Frequency of HTN in subjects with Sedentary Life Style in residents of Gujri town, District Sanghar.

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Abstract

OBJECTIVE: To Frequency of HTN in subjects with sedentary life style among the local residents of Gujri town, District Sanghar.

Design: Cross-sectional survey,

Place: conducted at Gujri town of Sanghar district;

Duration: from 05th October, 2017 to 05th December, 2017 for duration of three (03) months.

Subjects: 200 participants were enrolled out of which 170 participants were approached having sedentary life style behaviors.

Methodology: after permission from the male and female subject were enrolled and designed proforma filled. Subjects not willing for inclusion were excluded from study.

RESULT: Study statistics reveals sedentary behavior counts fourth one leading cause of non-communicable diseases, hypertension. 60% participants with sedentary behavior were not known about the consequences of sedentary life, while 80% participants were with pre-hypertension that were unaware.

COCLUSION: The risk of life threatening conditions like HTN can be reduced by providing the awareness to the population about the benefits of physical activity as well as about the unwanted effects of sedentary life style.

KEY WORDS: HTN, Awareness, Risks, Sedentary Life Behavior

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INTRODUCTION:

The pattern of life characterized by non-healthy behaviors: untimely sleeping, frequent eating foods, spending unlimited timing on social media, excess seating workings and the ignorance of exercise in daily routine is termed as the sedentary life style[1].

Sedentary life style has been among the causes for hypertension, cardiovascular diseases and diabetes mellitus. Hypertension is one that in turn leads to the cardio vascular, psychiatric as well as depressive ailment causing the various complications to human life[2].

Statistics concluded by the National Health Survey of Pakistan reveals that 50% of adult population aging above 50 years ,30% of population aging around 30 years and 05 t0 07% of child population fall in hypertension. Globally one in five is getting suffered of raised blood pressure and its complication: stroke and heart diseases account for 9.4 million deaths per year, worldwide.[3]

The prevalence of hypertension is 18 percent in the adult population below 45 years of age, while 30 percent in people around 30 years of age and 5 to 7 percent among children. One in four adults over 18 years of age is hypertensive

as World Health Organization states in its report (2017)[2,4.]

According to W.H.O, country profiles in Pakistan 25.2% of the adult population getting affect by the raise of blood pressure. Adult population includes adults above 18 years' age (25.6% of males, 24.8% of females). The occurrence of deficient physical activity in adolescent's ranges (11–17 years of age) is 88.2% (87.3% of boys, 91.1% of girls).[5,6]

Generally, in early stages the indication of hypertension remains silent as it doesn't show the symptoms, hence it rests undiagnosed. Behavioral life style includes smoking, fatty foods, inadequate physical activity, salty foods, daily life hurry worries initiating the process of hypertension.

The strategic intervention for preventing the population is the public awareness about their behavioral life style leading to the hypertension ant its unwanted complications.

An early detection of hypertension may save the public economy by not reaching the critical condition like, stroke, Bypass surgery & dialyses.

Many developed countries have recognized the public health polices for the reduction of hypertensive population by suggesting healthy lifestyles: eating a balanced diet, reducing salt intake, avoiding harmful use of alcohol, attaining regular exercise and terminating the smoke [6,7].

This study was conducted to assess the behavioral life styles among the peoples spending sedentary life.

METHODS:

Cross sectional survey was conducted; where in 200 participants were enrolled out of which 170 participants was approached having sedentary life style behaviors.

Data was collected over a time of six months from the month; October 2017 to 5th September 2017 at district Sanghar.

The data was collected on pre-established questionnaire, and was analyzed. The data in categories were analyzed for frequency & percentages simply, while mean and standard deviation were drawn for quantitative data and the result comes out as under.

AGE CHARACTERISTIC

Mean	Std.Deviation	Minimum	Maximum
45	7.51	30	60

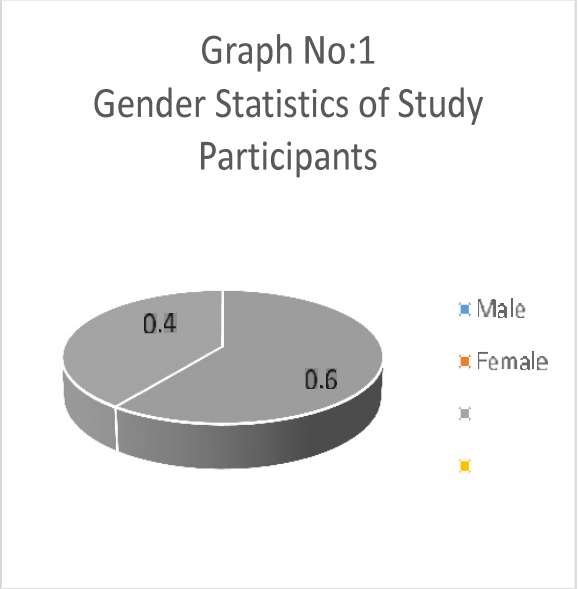
Mean age of the participants of this study was 45 years of age with ±7.51 standard deviation, while the age ranges from minimum 30 years of age to 60 years' age.

RESULTS:

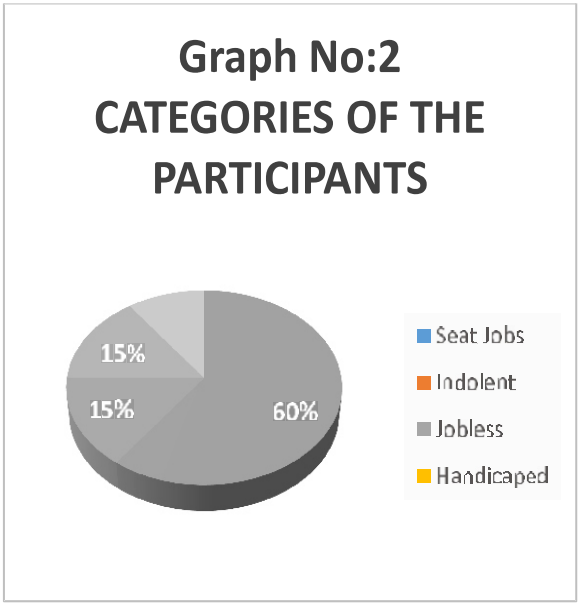
Table-1: Age Statistics.

Age in years	Frequency (f)	Percentage (%)
30-45	36	21.18
46-50	38	22.35
51-55	46	27.05
56-60	50	29.42
Total	170	100

The participants with the age limit 50 to 60 years were highest respondents while participants with age limit 30to 45 were lowest respondents in this study. The range of study participants were within 14 years of age. Table 1.



The study participants of this study were of both gender, among participants there were 60% male, while 40% were female the number male participant were higher with the raise of 20% than the females. Graph 1.



Various categories of participants contributed in this study, among them 60% were those with seat jobs spending 6 to 08 hours it counts legal professional, teachers, bankers and shopkeepers.15% of participants were indolent; Participants spending the life having baffling goals. The non-sedentary workers participants 15%, were those were without any job to meet their life objective; feudal & aged persons comprised this group. The participants spending stranded life with incapacities built-in 10% of total participants in this study. Graph 2.

Table-2:	**Modulation of participants in sedentary life**		
#	Health factors	f	%age
O1	High Blood Pressure	45	27%
02	Elevated cholesterol level.	40	23%
03	Obesity (BMI >25.9)	31	18%
03	Diabetes Mellitus (Type-2)	30	18%
04	Cardio vascular disease	14	08%
05	Hospital/Clinical visits > 3times / month	10	06%
n = 170		170	100%

According to the result of this study Majority (27%) of sedentary life payers were found with the modulation of high blood pressure with the value more than140/90 mm/Hg, while (23%) participants were with cholesterol level more than24 mg/dl, likewise (18%) were found with BMI more than 30.0, the value that indicates obese.

Diabetes type-2 were found with 18 % of study participants ,08% of participants were found with cardiovascular disease with the history of angina, however 06 % of participants were found to have visit history to hospitals & clinical for the seeking of treatment of various infectious diseases.

DISCUSSION:

The advent of new technologies and work machines has made the life relaxed than before and with the advancement of such innovation, the human life is getting the exposure to sedentary behavior. This sedentary behavior is not lacking the risk factors; the joyous paybacks of sedentary life would mold the life in uncertain[8].

The life style with little or no physical activity may be termed as "Sedentary" life style. With the addition of further two terms: speeded sedentary time and physical activity expenditures, the nature of sedentary life can be dogged.

Soo Young Kim reported the sedentary time as 6.1 hours per day, or 42.7 hours per week, and the energy expenditures ≤ 1.5 METs (metabolic units)[8,9].

Physical inactivity is found the key factor that happened among the study participant with high blood pressure, 80% of participants were in the range of pre hypertensive state [10,]

The highest Percentage of the health factor that found among the study participants of this study remained with physical inactivity. table 3.

Table-3: No of Participants with Hypertension (HTN).

Frequency (f)	Range of blood pressure		Percentage %
	Systolic mm/Hg	Diastolic mm/Hg	
36	120 to139	80 t0 89	80%
04	140to 159	90 t0 99	9%
05	160	100	11%
Total = 45	100 %		

Out of 45 participants the (36) 80% participants were having in pre-hypertension state, (09) 09 % were in stage-1 hypertension, and (0%) 11 % were found in stage-2 hypertension[11].

Study result shows the Number of participant with physical inactivity in the terms of the variation of blood pressure they grown by the passage of unknown period of time.

Table-4: W.H.O Statistics on raised blood pressure (SBP ≥ 140 OR DBP ≥ 90)

Year	Both sexes	Male	Female
2015	30.5	31.5	29.5
2014	30.4	31.4	29.4
2013	30.3	31.3	29.4
2012	30.3	31.2	29.3

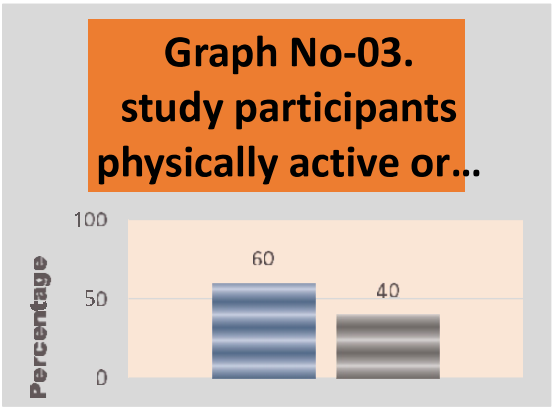
According to the statistics of world health organization updated in the year 2017, in the defined population of Pakistan: raised blood pressure (stage-1 hypertension) were found as 30.5% in the year 2015, that is 10% rise than the year 2014 [12]. Table 4.

Table-5.Participants with sedentary life style knowing own health status.

Aware the status of HTN	Participants with the cure options.	Frequency (f)	Percentage (%)
	Diagnosed	16	35%
	Seeking Treatment	12	27%
	With controlled HTN	06	13%
Aware the status of HTN	34		74%
UN-aware the status of HTN	11		26%
Total	45		100%

The escalation in Blood pressure level and increase in the prevalence may be associated with the deficit awareness of own health status. From the statistics of this study the 26 % of participants living with sedentary life were un-aware about the status of their health concerning Hypertension. Out of 45 the number of participant that were aware of their health status, seeking different options to cure the disease found 35% higher than those with awareness deficit about the consequences of sedentary life. Table 5.

Singh S et al view hypertension as a silent killer; as majority of population remain symptomless, it is until the time that medical emergency happens with the detection of grave diseases; Myocardial infarction; Stroke; Kidney failure[13].



The statistics of this study has shown that among the majority of participants with sedentary life style found physically inactive, having seat jobs or other work or having no assignments for life expenditures, however 40% were found physically active life with the routine habits of non-seat jobs like exercise and outdoor games. Graph 3

Relevant studies have shown that the outcome of physically inactive life includes the rise of blood cholesterol level, the buildup of visceral fat with the ultimately response of tissues in the form of low-grade vascular inflammation leading to the atherosclerosis[14], it surfaces in the happening of thrombus, Cardio vascular diseases, low cardio respiratory fitness and often unsatisfied mental & quality of life[15,16]. Relevant study indicates that the physical inactivity increases the inflammation markers not only diabetes type-2 patients through MVPA differences and adiposity. An association exists between IL-6 and sedentary time; An hour spent in sedentary time amounts to decrease IL-6 by 8% (95% CI 0,15) in man and similarly 12% (95% CI 0, 24) in women[17].

According to the Biswas A etal, Physical inactivity may be demarcated as moderate exercise less than 150 minutes weekly, or less than 75 minutes of vigorous exercise weekly be called physically in active[18]. Table 6.

Table-6: W.H.O criteria of defining physical inactive.	
Level :1 In-active	Performance of no or tiny exercise
Leval:2 In-sufficiently active	Performance of < 150 minutes of moderate-intensity physical activity or 60 minutes of vigorous-intensity physical activity a week accumulated across work, home, transport or discretionary domains
Level:3 Sufficiently active	Performance of 150 minutes of moderate-intensity physical activity or 60 minutes of vigorous-intensity physical activity a week accumulated across work, home, transport or discretionary domains, which approximately corresponds to current recommendations in many countries.

Stults-Kolehmainen MA states in the study[19,] that sedentarianism is a physical activity that consumes 1-1.5 (METs) metabolic equivalents, watching television, sitting, working on computer and playing video games are the examples[18].

Relevant studies show that exercise; sub class of physical activity increases insulin like growth factor (IGF-1), it promotes neuronal growth and improves cognitive performance; decreases the serum homocysteine, its increase level is associated with the Alzheimer's Disease and cerebral white matter lesions[19,] hippocampal neurogenesis, angiogenesis, increase production of IGF-1 are among the factors that halts the risk triggered by the sedentary life behavior.

One manifestation of sedentary life is decreased blood flow, which develops in-sufficient pressure on endothelium cells to produce shear stress. The shear stress causes vasodilation in response to adoption of endothelial cells with the production of Nitric oxide and prostacyclin[15]. Hornig et al. found in the study he done that exercise restores Flow Mediated Vasodilation (FMD) patients with chronic heart failure[20]. 70% of participants in this study were verbalizing the potential problems they sense: Stress; heart problems; history of sustained headache, wretchedness, lacking sex appeal and bone discomfort. Relevant studies have shown poor prognosis on pharmacological intervention applied to some non-communicable conditions as, Diabetes mellitus, hypertension, anxiety and Obesity.

A study by Bressa C et al revealed that the count of health beneficial bacteria, tat includes Faecalibacteriumprausnitzii,Rosburiahominis and Akkermanasiamucipniphilia were found less in count in women with sedentary life in comparison to active women[21].

Hence sedentary life style has been the foremost cursor leading to the health issues ranging minor to life threatening conditions like blood pressure, stroke and heart attack, it can be reduced and population can be saved by availing them the proper health educational awareness programs. Various strategies: pamphlet display, newspaper articles, Radio & TV programs and workshops teaching as public awareness programs would make the public health conscious.

“Sedentary life is like a poor verse, written without the rhythm which fades away with the pace of time”.

Hippocrates; the father of modern medicine, disdains sedentary style of life and emphasis the parallel importance to nourishment and exercise for the gain of safe health[22,23].

RESULTS:

The outcome of this study shows that majority of participants with sedentary life developed hypertension were found 27%age total. Out of 45(100%) 34(74%) of hypertension cases were found aware about their status of blood pressure, however 11 (26 %) were found un

aware. Coupled with blood pressure, Elevated cholesterol level. Obesity (BMI >25.9), Diabetes Mellitus (Type-2), Cardio vascular disease Hospital/Clinical visits > 3times / month were found as minor modulations existed with the style of sedentary behaved participants.

CONCLUSION:

Physical inactivity is among the leading cause for non-communicable diseases, primary and secondary prevention of such diseases may be addressed well through the public awareness by recommending the physical activity programs at the different levels of the community.

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