the lower edge of chest and above the inferior side of buttocks with or without leg pain." Low back pain is usually categorized in three subtypes: acute, subacute and chronic low back pain. This subdivision is based on the duration of the low back pain[1]. Acute low back pain is less than 6 weeks, subacute low back pain between 6-12 weeks and chronic low back pain for 12 months or more[2]. Chronic low back pain often involves disc problem, a joint problem and an irritated nerve root. Common causes include: lumber herniated disc, degenerative disc disease, facet joint dysfunction, sacroiliac joint dysfunction, spinal stenosis spondylolisthesis, osteoarthritis, deformity, trauma, compression fracture, less common causes of low back pain are in infection, tumor[3]. The functional performance of older adult with low back pain presented a relationship of modest magnitude with beliefs self -perception of health level of education, marital status and frequency of pain. The knowledge of these can contribute to improve the evaluation of health professionals expanding its focus of action beyond the clinical aspects aimed at valuing the beliefs and self -perception of health of older adults[4]. Functional, pain related, psychological factors and knowledge associated with low back pain will be evaluated in this study.

Pain levels in low back pain patients and assessment would be assessed by Numerical pain rating scale which is most commonly used because it is easy to administer. The patient picks verbal vision or draws a circle around the number the best describes the pain dimension, usually intensity[5].

Aim: To evaluate the level of knowledge of LBP and its associated psychological factors in LBP patients.

Objective: Evaluation of psychological factors of fear avoidance and level of depression , anxiety, and stress due to LBP in LBP Patients.

Methodology:

Survey method is being conducted within the age group of 30-80 years, with the patient of lumbar spinal stenosis, lumber herniated disc, lumber muscle sprains and strains, Sciatica, degenerative disc disease of lumber, spondylolisthesis, myofascial pain, lumber spondylosis. They will be informed about the procedure and questionnaires and informed consent will be taken from them.

Data analysis:

We used SPSS version-21 or analyzing our data normality of our data was analyzed using Kolmogorov- Smirnov test. We found data that our data was normally distributed therefore we applied parametric tests to analyze our data. Independent sample t-test was used to compare data between middle aged and old aged adults. Pearson's correlation test was used to analyzed correlation between LKQ, FABQ, NPRS, ODI, DASS-21. The values are represented at mean ± standard deviation. Significant level was set at $P<0.05$.

Result:

Table-1

Descriptive Statistics-

	Middle aged	Old aged	t-value	P-value
No. of patients	42	56		
Age	44.89±11.19	69.06±5.92	-6.959	0.001
Height	1.63±0.09	1.60±0.13	0.571	0.571
Weight	71.77±11.04	73.20±11.31	0.030	0.761

Table-2

Low back pain knowledge questionnaire among the participants:

	Middle aged (Mean± SD)	Old aged (Mean± SD)	t-value	P-value
LKQ General questions	6.333±1.936	5.800±1.897	0.662	0.515
LKQ Concept questions	3.111±0.781	2.267±1.334	1.720	0.099
LKQ Treatment questions	8.000±2.179	6.933±2.344	1.107	0.280
LKQ Total	17.444±4.304	14.800±4.345	1.448	0.162

Table-3

FABQ, ODI, NPRS among the participants:

	Middle aged	Old aged	t-value	P-value
FABQ-Work	17.000±9.300	19.533±7.763	-0.719	0.480
FABQ-Physical activity	13.222±7.866	14.800±6.235	-0.544	0.592
ODI	26.517±13.154	34.070±16.663	-1.157	0.260
NPRS	5.111±2.204	3.733±1.980	1.582	0.128

Table-4

DASS-21 Among the participants:

|	Middle aged	Old aged	t-value	P-value
DASS-Depression	13.556±14.275	6.800±4.394	1.724	0.099
DASS-Anxiety	10.667±11.445	4.800±4.828	1.760	0.092
DASS-Stress	12.000±8.544	3.733±4.267	3.175	0.004

Correlation between psychological level, pain level, disability level and low back pain knowledge.

In middle aged: We found no significant relation between low back pain knowledge and psychological level, pain level, disability level as described by scores of LKQ, ODI, NPRS, DASS-21, FABQ.

In old aged: A significant positive correlation at P≤0.05 was obtained between ODI, and FABQ at work. It-represent that in older adults more fear of LBP is associated with more disability. Further in older adults NPRS was positive significantly associated with ODI, which demonstrates that more level of pain is associated with more disability.

A positive correlation was found between FABQ work and DASS which shows that disability due to LBP is associated with depression levels.

A significant negative correlation was found between LKQ total and DASS Depression. It shows that less level of knowledge about LBP is associated with more depression.

$y = 0.5602x + 20.827$
$R^2 = 0.0882$

$y = 0.0659x + 2.1914$
$R^2 = 0.2324$
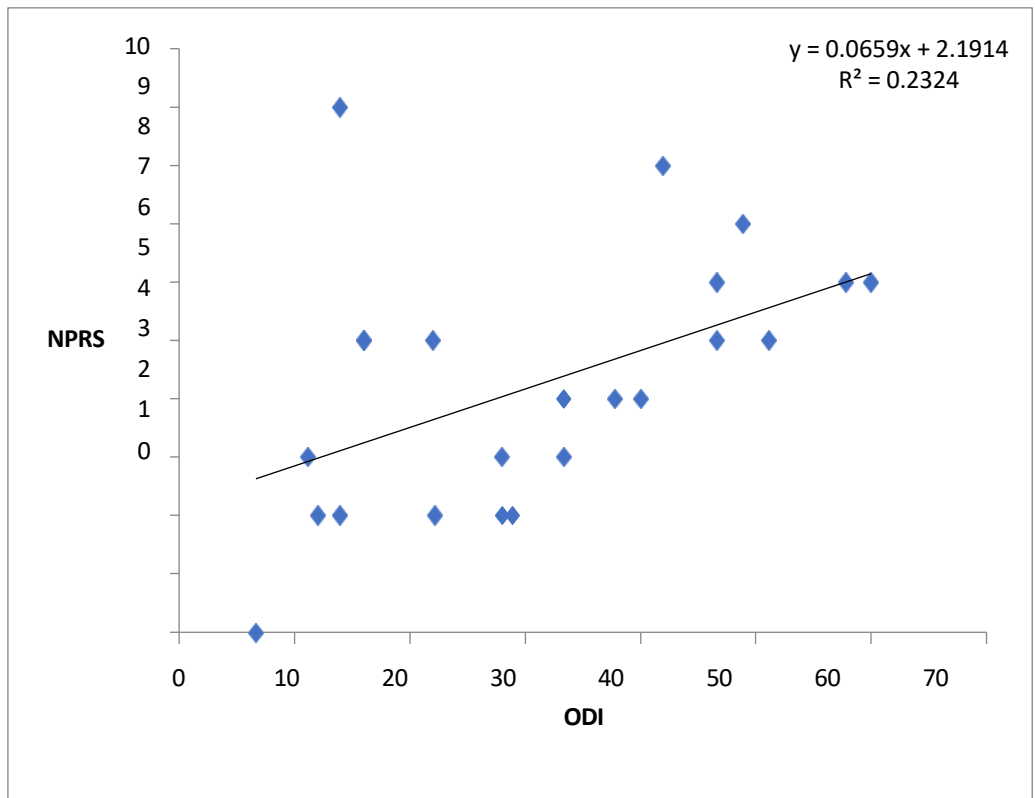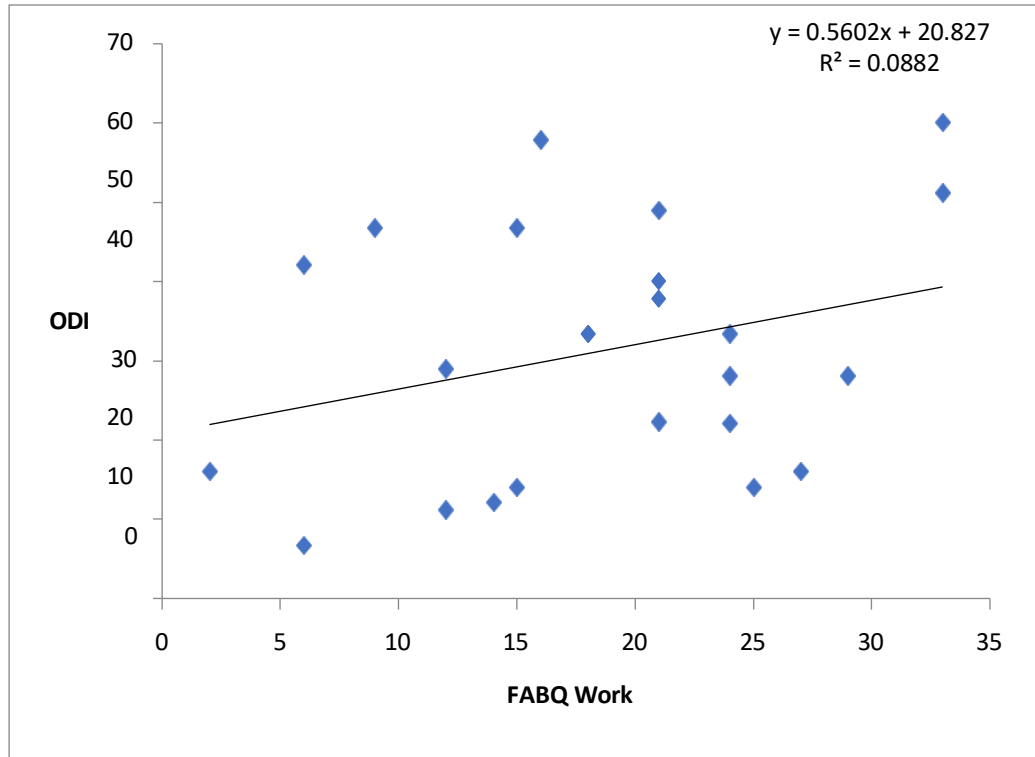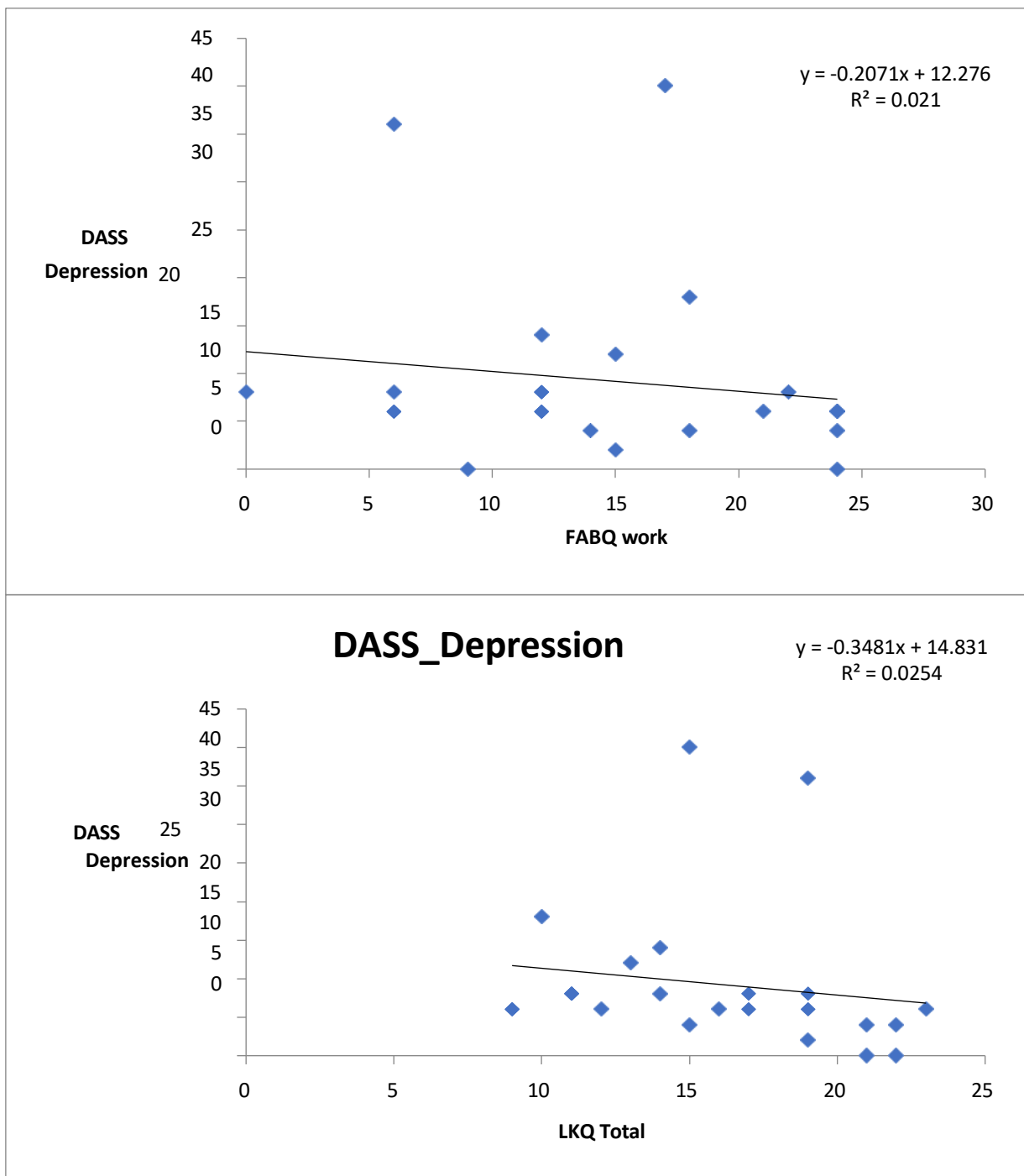
DISCUSSION:

The absence of significant differences in LBP-related factors between middle-aged and older adults challenges traditional assumptions regarding age-related differences in LBP outcomes. Previous literature has often suggested that older adults might have lower pain knowledge and experience more severe LBP due to age-related degeneration [6]. However, our findings align with some recent studies that have also reported similar patterns across age groups[7]. This implies that healthcare providers should not make age-based assumptions when assessing and managing LBP.

The significant positive correlation between the Oswestry Disability Index (ODI) and the Fear Avoidance Belief (FAB) Scale in older adults aligns with the biopsychosocial model of pain[8]. This model emphasizes the importance of psychosocial factors in influencing pain-related outcomes. The present study suggests that addressing fear avoidance beliefs should be a priority when managing older adults with LBP to mitigate their disability levels.

The positive correlation between the Numerical Pain Rating Scale (NPRS) and ODI aligns with the findings of previous studies that have consistently shown a strong association between pain intensity and functional impairment in LBP patients[9]. This underscores the need for effective pain management strategies in older adults, as reducing pain intensity may lead to improved functionality.

The negative correlation between the Depression, Anxiety, and Stress Scale (DASS) and the Fear Avoidance Belief (FAB) Scale raises intriguing questions about the interplay between psychological distress and pain-related beliefs. It is consistent with research suggesting that individuals with higher levels of psychological distress may adopt different coping strategies, including avoidance behaviors[10]. This underscores the importance of assessing and addressing psychological factors in older adults with LBP. The negative correlation between the Low Back Knowledge Questionnaire (LKQ) and DASS Depression scores highlights the potential impact of depression on patients' understanding of LBP. Previous research has emphasized the bidirectional relationship between pain and depression[11]. Improving LBP knowledge may be a valuable target in interventions aimed at reducing depression and improving mental health outcomes in older adults with LBP.

Conclusions:

This study contributes to our understanding of LBP and its associated factors in middle-aged and older adults. The findings challenge age-related stereotypes, emphasizing the importance of tailored interventions that consider psychosocial factors, pain intensity, disability, fear avoidance beliefs, and knowledge levels. Addressing these factors holistically may lead to improved outcomes and quality of life for older adults with LBP.

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