“IMPACT OF MECHANICAL LOW BACK PAIN ON OSWESTRY DISABILITY INDEX & HEALTH RELATED QUALITY OF LIFE IN PHYSIOTHERAPIST”

A Dissertation

Submitted

In partial fulfillment of the requirements for the degree of

MASTER OF PHYSIOTHERAPY

In

MUSCULOSKELTAL

Submitted by

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DEPARTMENT OF PHYSIOTHERAPY

INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES AND RESEARCH

INTEGRAL UNIVERSITY,LUCKNOW

INDIA

MAY 2022

CERTIFICATE

This is to certify that **Mr. MOHAMMAD ZOHAIB QAZI** (Enroll. No. 1500100877) has carried out the research work presented in the thesis titled **"Impact of Mechanical Low Back Pain on Oswestry Disability Index & Health Related Quality of Life in Physiotherapist"** submitted for partial fulfillment for the award of the **Degree of Master of Physiotherapy in Musculoskeletal** from **Integral University, Luck now** under my supervision. It is also certified that:

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DECLARATION

I hereby declare that the thesis titled **"Impact of Mechanical Low Back Pain on Oswestry Disability Index & Health Related Quality of Life in Physiotherapist"** is an authentic record of the research work carried out by me under the supervision of **Dr. Sadiya Begum (PT),** Department of physiotherapy, for the period from January 2022 to May 2022 at Integral University, Lucknow. No part of this thesis has been presented elsewhere for any other degree or diploma earlier.

I declare that I have faithfully acknowledged and referred to the works of other researchers wherever their published works have been cited in the thesis. I further certify that I have not willfully taken other's work, para, text, data, results, tables, figures etc. reported in the journals, books, magazines, reports, dissertations, theses, etc., or available at web-sites without their permission, and have not included those in this M.P.T. dissertation citing as my own work.

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LIST OF ABBREVIATIONS

Table NO.	Contents	
1	ODI	Oswestry disability index
2	LBP	Low back pain

ABSTRACT

OBJECTIVE: The purpose of this study was to see impact of mechanical low back pain on oswestry disability index & health related quality of life in physiotherapist.Subjects: 30 physiotherapist with acute chronic work related low back pain are reffered for this study.

Methods: The oswestry disability index score was administered for the survey.

Results: The oswestrydisability index was highly correlated in the physiotherapist with low back pain depending upon their driving hours and driving duration.

Conclusion: Study concluded that there is an impact of mechanical low back pain on Oswestry disability index and health related quality of life in physiotherapist.

CHAPTER-I

INTRODUCTION

Low back pain (LBP) is one of the most prevalent conditions worldwide,with the result of the Global Burden of Disease (GBD) study in 2010 reporting a global point prevalence of 9.4%. The prevalence of LBP seems studies of epidemiological monitoring of LBP in the USA have reported a rising trend across age group and in both men and women .LBP can interfere with basic activities of daily living like walking and dressing and many work related functions.

The main causes of LBP has the spinal structures including intervertebral discs, facet joints, vertebral bodies , ligament or muscles could be an origin of back pain, biomechanical factors because decrease of functions of the musculoskeletal system (Graves et.al.,1190) and psychological factors such as fear, anxiety, depression and a sense of helplessness often contribute to the development and maintenance of chronic pain and associated disability (Samwel et. al, 2006).

Patient with LBP often report issues with routine functioning and participating in daily activities with impairments in interpersonal relations and community life being espically important for patients with LBP. In men with chronic LBP additionally satisfaction with sex life and satisfaction with work capacity strongly determined health satisfaction , while in women such as a determining factor was satisfaction with living condition.

Non specific low back pain affects people of all ages and is a leading contributor to disease burden worldwide. Management guidelines endorse triage to identify the rare cases of low back pain that are caused by medically serious pathology, and so required diagnostic work-up or specialist referal, or both. Because non-specific low back pain does not have a known pathoanatomical cause, treatment focuses on reducing pain and its

consequences. Management consist of education and reassurance, analgesic medicines, non-pharmacological therapies, and timely review . The clinical course of low back pain is often favourable, thus many patients require little if any formal medical care. Two treatment strategies are currently used, a stepped approach beginning with more simple care that is progresses if the patient does not responed, and the use of simple risk prediction methods to individualise the amount abd type of care provided. The overuse of imaging, opioids, and surgery remains a widespread problem.

The Oswestry disability index (also known as the Oswestry Low Back Pain Disability Questionnaire) is an extremaly important tool that researchers and disability evaluators use to measure a patients permanent functional disability. The test is considered the 'gold standered' of low back functional outcome tools.

Scoring Instructions

For each section the total possible score is 5: if the first statement is marked the section score = 0; if the last statement is marked, it = 5, if all 10 sections are completed the score is calculated as follows;

Example: 16 (total scored)

50 (total possible score) x 100 = 32%

If one section is misses or not applicable the score is calculated:

16 (total scored)

45 (total possible score) x 100 = 35.5%

Minimum detectable change (90% confidence): 10% point (cgange of less than this may be attributable to error in the measurement)

HYPOTHESIS

Alternative Hypothesis:

There will be significant prevalence of low back pain disability in physiotherapist on Oswestry low back pain disability index questionnaire.

NULL HYPOTHESIS:

There will be no significant prevalence of low back pain disability in physiotherapist on Oswestry low back pain disability index questionnaire.

AIMS & OBJECTIVE

AIMS:

To investigate the impact of mechanical low back pain on oswestry disability index and health related quality of life in physiotherapist.

OBJECTIVE:

To find out the impact of mechanical low back pain on oswestry disability index and health related quality of life in physiotherapist.

OPERATIONAL DEFINITION

PAIN:

Pain is a general term describes uncomfortable sensation in the body. It stems from activation of nervous system. Pain can range from annoying to debilitating. It may feel like a sharp stab or dull ache. It may also be described as thobbing, pinching, stinging,burning, or sore. Pain may be consistent, it may start and stop frequently, or it may occur only under some conditions. It may be acute, developing suddenly and lasting for a short period of time. Or it may be chronic, with ongoing sensation that last or return repeatedly over several months or years. Pain may be localized, affecting a specific part

of your body. Or it may be generalized, such as the overall body aches associated with the flu.

Oswestry Disability Index:

Also known as Oswestry Low Back Pain Disability Questionnaire, is an extremely important tool that researchers and disability evaluators use to measure patients permanent functional disability. The test is considered the “gold standard” of low back functional outcome tools.

Low Back Pain:

A common, painful condition affecting the lower portion of the spine. Low back pain is caused by injury to a muscle or ligament. Common causes include degenerative changes, improper lifting, poor posture, lack of regular exercise, a fracture, a ruptured disc or arthritis.

Relaibility:

The ability of an questioniere to evaluate the level of pain and its association with performance of the Physiotherapist, is significantly realible.

VALIDITY: The validity of the questioniere and methodology of our study signifacantly indicates that the standard protocol within limitation as discribed.

CHAPTER-2

REVIEW OF LITERATURE

Igor Grabovac- Thomas Ernst Dorner et.al 6 september 2019, Association between low back pain and various everyday performances

Evidence decisively shows that LBP affects ADL, work ability and sexual functioning. At the core of these problems are the FAB that hindering movement and activity prevents the patients in achieving their full functional capacity even with LBP. Additional factors mediating the association between LBP and problems in everyday performance include deconditioning and common mental disorders. Physical training, comprehensive patient education, and workplace or home modification positively influence the factors mediating the association between LBP and everyday performance and are also beneficial for LBP itself. Therefore, they are promising factors that should be considered in routine treatment and rehabilitation in patients with LBP. Further research is necessary, not only to elucidate the etiology of LBP, but also in multimodal interventions in the management of LBP in both home and working environments. Issues surrounding sexuality and sexual functioning need to be further investigated as the few studies that have been published indicate a high prevalence of sexuality related problems

Eun Jung Chung1 , Young-Goo Hur2 , Byoung-Hee Lee1 et.al December 19, 2013, A study of the relationship among fear-avoidance beliefs, pain and disability index in patients with low back pain

JM Fritz et.al June 29, 2000, A Comparison of a Modified Oswestry Low Back Pain Disability Questionnaire and the Quebec Back Pain Disability Scale

Our results indicate that the measurement properties of the modified OSW are preferable to those of the QUE in several areas. The test-retest reliability over a 4-week period was higher for the modified OSW than for the QUE. The modified OSW was

more responsive than the QUE as assessed by GRI and in correlations between change scores and the global rating of change. The MCID for the modified OSW was approximately 6 points, which is consistent with other reports in the literature. The MCID for the QUE was about 15 points. Clinicians and researchers need to be aware of the measurement properties of disability scales when judging patient outcomes or designing clinical trials

Ogunlana M.O., Odunaiya N.A., Dairo M.D., Ihekuna et.al June 2012, Predictors of Health-related Quality of Life in Patients with Non-specific Low Back Pain

Evidence from this study shows that increasing age and level of disability adversely affected the HRQOL of LBP patients, more than just the pain (which affects the physical component of HRQOL more). Female patients had better HRQOL. The presence of numbness in the lower limb was the major symptom that significantly affected all the components of HRQOL adversely. The predictor of HRQOL in this population is not different from that in Asian and Caucasian populations.

Jean-Francois Chenot et al. Dtsch Arztebl Int,2017, Non specific low back pain A physician should be in change of the overall care process.The patient should be kept well informed over the entire course of his or her illness and should be encouraged to adopt a healthful lifestylr, including regular physical exercise

Dinesh Sandal et al. J Clin Orthop Trauma 2020, Reliability and validity of Punjabi version of Oswestry disability index in patients with mechanical low back pain ODI(P) is a reliable and valid instrument for measurement of disiability related to mechanical low back pain in Punjabi population. It can be used both in research and clinical care settings in future.

Tania lnes Nava-Bringas,Salvdor Israel Macias-Hernandez et.al July-August 2017, Fear- avoidance beliefs increase perception of pain and disability in Maxicans with chronic low back pain

The present study suggests that there is a strong relationship between pain severity,FABQ scores, and functional disability in Mexicans with chronic LBP.

Mohsen Rostami, Negin Noorian,Mohammad ali Mansournia et.al 2014, Validity of pain the Persian version of the fear avoidance belief questionnaire in patient with low back pain

The provide Persian version of FABQ is a reliable and valid measurement and further research into its use as a diagnostic and prognostic tool is warranted. Development of thid questionnaire will be useful for comparability between Pesian and English language studiues and facilitates an international collaboration in this field.

Damian Hoy, Christopher Bain, Gail Williams, Lyn March et.al 2012, A systematic review of the global prevalence of low back pain

As the population ages, the global number of individuals with low back pain is likely to increase substantially over the coming decades. Investigators are encouraged to adopt recent recommendations for a standered definition of low back pain and to consult a recently developed tool for assessing the risk of bias of prevalence studies.

Silvano Ferrari,Carla Vanti, Luca Frigau, Andrew Anthony Guccione,Francesco Mola,MARTINA Ruggeri,Paolo Pillastrini,Marco Monticon et.al 2019, Sexual disability in patients with chronic non specific low back pain- a multicenter retrospective analysis

In Italian patients, the percentage of not-responding to Oswestry Disability Index-8 was relatively low . In addition,sexual disability was related to depression,activity avoidance , and rumination.

CHAPTER-3

METHODOLOGY

MATERIAL & METHOD

Study population:

Age group between 25 years to 40 years and both male and female physiotherapist.

Sample size:

Total 30 subjects were selected on the basis of inclusion & exclusion criteria, those who fullfilled the criteria were allowed to participate.

Study setting:

All Participants were taken from lucknow Uttar Pradesh, India.

SELECTION CRITERIA

Inclusion Criteria:

1. Age within 25-40 years.
2. Male and Female both gender was included in the study
3. Physiotherapist having back pain
4. Minimum 2-4 years of working experiance

Exclusion Criteria:

1. Neurological deficit.
2. No history of recent surgery.
3. No history of ankle and knee pain.
4. Any other postural deformities.

VARIABLES

Independent Variable:

1 Duration of pain onset

2 Intensity of the pain

Dependent Variable:

1 Lumbosacral pain

2 Professionals of the same group

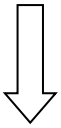
TOOLS

Measurement Tools:

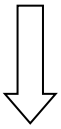
1. ODI questionnaire

PROTOCOL

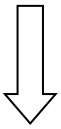
On the basis of inclusion and exclusion criteria



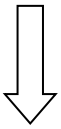
Selection based on assessment



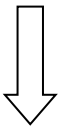
Random sampling



Measurement through OLBPDIQ



Data analysis



Result

PROCEDURE

I selected ODI questionnaire because the Oswestry Disability Index is an extremely important tool that researchers and disability evaluators use to measure a patients permanent functional disability. The test is considered the ‘gold standard’ of low back functional outcome tools.

I selected health care professionals of almost same age group(25-40) on the basis of inclusion & exclusion criteria. All the subject are included after their consent. I contact all the subject personally and explain them entire ODI questionnaire in local communication words.

Only those subject allowed to fullfill the form who are Physiotherapist with low back pain of al most same age group. Collected the filled form. Resolved all the queries regarding study. Grouped the filled form. Performed the statical study & conclude the result. Only completely filled form were accepted.

5. We can also compare with different age group population.

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CHAPTER-4

RESULTS

The Oswestry score was highly correlated (positive correlation) with driving hours and driving duration. More was driving hours and driving duration, more was Oswestry disability score.

CHAPTER-5
DISCUSSSION

Mechanical low back pain is a common clinical problem and lifetime prevalence of back pain is 60-80%. Ogum lana M.O., O dunaiya N.A et conducted study to examine the health related quality of life (HRQOL) of patients with non specific low back pain & its predictors at a physiotherapy outpatient clinics, subject were asked the SF 36,ODQ & QUAS sociodemographic & low back pain related information were also obtained using health related quality of life of the repodents.

Conclusion evidence from this study show that increasing age and level of disability advecsely affect the health related quality of life of low back pain patients.

Grobovac et. al studied on corelation between low back pain and various everyday performences conducted a varrative review of (1) association of low back pain on activity daily life (2) influence of low back pain on workability (3) effect of low back pain on sexual dysfunction.

Conclusion was evidence decisively show that low back pain affects activity daily life, work ability and sexual functioning.

The impact of mechanical low back pain on Oswestry disability index who drives for a long duration can cause low back pain and it also can affect the health of quality of life in physiotherapist. The result of this study shows that that the Oswestry score was highly correlated with driving hours and driving duration. More was driving hours and driving duration more was Oswestry disability index. Research conducted both male and female physiotherapist conducted that who work in a hospital or clinic and home visits also, show effect on low back pain.

CONCLUSION

The oswerty disability index hgas good comprehensibility, internal consistency and validity and is an adequate and useful instrument for the assesment of disability in patient with mechenical low back pain.

LIMITATION OF STUDY:

1. The sample size was small.
2. The duration of study was limited.
3. The study was limited on local Physiotherapist.
4. The study is limited on subjects aged 25 to 40 years.

FUTURE RECOMMENDATION:

1. Sample size can be larger.
2. To see the interrater reliability of this study.
3. We can find the difference between male & female Physiotherapist.
4. We can measure other professionals

CHAPTER-6
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CHAPTER-7

APPENDICES

APPENDIX-A

PATIENT INFORMATION SHEET

PATIENT INFORMATION SHEET

- DEMOGRAPHIC DATA:

Name: Occupation:

Gender: Duration of Driving:

Age:

Height/weight: Driving from how Long .

APPENDIX-B

OSWESTRY LOW BACK PAIN DISABILITY QUESTIONNAIRE

Oswestry Low Back Pain Disability Questionnaire

Instructions

This questionnaire has been designed to give us information as to how your back or leg pain is affecting your ability to manage in everyday life. Please answer by checking ONE box in each section for the statement which best applies to you. We realise you may consider that two or more statements in any one section apply but please just shade out the spot that indicates the statement which most clearly describes your problem.

Section 1 – Pain intensity

☐ I have no pain at the moment

The pain is very mild at the moment

The pain is moderate at the moment

The pain is fairly severe at the moment

The pain is very severe at the moment

The pain is the worst imaginable at the moment

Section 2 – Personal care (washing, dressing etc)

I can look after myself normally without causing extra pain

I can look after myself normally but it causes extra pain

It is painful to look after myself and I am slow and careful

I need some help but manage most of my personal care

I need help every day in most aspects of self-care

I do not get dressed, I wash with difficulty and stay in bed

Section 3 – Lifting

I can lift heavy weights without extra pain

I can lift heavy weights but it gives extra pain

Pain prevents me from lifting heavy weights off the floor, but I can manage if they are conveniently placed eg. on a table

Pain prevents me from lifting heavy weights, but I can manage light to medium weights if they are conveniently positioned

I can lift very light weights I cannot lift or carry anything at all

Section 4 – Walking*

Pain does not prevent me walking any distance

Pain prevents me from walking more than 1 mile.

Pain prevents me from walking more than ½ of mile.

Pain prevents me from walking more than 100 yards

I can only walk using a stick or crutches

I am in bed most of the time

Section 5 – Sitting

I can sit in any chair as long as I like

I can only sit in my favourite chair as long as I like

Pain prevents me sitting more than one hour

Pain prevents me from sitting more than 30 minutes

Pain prevents me from sitting more than 10 minutes

Pain prevents me from sitting at all

Section 6 – Standing

I can stand as long as I want without extra pain

I can stand as long as I want but it gives me extra pain

Pain prevents me from standing for more than 1 hour

Pain prevents me from standing for more than 30 minutes

Pain prevents me from standing for more than 10 minutes

Pain prevents me from standing at all

Section 7 – Sleeping

My sleep is never disturbed by pain

My sleep is occasionally disturbed by pain Because of pain I have less than 6 hours sleep

Because of pain I have less than 4 hours sleep

Because of pain I have less than 2 hours sleep

Pain prevents me from sleeping at all

Section 8 – Sex life (if applicable)

My sex life is normal and causes no extra pain

My sex life is normal but causes some extra pain

My sex life is nearly normal but is very painful

My sex life is severely restricted by pain

My sex life is nearly absent because of pain

Pain prevents any sex life at all

Section 9 – Social life

My social life is normal and gives me no extra pain

My social life is normal but increases the degree of pain

Pain has no significant effect on my ocial life apart from limiting my more energetic interests eg, sport

Pain has restricted my social life and I do not go out as often

Pain has restricted my social life to my home

I have no social life because of pain

Section 10 – Travelling

I can travel anywhere without pain

I can travel anywhere but it gives me extra pain

Pain is bad but I manage journeys over two hours

Pain restricts me to journeys of less than one hour

Pain restricts me to short necessary journeys under 30 minutes

Pain prevents me from travelling except to receive treatment

SIGNATURE OF THERAPIST:

DATE:

APPENDIX-C

CONCENT FORM

CONSENT FORM

Department of physiotherapy,

Integral Institute of Allied Sciences and Research,

Integral University, Lucknow.

I _____ hereby give the consent to participate in the study “impact of mechanical low back pain on oswestry disability index & health related quality of life in physiotherapist”

A study will be conducted by MOHAMMAD ZOHAIB QAZI A post graduation student from the department of physiotherapy. Integral Institute of Medical Sciences & Research, Integral University Lucknow.

I have been informed about the nature and purpose of the study. The purpose of the study being stated:impact on effect of mechanical low back pain on low back disability index & health related quality of life in physiotherapist.

I duly understand the risks and benefits involved in the study, hereby referred to:

RISKS: There is no risk involved with this study.

BENEFITS: The study will help in evaluating impact on impact of mechanical low back pain on oswestry disability index & health related quality of life in physiotherapist

The above said information has been explained to me in the language I understand. I have been assured that the information I’ll give will be kept confidential. I am free to withdraw from the study at any time I wish to.

Signature

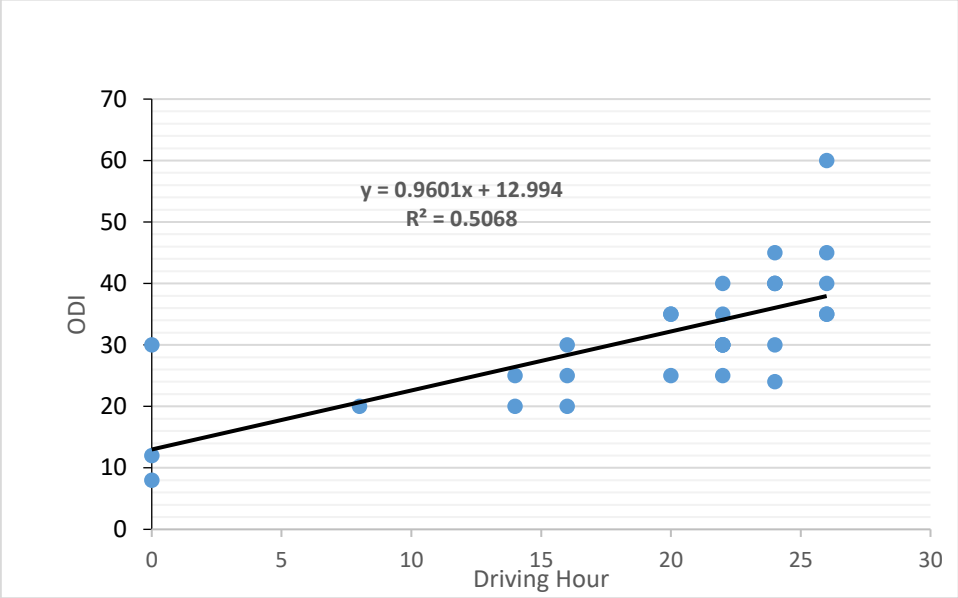
Date

APPENDIX-C

MASTER CHART

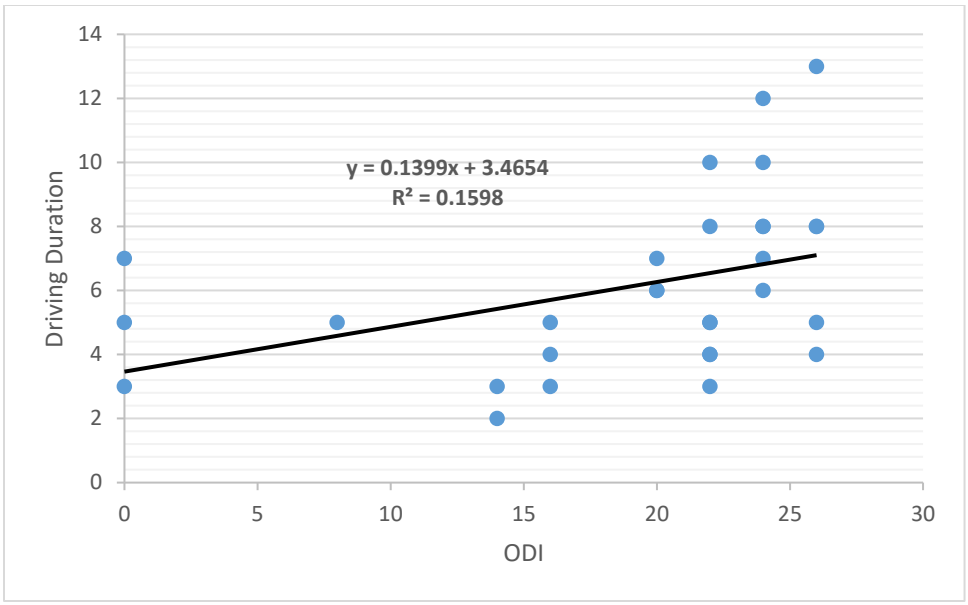
MASTER CHART

SR NO.	SEX	AGE	WEIGHT	HEIGHT	ODI	DRIVING DURATION	DRIVING HOURS
1	M	32	72	5.6	8	5	20
2	M	36	74	6	0	7	8
3	F	29	65	5.3	26	4	35
4	F	28	62	5	26	5	40
5	M	28	71	5.6	0	3	12
6	F	38	74	5.4	20	6	25
7	M	29	72	5.6	22	3	35
8	M	34	73	6	24	8	40
9	F	27	64	5.2	14	2	20
10	M	30	73	5.6	22	4	30
11	M	36	75	6	24	10	40
12	M	27	68	5.6	16	4	20
13	M	29	70	5.7	20	6	35
14	F	26	66	5.4	14	3	25
15	F	32	72	5.6	24	7	30
16	M	34	73	6	26	8	35
17	M	30	71	5.8	24	6	40
18	M	28	72	6	22	5	30
19	M	38	74	6	24	12	45
20	M	35	75	5.8	26	8	45
21	F	29	62	5.4	22	4	25
22	F	34	70	5.3	24	8	24
23	M	37	75	5.8	26	13	60
24	F	36	74	5.6	22	10	30
25	M	32	73	6	16	5	30
26	M	35	73	5.8	20	7	35
27	F	30	70	5.3	22	5	30
28	F	26	65	5.4	16	3	25
29	M	28	72	5.6	0	5	30
30	M	33	74	6	22	8	40



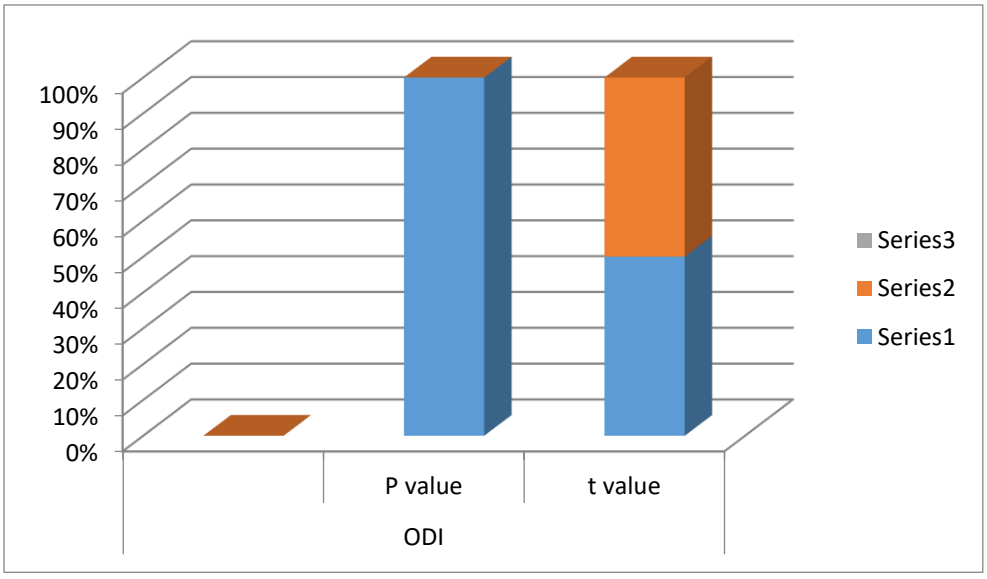
Graph-1:Represents that **y = 0.960x + 12.99**

R^2 = 0.506



Graph-2: Represents that **y = 0.139x + 3.465**

R^2 = 0.159



ODI

	P value	t value
driving hour	0.00000326	2.001717
Driving duration	<0.00000001	2.001717

KEY WORD FOR MASTER CHART

ODI – Oswestry disability index.