

Original Article

Reasons and Prevalence of Hypertension among Nursing Faculties in Pakistan

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ABSTRACT

Chain smoking, Deficiency of exercise, Psychological stress is identified as main cursers of Hypertension among the teachers of nursing schools. Nursing teachers working in nursing schools usually spend more than 06(Six) hours in a stressful sedentary environment.

Objective: To assess the effects and prevalence of raised blood pressure among the Nursing faculties.

Study Design: Cross sectional study

Country & Place of Study: Multi site study that include public and private nursing institutes of Pakistan.

Material & Methods: 400 nursing faculties aged 25 years to 59 years were given predesigned questionnaire to assess the reasons and prevalence of hypertension. The purposive, convenient sampling was done for data collection.

Results: Prevalence of hypertension among the nursing faculties found in this study is 108(27%), like wise in pre-hypertension 72(18%), however 220 (55%) numbers of nursing faculties were found with normal blood pressure status.

The risk factors for both hypertension and prehypertension (n=180) , among the nursing faculties are distinguished as , job stress 29(16%) ,Use of fried foods and high salts 105(59%),Tobacco smokers 26(14%) , Sedentary life 11(06%) , Obesity 09(05%) .

Conclusion: The prevalence of hypertension is slightly more than the prehypertension that cannot be ignored; the nursing faculties with pre-hypertension may control the pre-hypertensive status of their health by avoiding the usage of fried salty food and tobacco smoking.

Keywords: Prevalence, Hypertension, Causes, Nursing faculties,

1. INTRODUCTION:

Hypertension has been defined as systolic blood pressure more than or equal to 140mmHg or diastolic blood pressure more or equal to 90 mmHg., while normal blood pressure is defined as SBP below 120mm Hg and DBP below 80mmHg (Messerli, Williams & Ritz, 2007). Cardiovascular, cerebrovascular disease and stroke are considered among the indicators of high blood pressure. A study shown that the subjects with 140/90mmHg were 2.6-fold higher, caring the

risk of cardiac and cerebrovascular disease (Krishnamoorthy, 2015).

A study conducted by the Yook (2019) has investigated the correlation of the job stress with arterial stiffness, and maximum oxygen uptake (VO₂). He found the significant difference in VO₂ max [P<.01] and arterial stiffness [P, .001], triggering the occupational stress. Hence the occupational stress has been significantly correlated with arterial stiffness [r.085, P.05] and with cardiorespiratory fitness [= .820, P,.05]

Job stress is accounted for various impacts on the performance of teachers related to spending the extra mental energy in processing cognitive activities in teaching learning process that leads the faculty members to physical, emotional, attitudinal and attitudinal burnout. Such attributes contribute in developing blood pressure, cerebrovascular and cardiac issues (Nazari, Jariani, Beiranvand, Saki, Aghajeri & Ebrahimzadeh, 2016).

The factors other than job stress that may contribute in deteriorating the health of faculty members include:

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exhausting mental work, 06 to 08 hours spending in sedentary life; seating in a place, tobacco and nicotine usage; Chain smoking, fast and fried, salty foods.

The aim to conduct this study is to identify the prevalence of hypertension and their reasons among nursing faculty members working in nursing schools of Pakistan.

The result of this study indicated and has helped to sort out the factors that would be controlled to perform the better services as nursing faculties that in turn will help to improve the performance of the nursing teaching organizations.

In the last but, not the least this study may clue to frame the health policies in working place that, may address how to decline the factors that affects the performance of the faculty members.

2. MATERIAL & METHODS

The descriptive cross sectional research study was carried out among the nursing schools in Pakistan to assess the prevalence of hypertension.

Total 400 faculty members were included in this study, age ranging from 25 to 60 years, the selection of sample size made purposively.

Among the faculty members, that were included in sample size (n=400), there were 65% male faculty members; while there were 35% female faculty members.

The percentage carrying the qualification of faculty members remains 30% with MS nursing, 40% with BS nursing (Post-

RN) 20% with Generic BS nursing, and 10% with PhD health sciences.

To assess the response from the respondents 5 point, Likert scale was used and analysis, reliability and validity of questionnaire was tested by applying Chronbach's alpha, the resulting figure came out as 0.805 revealing the reliability of the tool.

Proper external and internal criteria established, inform consent was taken and the purpose, consequences of study were explained to respondents; ethical issues and expected harm were none but well briefed to the participants of this study.

3. RESULTS

Table 01: Age statistics of participants

N	valid	400
	Missing	0
Mean		40
Std.Deviation		7.09
Minimum		25
Maximum		60

The mean age of participants were 40 years with the standard deviation ± 7.09 , the age range of participants extended from minimum age of 25 years to maximum rang of 60 years.

Table 02: Characters of faculty participants (sample size N= 400)

S.no	Place of the posting	No of Institutions	Male	Female	MSN	GBSN	Post RN Bsc N	PH D
1	Public Sector Institutions	11	172 (43%)	112 (28%)	104 (26%)	72 (18%)	140 (35%)	12 (03%)
2	Private Sector Institutions	09	88(22%)	28 (07%)	16(4%)	08(02%)	20(05%)	28(07%)
	Total	20	260 (65%)	140 (35%)	120 (30%)	80 (20%)	160 (40%)	40 (10%)
	Grand Total		400 (100%)		400 (100%)			

There were 400 total respondents, out of which 140(35%) comprise female faculties, and (65%) male faculties; these faculties were purposefully selected from 20 nursing

schools/colleges or nursing institutes from the four provinces of Pakistan , out of which 11 nursing education organizations were public government verges ,while 09 nursing teaching organizations were from the private sectors.

Table 03: Reasons (causes) contributing to High Blood Pressure among nursing faculties.

N=180			
Questionnaire item No:	Risk Factor	(f)	%age
01	Use of fast/fried foods	105	59
02	Job stress	29	16
03	Tobacco smoking	26	14
04	Sedentary life mood	11	06
05	Obesity	09	05
Total		180	100%

Out of 400 participants the number of hypertensive respondents were found 180 ,having blood pressure more or equal to 140/90 mmHg.

The attributes that potentially contributed in raising the blood pressure among the nursing faculties are found and includes ;usage of fast ,fried salty foodstuffs 105 (59%) , Job stress 29 (16%) , Tobacco smoking 26(16%) , sedentary life style11 (06%) and obesity 09(05%).

Table 04: Status of Blood Pressure of the Participants

Sample size (N=400)			
S.#	Normal Subjects	Pre-Hypertensive	Hypertensive
01	120/80mmHg	130-139/85-89mmHg	140-159/90-99mmHg
	148 (37%)	72 (18%)	180 (45%)

There were total 400 respondents, from which 148(37%) participants were found normal having no any signs of hypertension. Their status of being normal was confirmed by recording their blood pressure reading as 120mmHg systolic & 20mmHg as diastolic reading. Total numbers of hypertensive nursing faculties were 180 (45%),

DISCUSSION

Use of fast/fried foods.

It is often observed that fast food is more easily available and famous ,tasty and increase the hunger drive beyond the body need .there are about 254 samples of fast food reported in various research studies 4 ,fast food experts express that , such processed food contain high in saturated fat ,trans fatty acids ,free sugar and salt (du Plessis, 2016)

Sodium and potassium are the main constituents of some fast foods sold by the street vendors and fast food shops, excess sodium intake; 4gm/day is highly associate with blood pressure and is risk of cardiovascular disease.

The WHO recommends the proper balance in sodium potassium ratio (Na/K =1), the level of potassium is found low in street foods and hence its deficiency or unbalancing may lead to the cardiac and cerebrovascular diseases. One reason of this unbalancing is its demand; due to watery tongue test of its consumers; therefore the preparation of such fast food are

prepared in less time, unchecked of the nutrient level and serving to the consumers in unsafe methods . This practice is common in developed as well as in the underdeveloped countries.

The majority of the consumers of such for comprise 105(59%) among the nursing teachers in this study, the reason of this habit may include the party system, being away from the home, highly cognate/ practical work, easily availability of such foods and tradition for easing the hurry worry during routine work. 73% of the respondents consumed fast food (Van Rongen, Poelman, Thornton, Abbott, Lu, Kamphuis & De Vet, 2020).

Job Stress

Out of 180 respondents 29(16%) faculty members were found with highly job stress.

Shortage of: faculties, academicians, low salary, long duty hours, research obligations, and academic audit, family responsibilities are such factors that are not easily digestible and likely put the faculty members into stress and job dissatisfaction.

Although all the institutes are not alike some offer attractive salary packages along with other perks and privileges, never-the-less , the job stress remains in situ as the cognitive teaching strategies and innovative technologies put the faculties in lurk and in ever challenging tasks (Converso, Loera, Molinengo, Viotti, & Guidetti, 2018).

Relevant research revealed that job stress is cause of physical and psychological stress among the teachers working in the schools that may affect the organizations productivity, efficiency and performance. The consistent stress in job leads to the psychological condition may be called "Burnout syndrome" and this condition has been associated to trigger blood pressure, hence overlapping of psychological effects on physiological signs (Suleman, Hussain, Shehzad, Syed, & Raja, 2018).

An experimental research on rats showed the association of job stress with the blood pressure along with escalated heart rate and depression (Tao, Ge, Wu, An, Liu & Xu, 2018).

Tobacco Smoking

In this study among the nursing faculties 26(14%) faculty members were found regular smokers, often they were also the chain smokers, in leisure time outside working areas: Park side, usually 2 to three cigarette at a time, some are used to drink coffee along with smoking in university cafeterias, however some chain smokers smoke 3 to 05 cigarettes without lapse of time, some smokers realized that they do smoke just to have a fun and after switching the cigarette on, they just play with the fog of smoke and not care the time between the sips. Non-smoking faculty members having blood pressure, were identified as opportunist smokers: they smoke the time when they were offered to smoke freely from the packet of colleague teacher, however in avoiding the smoking passive smoke trigger the smoke desire.

Aryanpur M, et al. confirms that 15 studies disclose the association of passive smoke associate with the blood pressure rather than active smoking (Aryanpur, Youse fifard, Oraii, Heydari, Kazempour-Dizaji, Sharif & Jamaati, 2019).

Sedentary life mood

11(6%) of the respondents after the 06 hors continuous duty hours they are so exhausted that, outside the working place; at home they rarely find the time for outing, excises, and meeting the friends in society.

Majority of faculty members prefer to save the time to spent with the children, family, watching the audio video and playing the Indore games. Such life style can be labeled as sedentary life style, while in literature review it is found that sender time is 6.5 hours a day or 42.7 hours per week with the energy expenditure more or equal to 1.5 metabolic rates (Kim, 2018).

Various studies found the relation of sedentary life style with the occurring of blood pressure in term of pathogenesis; Physical inactivity gives rise to level of cholesterol that builds up the Visceral fat and inflammation of endothelial tissues of blood vessels and all over this phenomena leads to the hardening and narrowing the diameter of the blood vessels leading to the blood pressure and atherosclerosis (Al Mammari, 2009).

Obesity

Over weight is counted the important factor that may lead to obesity, among the causes the overt factors include, lack of exercise, over eating, genetics and untimely frequent eating's.

In this study the statistics of obese faculties comes out as 9(5%) that comprises 108 (27%) of the study population.

Various research studies shows that obesity may be counted as main risk factor of hypertension and the overweight peoples may not be excluded to skip hypertension with the lapse of time (Singh, Shankar & Singh, 2017).

Pathological studies showing that mental stress caused by the teaching learning process exhaust the physical energy that is the among the barrier that may restricts the outdoor activates for those peoples who spend 6 to 8 hours in seat work.

Relevant study established positive relationship body mass index to blood pressure, however some study suggest 40 minutes (MVPA) moderate to vigorous physical activity 3 to 05 day/weeks may improve blood pressure by improving the vascular function.

The obese respondents 09(05%) in this study were assessed for Body mass index and blood pressure. It was found that an increase of 01 SD (Standard deviation) related to escalate the 09mmHg for systolic and 1.08mmHg for diastolic blood pressure respectively (Hornig, Maier & Drexler, 1996).

The weight (wt.) was measure by using SECA 899 DIGITAL SCALE TO THE nearest .1kg value and height was measured with SECCA Leicester stadiometer with a minimum value .1 cm.

The formula that was applied to calculate the BMI of respondent established, is Weight (KG)/HEIGHT (m²) (Centre for Disease Control and prevention, 2020).

Table 05: BMI criteria to classify respondents in the category of obesity

Criteria based on BMI results of the respondents of this study			
Underweight	Healthy weight	Overweight	obese
<19 kg	19-25 kg	25-30 kg	30-40 kg

The mean of obesity among the respondents were found 37.7 kg, similar studies show that weight gain by 30 kg is enough to develop anti insulinemic factors to cause the diabetes. However in this study it is found negative relation of obesity to the cognitive functions triggered by the high blood pressure (Solomon –More & Salway Emmm-CollisonL 2020 & Mertens & Van Gaal, 2000).

4. CONCLUSION

Use of fast/fried foods, Job stress, Tobacco smoking, sedentary life mood and Obesity are found the actors that participate in escalating the blood pressure among the faculty working in the nursing schools in Pakistan. The main reason of utilizing the fast fried and salty food is easily availability of such foods and flavors the contain ,More over faculty members used to fast food to quit their hunger due to long duty hours.

Some other factors that contribute in escalating the blood pressure may be included long seating works, stressful cognitive activities, overloaded job task and sedentary life.

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