



Driving is a Risk Factor of *Gridhrasivata*(Sciatica) : An Etiopathological Study

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ABSTRACT

Gridhrasivata is a *Vatavyadhi* which disable the locomotor system where pain is the most common symptom. Now a days globally it is common health problem. With rising technology though people get comfortable life but developed some disease among which *Gridhrasivata* also. In modern science it can be compared with sciatica syndrome where sciatica nerve is involved. As a *Vatavyadhi* the *Nidana*(cause)is same as *Vata Vyadhi*, there are many causes but *Vichesta*(wrong posture) is common *Nidana*(cause) these days to develop *Griddhasivata*. And among *Vichesta* continuous driving is also a cause of *Gridhrasivata* where some other factors also aggravate the *Vata* along with driving and act as predisposing, perpetuating and provoking factor. Though well established pathogenesis is there in modern science but treatment is not cost effective. So it is try to find the pathogenesis according to *Ayurveda* on the basis of *Vatavyadhi* in perspective to driving which may help to developed cost effective medicine. Because the line of treatment according to *Ayurveda* is *Samprapti Vighatana*. Here a survey study was done to analyze the prevalence of driving among patient having *Gridhrasivata* with classical sign and symptoms, in I.P.D. and O.P.D. of National institute of *Ayurveda*, Jaipur with a duly formed proforma among 46 patients.

Keywords: *Gridhrasivata*, *Vichesta*, *Vatavyadhi*, Driving , Sciatica, *Vata*

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INTRODUCTION

In *Ayurvedic* classic *Vatavyadhi* get utmost important. Almost every *Acharya* describe it broadly. A common platform of pathology is found in every *Vatavyadhi*, but the sign and symptom are varying according to their location, because in different part of body different structure is located. There are 80 types of *Nanatmaja Vatavyadhi* among which *Gridhrasivata* also.¹The name itself indicates the way of gait shown by the patient due to extreme pain just like a *Gridhra* (Vulture) and which cardinal sign and symptoms are *Ruka*(pain),*Toda*(pricking pain), *Muhuspandana* frequent catching sensation), *Stambha*(restricted mobility) in the *Sphika*, *Kati*, *Uru*, *Janu*, *Jangha* and *Pada* in order² and *SakthikshepaNigraha*³i.e. restricted lifting of the leg. This is a locomotor disorder which is increasingly seen in present era and can be compared with sciatica where pain is experienced along the course and in the distribution of sciatic nerve.⁴These conditions considerably reduce the human activity in terms of social and professional life. As the advancement of busy professional and social life, to save time vehicle get the prime importance, either it is four wheeler or two wheeler. So improper sitting postures in driving created undue pressure to the spinal cord. Continuous driving, jerking movements during traveling playing producing neuralgic pain. In modern science etiopathology of sciatica is described clearly and treatment is limited to a range of analgesic and sedative type of medication. Physiotherapy and lastly surgery which are also not the final answer and there is a common problem of recurrence. *Vatavyadhi* has wonderful treatment in *Ayurvedic* classic for which a clear pathogenesis is needed, so here it is try to analyze the pathogenesis of *Gridhrasivata* which occur due to driving with the help of common pathogenesis of *Vatavyadhi*. for which a demographic data was taken from 46 driving related patients those were suffering from sciatica, in IPD and OPD, N.I.A. Jaipur. The aim of study was etiopathology of *Gridhrasivata* in perspective of *driving* that may be considered as one of the most important causative factor in modern era.

MATERIALS AND METHOD

A survey study was conducted at I.P.D. and O.P.D. of National Institute of Ayurveda, Jaipur, Rajasthan in a time period from Nov'13 to Dec'14 in 46 patients in a duly formed proforma in age Group 20-70, satisfying the inclusion criteria.

Inclusion criteria:

1. Patients having classical sign and symptoms of *Gridhrasi*
2. Not suffering from any systemic disease
3. Age between 20yrs-70yrs

4. Patients was taken irrespective of sex, religion, occupation.

Exclusion criteria

1. suffering from any systemic disease

RESULTS AND DISCUSSION:

The study was done on 46 patients of known case of *Gridhrasivata*. The demographic data of 46 patients was like this- There was more bike rider was found because among driving in riding bike the body posture of the patient is wrong and it give a continuous movement of the body. Regarding age out of 46 cases maximum no. of cases i.e. 58.69% were found in the age group of 35-50, which shows that this age group who drive is more prone to *Gridhrasivata*. Prevalence was more among the male(69.56%), it may be due to driving rate is more among male than female in India. Out of 46 patients, as a whole driver who are *VatakaphaPrakriti* (39.13%) was suffering from this *Vatavyadhi (Gridhrasivata)* more. Out of 46 patients who used to drive either four wheeler, three wheeler or two wheeler (86.94%) were *Rajasika Prakriti*, this *Prakriti* is *Vata* dominant⁵ so somewhat triggers to develop *Gridhrasivata*. Out of 46 patient maximum(65.21%) used to take cold substance which also help to develop *Gridhrasivata* because it increases *Vata*. Among 46 patient which having(30.43%) digestion problem(means tendency to form ama) daily also contribute to develop *Gridhrasivata* because it increases *Vata*. Again who does not take meal(30.43%) regularly increased *Vata* and produced the disease. Most of the time using different *Vatavardhakadal*(mug/masur/arahaar/chana) by some patient(26.56%) also act as predisposing factor among driving person. Along with some provoking factor like injury which was found about 10.86%, improper sleep(*Ratrijagaran*) which increases *Vata*⁶ was found among 46 patient(89.03%).Patient along with driving which suppress natural urges hunger(17.39%), thirst(4.34%), micturition(2.17%) also act as *Vata* provoking factor. Among the patient duration of driving has also role, daily more than 3-5 hrs of duration is sufficient to develop *Gridhrasivata*. Along with these physical factor some mental factors also contribute to develop *Gridhrasivata* by increasing *Vata*. The data found was like this, tension was found among 60.86%, anger was found in 60.86%, and the person who used to thought small things very seriously was 43.47%.these factor was act as predisposing factor to develop *Gridhrasivata* among the patient who used to drive. Here though the term used as driving but here it include all car driving, bike riding, cycling and travelling.

Table 1: Demographic data of 46 no. of patient

Mode of Driving (figure 1)	4/3 wheeler	36.95%	
	Bike riding	54.34%	
	Cycling	6.52%	
	Travelling	2.17%	
Age (figure 2)	21-35	10.86%	
	35-50	58.69%	
	51-70	30.43%	
Sex (figure 3)	F	30.43%	
	M	69.56%	
<i>SharirikaPrakriti</i> (figure 4)	<i>Vatapitta</i>	39.13%	
	<i>Pittakapha</i>	32.60%	
	<i>Vatakapha</i>	28.26%	
<i>Manashikaprakriti</i> (figure 5)	<i>Rajashikaprakriti</i>	86.95%	
	<i>Tamashikaprakriti</i>	13.04%	
Intakemore cold substance like icecream/ shield water/cold food/any other etc. (figure 6)	Yes	4.34%	
	Sometime	65.21%	
	No	30.43%	
Meal digest easily or not in most of time/sometime/ daily (figure 7)	yes	58.69%	
	Not most of the time	10.86%	
	No	30.43%	
Meals takes regularly (figure 8)	Yes	69.56%	
	No	30.43%	
Taking of Mug/Masur/Arahar/chana/germinated food regularly (figure 9)	Mug	2.17%	
	Mug/Masur/Arahar	15.21%	
	Mug/Masur/Arahar/chana	26.08%	
	Not Specific	56.52%	
Condition exercise e.g. using an exercise bike or rowing machine , skipping (figure 10)	Yes	4.34%	
	No	95.62%	
Having injury in the past (figure 11)	Yes	10.86%	
	No	89.13%	
Sleep proper (figure 12)	Yes	32.60%	
	No	67.39%	
Sleeping bed is with mattress (figure 13)	No	10.86%	
	Yes	89.13%	
Day sleep (figure 14)	Yes	13.04%	
	No	86.95%	
Suppression of natural urges (figure 15)	Hunger	17.39%	
	Thirst	4.34%	
	Micturition	17.39%	
	Tiredness	2.17%	
	No	58.69%	
According to Driving habit and duration (figure 16)	Driving	1-3 hrs	0
		3-5 hrs	17.39%
		5-7 hrs	15.21%
		7-9 hrs	4.34%

	Bike riding	1-3 hrs	15.21%
		3-5 hrs	21.73%
		5-7 hrs	6.52%
		7-9 hrs	10.86%
	Cycling	1-3 hrs	0
		3-5 hrs	0
		5-7 hrs	6.52%
		7-9 hrs	0
	Travelling	1-3 hrs	0
		3-5 hrs	0
		5-7 hrs	2.17%
		7-9 hrs	0
Tension (figure 17)	Yes	60.86%	
	No	43.47%	
Anger (figure 18)	Yes	60.86%	
	No	43.47%	
Thoughts are serious even for small matter (figure 19)	Yes	43.47%	
	No	60.86%	

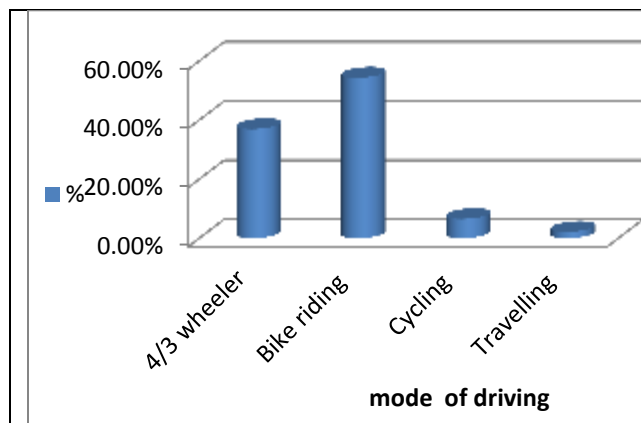


Figure 1: Mode of driving % prevalence of 46 pts

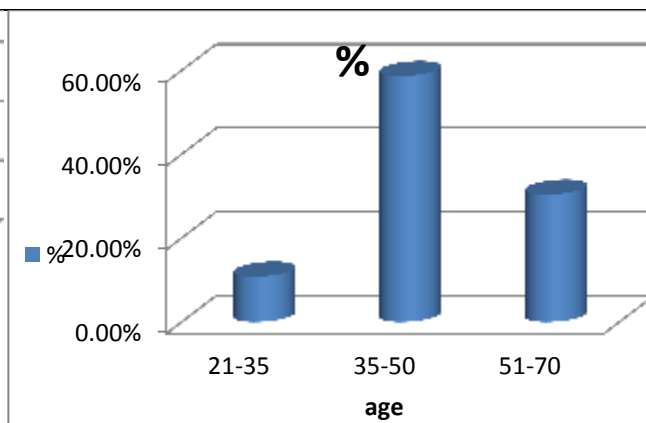


Figure 2: Age wise % prevalence of 46 pts

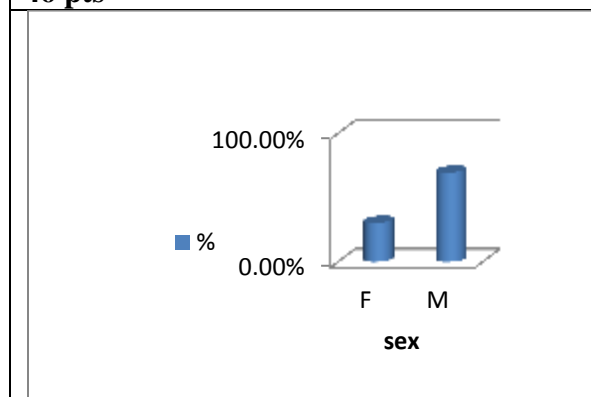


Figure 3: Sex wise % prevalence of 46 pts

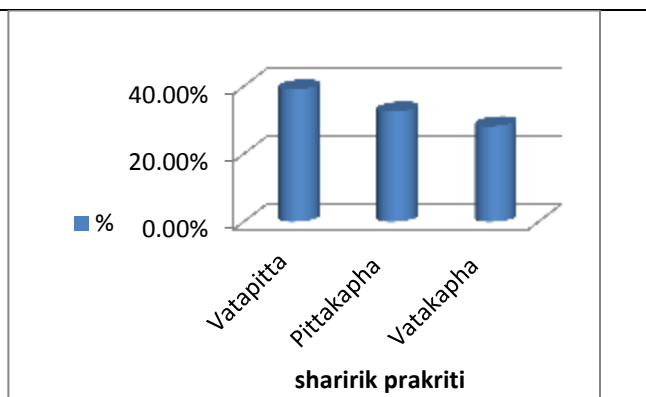


Figure 4: Sharirik Prakriti wise % prevalence of 46pts

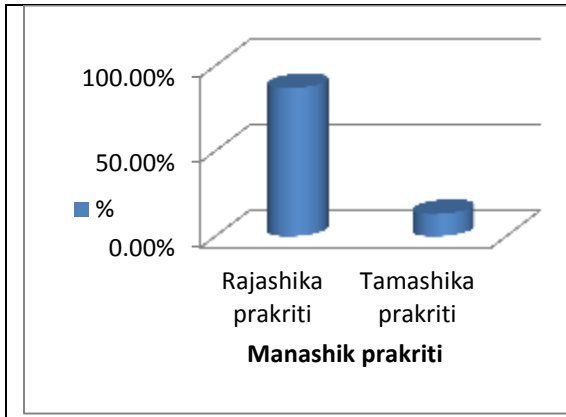


Figure 5: Manashi kaprakriti wise %prevalence of 46 pts

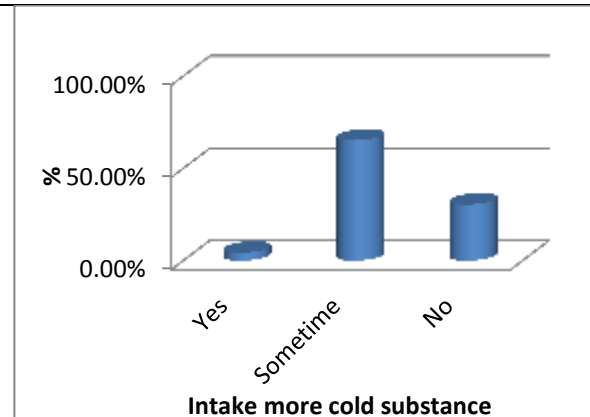


Figure 6: Intake more cold substance wise % prevalence of 46 pt

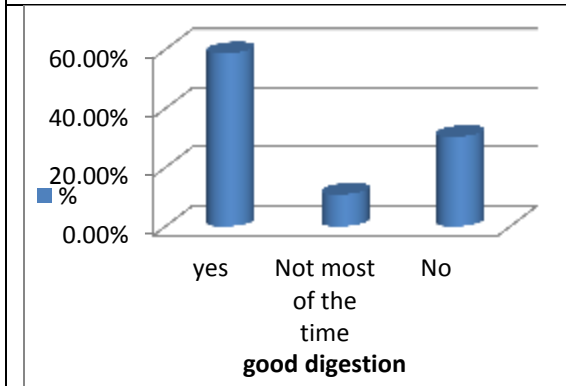


Figure 7: digestion wise % prevalence of 46 pts

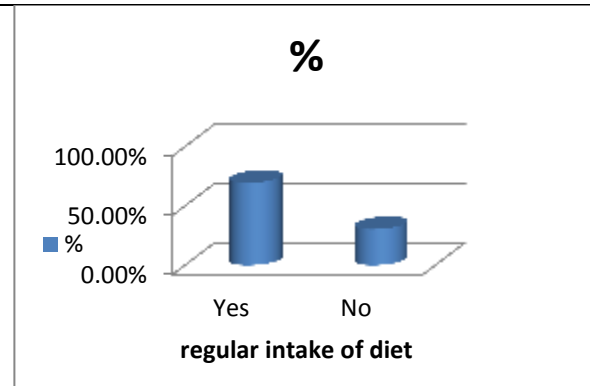


Figure 8: regular intake of diet wise % prevalence 46 pt

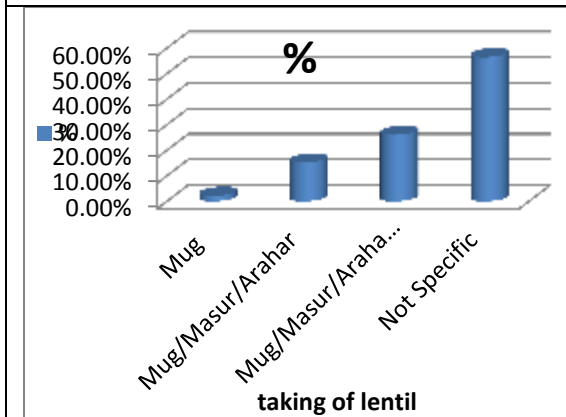


Figure 9: taking of lentil wise % prevalence of 46 pts

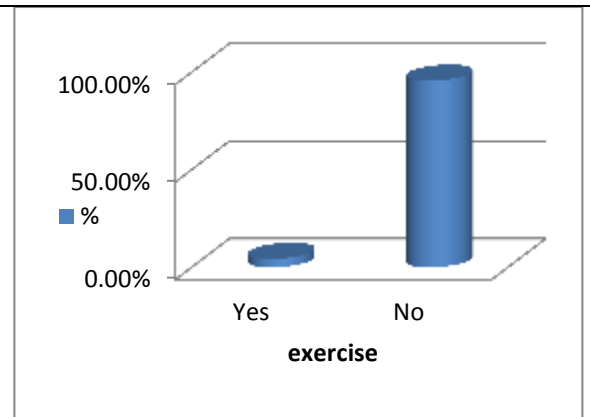


Figure 10: exercise wise % prevalence of 46 pt

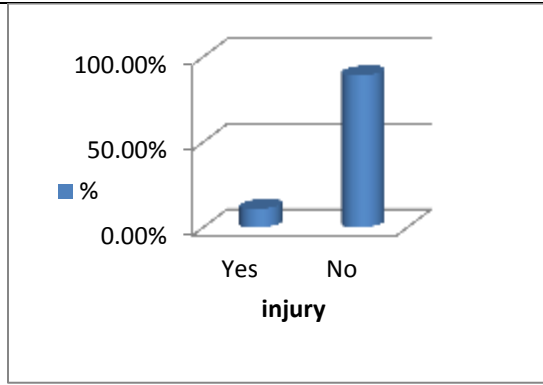


Figure 11: Injury wise % prevalence of 46 pts

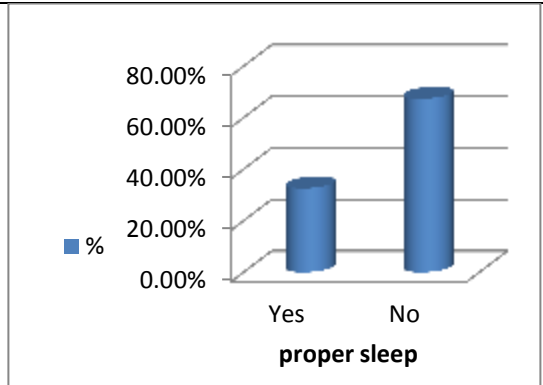


Figure 12: Proper sleep wise % prevalence

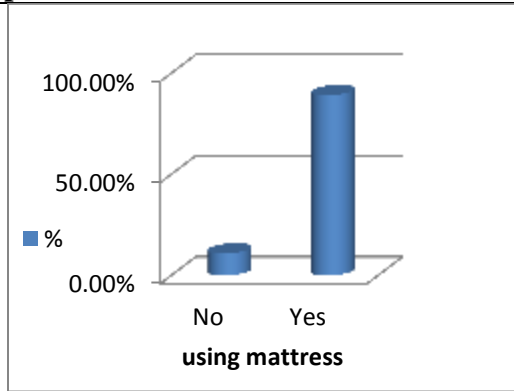


Figure 13: Using mattress wise % prevalence of 46 pts

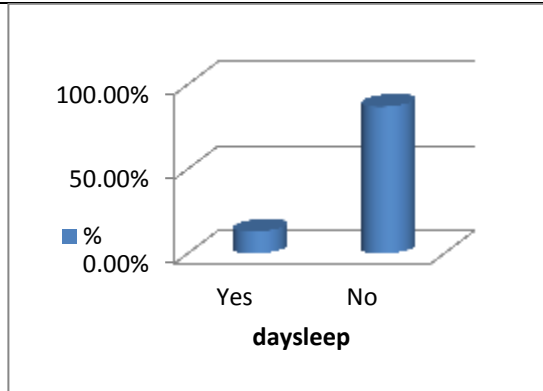


Figure 14: Day sleep wise % prevalence of 46pt

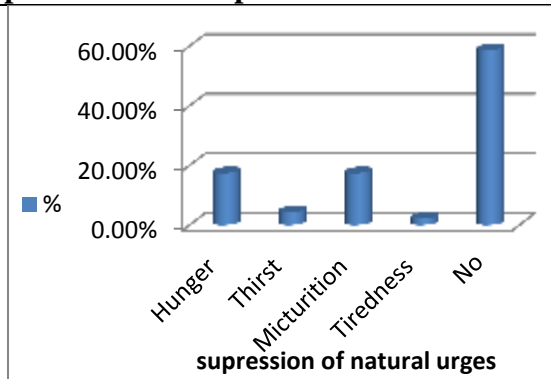


Figure 15: Suppression of natural urges wise % prevalence of 46 pt

Duration wise driving habit

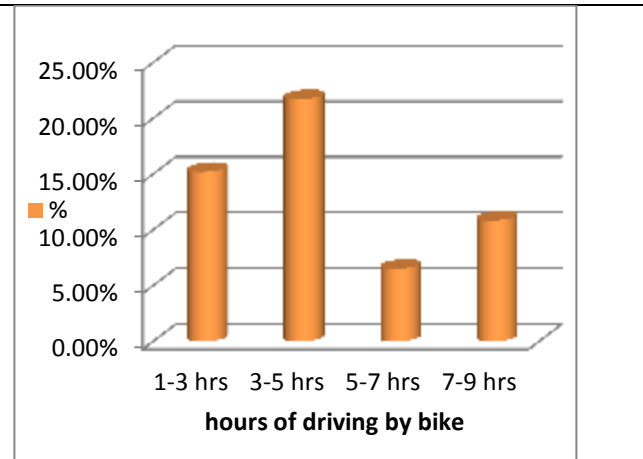
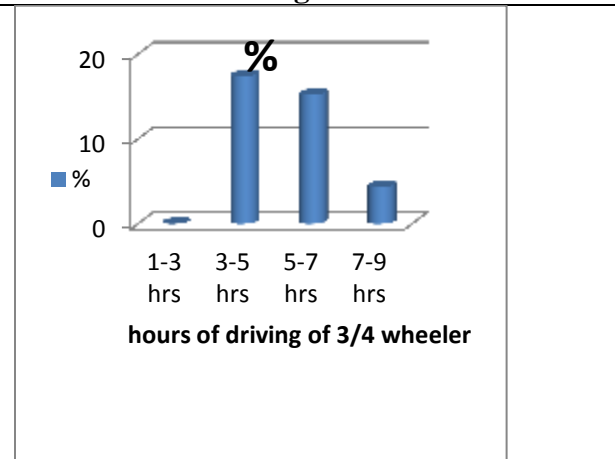


Figure 16: Driving 3/4 wheeler wise % prevalence of 46 pts

Figure 17: Bike riding wise % prevalence of 46 pt

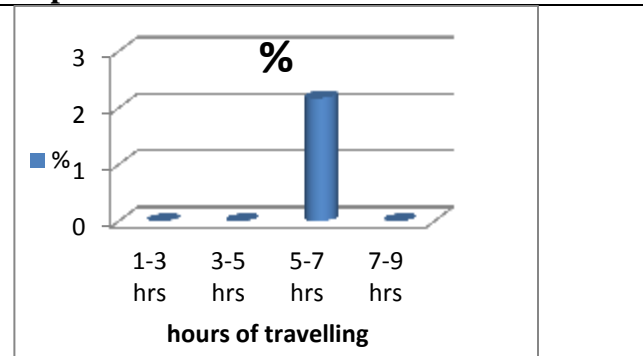
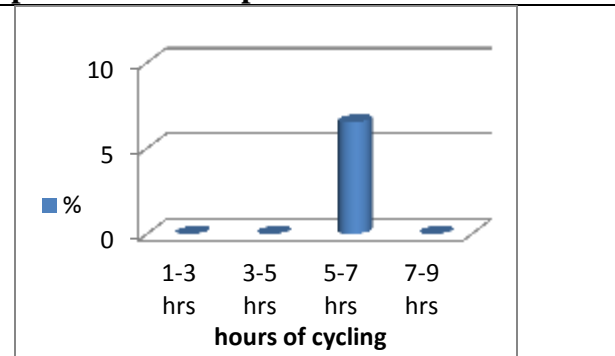


Figure 18: cycling wise % prevalence of 46 pt

Figure 19: Travelling wise % prevalence of 46 pt

Mental factors

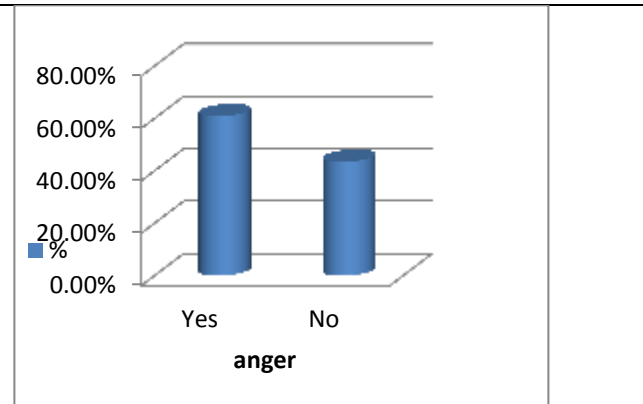
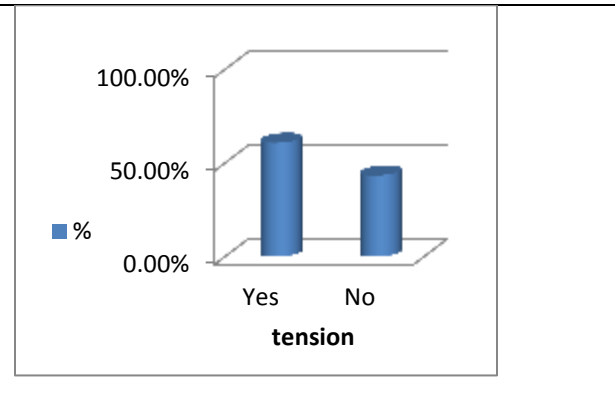


Figure 21: Tension wise % prevalence of 46 pt

Figure 22: Anger wise % prevalence of 46 pt

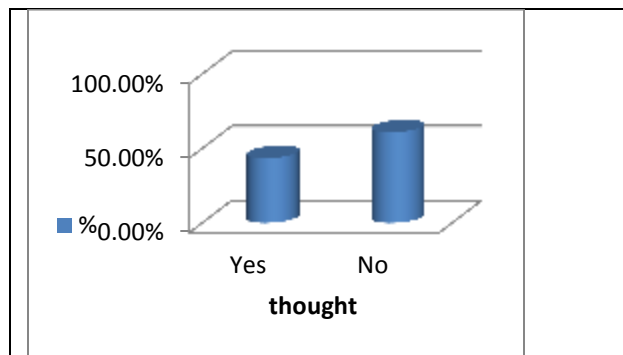
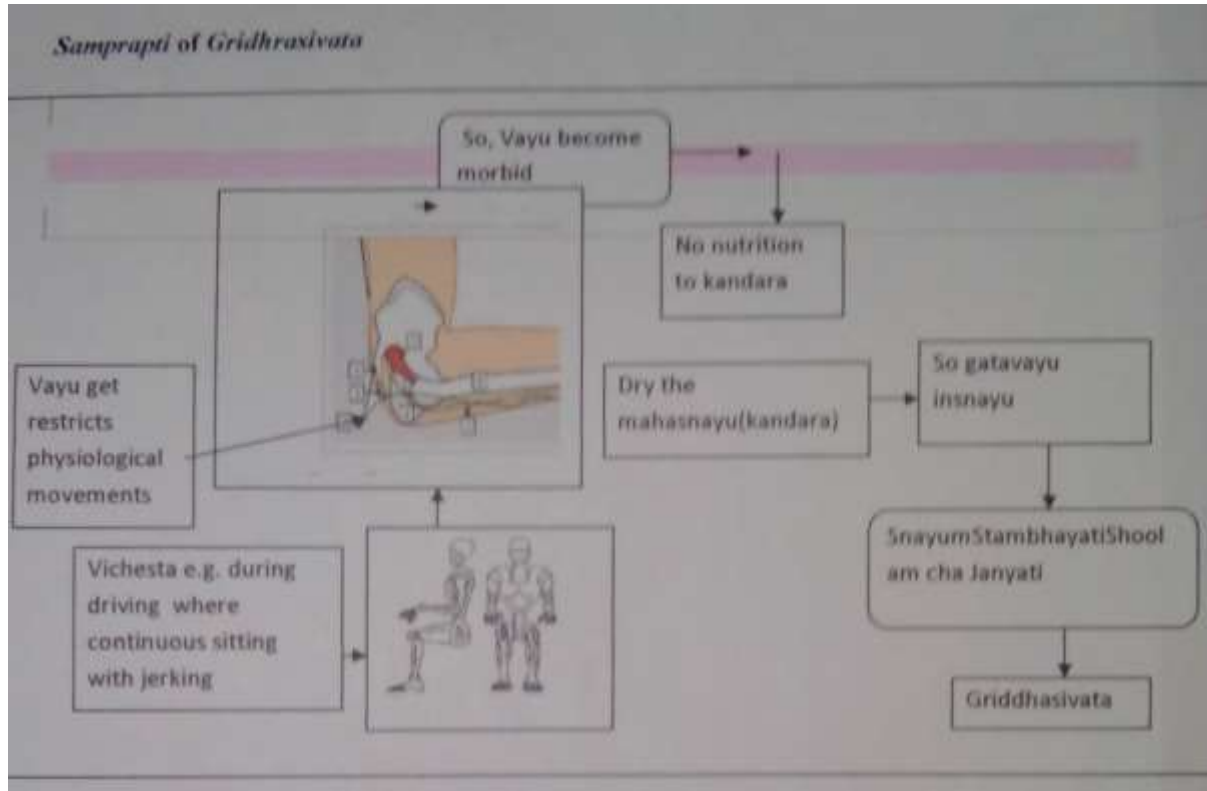


Figure 23: Thoughts are serious even for small matter wise % prevalence of 46 pt

Pathophysiology:

In *Gridhrasivata* the *lakshana* is like *snayugatavata* which are *stambhan, kampa, shool*.⁷ Here pain is first form from *Sphika*(*Nitamba*) then *Kati, Pristha, Uru, Jangha* and *Pada*. If we see the anatomy of *Sphika* (*Nitamba Pradesh*) then we see that here *pesi* (muscle) is remain because it is said that there are two *Sphika*⁸ and these are *Mamsapinda*⁹ and in muscle following structure is remain- *Sandhi, Asthi, Sira* and *Snayu*. *Nitamba* is also considered as *Marma* and same structure remain as a *Marma*. *Mahasnayu* is called *Kandara*. Again if discuss about *Kandara* then we get that these are sixteen in no., the structure *Sroni, Pristha* and structure below it has *Kandara* which *Agrapraro* is the *Nitamba*. So any abnormality at *Nitamba* leads to abnormality in the structure *Sroni*(means *Kati*)¹⁰, *Pristha* and structure below it. The function of *Kandara* is *Akunchana* and *Prasarana*¹¹. So the movement of *Sakthi* is maintained by *Kandara*. Again *Vyana Vayu* regulates its action. So proper movement of *Kandara* is regulate by *VyanVayu* and *Avyahata Gati*(continuous movement) is needed for it. If movement of *Vayu* is hampered then it localized in the same position where its movement is hampered. In driving the position of a person is in sitting position and there is also body movement. So, when *VyanaVata* get no roam for physiological movement in *Nitamba* region or irregular movement during bike riding then it start accumulate there for which the *Vatavahini Sira* get *Samkocha*¹²so lack of nutrition to *Kandara* ultimately starts to dry the *Kandara* (*Mahasnayu*) of that region. So *Ruksha Guna* is increasing in *Kandara* which leads at first *Stambhana*. Further *Gata Vata Lakshana* were like to developed in the *Snayu* those are associated with *Shool, Kampa, Akshepa* etc. and ultimately leads *Gridhrasivata*.



CONCLUSION :

Gridhrasivata occurs in the person who used to drive for many hours. Mainly who ride bike, they are more prone to develop *Gridhrasivata* if a person continue a wrong posture for several hours. This can be included under *Vichesta* which is a *Nidana*(cause) of *Vatavyadhi*, somehow that type of *Nidana* obstruct the normal movement of *Vata*. Not only that driving long with some provocative, predisposing factors for *Vata Vyadhi* also contribute to increase *Vata* and leads *Gridhrasivata*.

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