# Innovations

## Level of Physical Activity among Hypertensive Adults

**Mrs .A.Viji**

Assistant professor, Department of OBG Nursing ,SRM College of Nursing, Potheri, Tamilnadu

**Mrs .Deena Jothy. R**

Associate professor, Department of OBG Nursing ,SRM College of Nursing, Potheri, Tamilnadu

**Dr. C. Kanniammal**

Dean, SRM College of Nursing, Potheri, Tamilnadu

&

**Dr. D. Rajeswari**

Associate professor, Department of Community Health Nursing , SRM College of Nursing, Potheri, Tamilnadu

Corresponding author: **Mrs .A.Viji**

*Abstract*

*Introduction: Hypertension is a serious medical condition and can increase the risk of heart, brain, kidney and other diseases.. Physical activity plays an important role in controlling hypertension. Physical activity includes walking and all movements that increases energy use. **Objectives:** To assess the level of physical activity among adult and find association between the level of physical activity among adult with their selected socio demographic variables **Materials and methods** - A quantitative research approach and descriptive research design was adopted.50 participants in the age group of 20 -60 years who fulfill the inclusion criteria were selected by non probability convenient sampling technique at rural section of the Nellore ,Andhra Pradesh, India . Modified General Practice Physical Activity Questionnaire (GPPAQ) , 4-level physical activity index (PAI) were used to collect data. The data was analyzed in terms of objectives of the study using descriptive and inferential statistics. **Results** : Maximum of adults between 41-60 years of age, 6(12%) are moderately inactive, 9(18%) are moderately active and 35(70%) are active and none of the adult are inactive in routine activity . Mean level of physical activity **in** hypertensive adults is 6.1 and standard deviation is 1.89. There is no significant association between the socio demographic variables like marital status and diet. And there is significant association with age, gender, educational status, family income, occupation, and type of family. notably a significant association with age, gender, educational status, family income, occupation, and type of family and no significant association with marital status and diet. **Conclusion:** Very few hypertensive adults, according to the current study, are aware of the importance of physical activity in controlling blood pressure, but adults must be educated to understand the significance of compliance of regular physical activity like walking .*

*Key words: Hypertension, DASH diet and adults*

**Introduction**

Hypertension is increased blood pressure above 140/80 mmHg caused by abnormal cardiac output. Hypertension, also known as high or raised blood pressure, is a condition in which the blood vessels have persistently raised pressure. Blood is carried from the heart to all parts of the body in the vessels. Each time the heart beats, it pumps blood into the vessels. Blood pressure is created by the force of blood pushing against the walls of blood vessels (arteries) as it is pumped by the heart. The higher the pressure, the harder the heart has to pump.

Hypertension is a serious medical condition and can increase the risk of heart, brain, kidney and other diseases. It is a major cause of premature death worldwide, with upwards of 1 in 4 men and 1 in 5 women – over a billion people – having the condition[2]

Physical activity not only helps control blood pressure it also helps in managing the weight strong then the heart and lower stress level. It healthy weight, a strong heart and general emotional health are all good for the blood pressure with one quarter of the world's adult population estimated to have hypertension, nearly one billion and with the worldwide prevalence of hypertension project to increase 60% by 2025 the primary prevention of hypertension has become a global public health challenge current guidelines recommended increasing physical activity as a means to prevent hypertension. .

Physical activity includes all movement that increases energy use. Whereas exercise is planned structured physical activity exercise improves blood glucose control in type II diabetes reduces to weight loss and improves wellbeing.

Physical activity has significant health benefits for hearts, bodies and minds. Physical activity contributes to preventing and managing non communicable diseases such as cardiovascular diseases, cancer and diabetes. Physical activity improves overall well-being. Globally, 1 in 4 adults do not meet the global recommended levels of physical activity. People who are insufficiently active have a 20% to 30% increased risk of death compared to people who are sufficiently active. More than 80% of the world's adolescent population is insufficiently physically active ways to be active include walking, cycling, wheeling, sports, active recreation and play. People living with chronic conditions like hypertension, type 2 diabetes, HIV and cancer survivors should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week. ( Physical activity ,WHO 5 October 2022)

**Need for study:**

Globally, an estimated 26% of the world's population has hypertension and the prevalence's is expected to increase of 29% by 2025, driven largely by increase in economically developing nations. The high prevalence of hypertension exacts a tremendous public health burden currently, estimates put the incidence of hypertension is 20 to 40% in urban areas and 12 to 17% in rural areas of India.

Physical activity plays an important role in controlling hypertension and diabetes mellitus. To maintain healthy weight a strong heart and general emotional health is needed. Physical activity includes all movements that increases energy use.

**Statement of the problem: A study to assess the level of physical activity among adult with hypertension, Nellore, Andhra Pradesh, India.**

**Objectives:** To assess the level of physical activity among adult and find association between the level of physical activity among adult with their selected socio demographic variables

**Material and methods**

A quantitative research approach and descriptive  research design was adopted . The study was preceded in Kamakshinagar, it is a small village in Thotapalligudur Mandal in Nellore district, A.P. The total population is 1295 among them male 660 and females 635and  50 adult  from Kamakshinagar Nellore district were selected as study participants by non probability convenient sampling technique; elderly between the age group of 20-60 years of age were included and excluded those who were mentally and physically sick at the time of data collection Demographic data of the adults  such as Age, Gender, Educational status, Occupation, Family Income, Marital status, Type of family, Dietary pattern, Use of anti hypertensive medication  were collected  and General Practice Physical Activity Questionnaire (GPPAQ) , 4-level physical activity index (PAI) were used to collect data. A composite  . The selection of the individual index  and the generation of the scoring criteria were based on physical activity like exercise and cycling recommendations previously established for the General Practice Physical Activity Questionnaire. The data was analyzed by using descriptive and the inferential statistics

## Results and discussion

**Table no.1: Frequency and percentage distribution of adults based on age.**

(n=50)

| Age | Frequency | Percentage |
|---|---|---|
| • 21-30 years | 12 | 24 |
| • 31-40 years | 8 | 16 |
| • 41-50 years | 15 | 30 |
| • 51-60 years | 15 | 30 |
| Total | 50 | 100 |

**Table no.1:** reveals that , 12(34%) adults are between 21-30 years, 8(16%) are between 31-40 years, 15(30%) are between 41-50 years and 15(30%) are between 51-60 years of age.
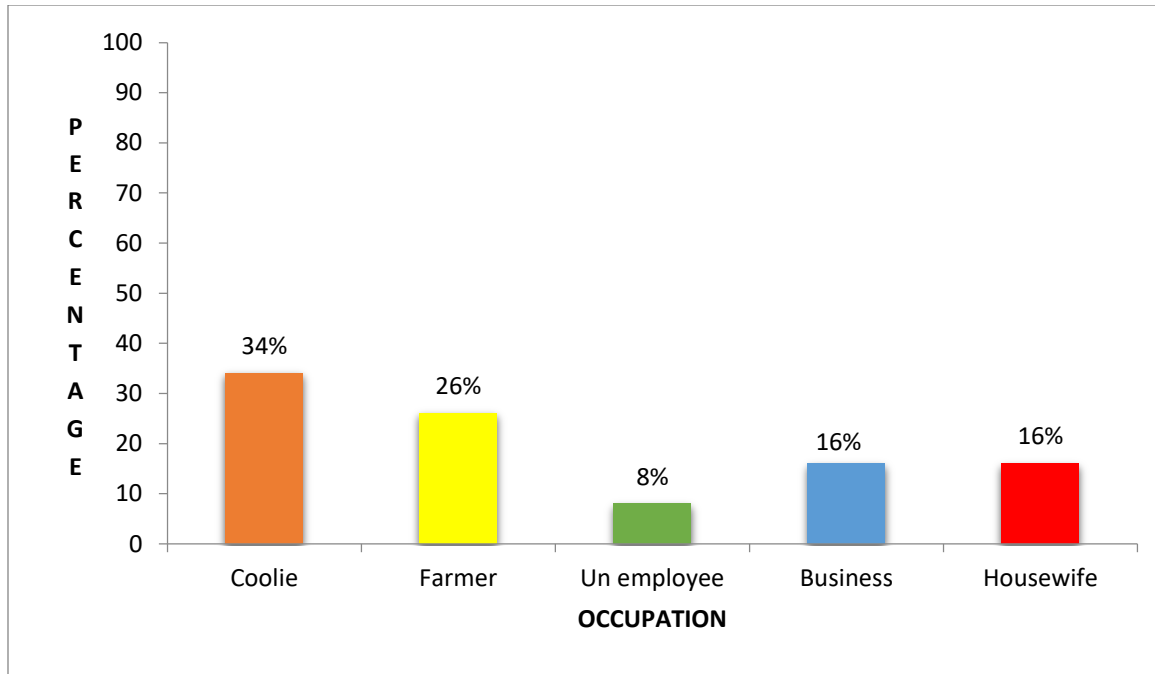
**Fig no.1: Percentage distribution among adults based on occupation.**

Figure 1 presents that , 17(34%) adults are coolies, 13(26%) are farmer, 4(8%) are un employee, 8(16%) are doing business and 8(16%) are housewife.

**Table no.2: Frequency and percentage distribution of adults based on diet.**

**(n=50)**

| Diet | Frequency | Percentage |
|------|-----------|------------|
| • Vegetarian | 16 | 32 |
| • Non vegetarian | 34 | 68 |
| **Total** | **50** | **100** |

**Table no.2:** shows that , 16(32%) adults are vegetarian, 34(68%)  are non vegetarians, none of them  are ova vegetarians  and lacto vegetarians.
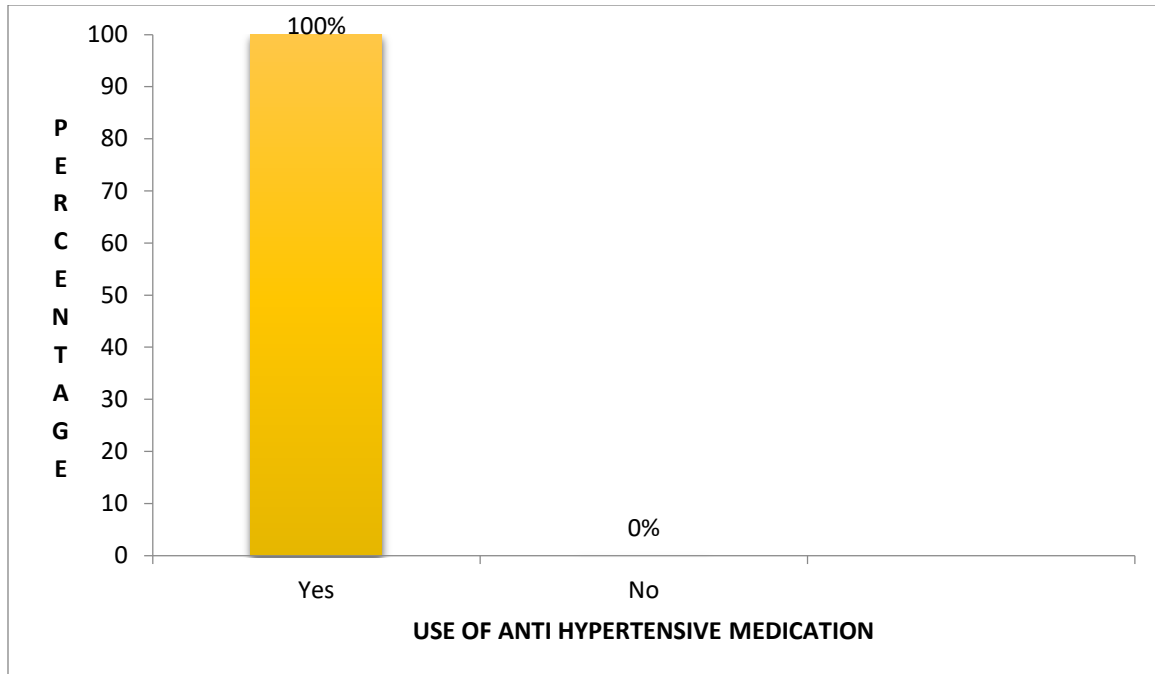
.

**Fig no.2: Percentage distribution among adults based on use of anti hypertensive medication**

**Fig no.2** presents that overall participants are using anti hypertensive medication

**Table no.3: Frequency and percentage distribution of physical activity in hypertension and diabetic patients among adults.**

**(n=50)**

| Distribution of physical activity | Frequency | Percentage |
|---|---|---|
| • Moderately inactive | 6 | 12 |
| • Moderately active | 9 | 18 |
| • Active | 35 | 70 |
| **Total** | **50** | **100** |

**Table no.3:** In context to distribution of physical activity, 6(12%) are moderately inactive, 9(18%) are moderately active and 35(70%) are active.

Mean and standard deviation of level of physical activityis 6.1 and 1.89 respectively.

**Table no.4: Association between the level of physical activity   in hypertension and diabetes mellitus among adults with their selected socio demographic variables.**

**(N=50)**

| Sl. No | Demographic variables | Active | | Moderately active | | Moderately inactive | | Chi square |
|---|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % | |
| 1 | Age | | | | | | | T=5.35 |
| | • 21-30 years | 8 | 16 | 2 | 4 | 2 | 4 | C=6.34 |
| | • 31-40 years | 5 | 10 | 2 | 4 | 1 | 2 | Df=6 |
| | • 41-50 years | 8 | 16 | 4 | 8 | 3 | 6 | P=0.5 |
| | • 51-60 years | 14 | 28 | 1 | 2 | 0 | 0 | S |
| 2 | Gender | | | | | | | T=1.39 |
| | • Male | 24 | 48 | 6 | 12 | 2 | 4 | C=2.62 |
| | • Female | 11 | 22 | 3 | 6 | 4 | 8 | Df=2 |
| | | | | | | | | P=0.5 |
| | | | | | | | | S |
| 3. | Marital status | | | | | | | T=5.35 |
| | • Married | 19 | 38 | 3 | 6 | 3 | 6 | C=2.7 |
| | • Un married | 9 | 18 | 3 | 6 | 2 | 4 | Df=6 |
| | • Divorced | 2 | 4 | 1 | 2 | 0 | 0 | P=0.5 |
| | • Widow | 5 | 10 | 2 | 4 | 1 | 2 | NS |
| 4 | Education | | | | | | | T=5.35 |
| | • Illiterate | 8 | 16 | 1 | 2 | 2 | 4 | C=7.5 |
| | • Primary school | 10 | 20 | 4 | 8 | 1 | 2 | Df=6 |
| | • Higher school | 6 | 12 | 3 | 6 | 0 | 0 | P=0.5 |
| | • Intermediate | 11 | 22 | 1 | 2 | 3 | 6 | S |
| | • Graduate | 0 | 0 | 0 | 0 | 0 | 0 | |
| | • Post graduate | 0 | 0 | 0 | 0 | 0 | 0 | |
| 5 | Occupation | | | | | | | T=7.34 |
| | • Un employee | 13 | 26 | 3 | 6 | 1 | 2 | C=7.58 |
| | • Coolie | 10 | 20 | 2 | 4 | 1 | 2 | Df=6 |
| | • Business | 3 | 6 | 1 | 2 | 0 | 0 | P=0.5 |
| | • Private employee | 6 | 12 | 1 | 2 | 1 | 2 | S |
| | • Govt. employee | 3 | 6 | 2 | 4 | 3 | 6 | |
| 6 | Family Income | | | | | | | T=7.34 |
| | • Rs.<5000/- | 5 | 10 | 0 | 0 | 1 | 2 | C=18.33 |
| | • Rs.5001-7000/- | 3 | 6 | 4 | 8 | 0 | 0 | Df=8 |
| | • Rs.7001-9000/- | 12 | 24 | 3 | 6 | 0 | 0 | P=0.5 |
| | • Rs.9001-11000/- | 13 | 26 | 0 | 0 | 3 | 6 | S |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | • Rs.>11000/- | 2 | 4 | 2 | 4 | 2 | 4 | |
| 7 | Type of family | | | | | | | T=3.36 |
| | • Nuclear | 22 | 44 | 3 | 6 | 0 | 0 | C=14.49 |
| | • Joint | 10 | 20 | 6 | 12 | 5 | 10 | Df=4 |
| | • Extended | 3 | 6 | 0 | 0 | 1 | 2 | P=0.5 |
| | | | | | | | | S |
| 8 | Diet | | | | | | | T=1.39 |
| | • Vegetarian | 10 | 20 | 3 | 6 | 3 | 6 | C=0.88 |
| | • Non vegetarian | 25 | 50 | 6 | 12 | 3 | 6 | Df=2 |
| | • Ova vegetarian | 0 | 0 | 0 | 0 | 0 | 0 | P=0.5 |
| | • Lacto vegetarian | 0 | 0 | 0 | 0 | 0 | 0 | NS |

**Table no.4 :** Shows that there is significant association between level of knowledge and socio-demographic variables of adults like age, gender, education, occupation, type of family, family income at the level of P=0.5 and no significant association with marital status and diet.

**Discussion**

According to the current study, 70% of adults retain managed blood pressure because physical activity is a regular part of their work schedule. Physical activities such as walking, cycling, athletics, and play are crucial for managing non-communicable diseases like diabetes mellitus and hypertension. The finding were supported with evidence of 56.5% of the participants reported engaging in high levels of physical activity.(**Dun, Q et.al 2021**)

**Conclusion:**

The study confirms recent evidence regarding the amount of physical activity that is associated with lower prevalence of hypertension. Hence nursing educators can conduct in service education programes regarding physical activity in hypertension and diabetic mellitus, to improve their lifestyle and prevent complications.

**References**

1. Dun, Q., Xu, W., Fu, M., Wu, N., Moore, J. B., Yu, T., Li, X., Du, Y., Zhang, B., Wang, Q., Duan, Y., Meng, Z., Tian, S., &Zou, Y. (2021). Physical Activity, Obesity, and Hypertension among Adults in a Rapidly Urbanised City. International journal of hypertension, 2021, 9982562.
2. Gamage, A.U., Seneviratne, R.d.A. Physical inactivity, and its association with hypertension among employees in the district of Colombo. BMC Public Health**21**, 2186 (2021).
3. Amponsem-Boateng C, Zhang W, Oppong TB, Opolot G, KumiDuoduKyere E. A cross-sectional study of risk factors and hypertension among adolescent Senior High School students. Diabetes MetabSyndrObes. 2019;12:1173-1180
4. Nahimana M-R, Nyandwi A, Muhimpundu AM, et al. A population-based national estimate of the prevalence and risk factors associated with hypertension in Rwanda: implications for prevention and control. BMC Public Health. 2017;18:2.
5. Hien HA, Tam NM, Tam V, Derese A, Devroey D. Prevalence, awareness, treatment, and control of hypertension and its risk factors in (Central) vietnam. Int J Hypertens. 2018;2018:1–12.

6. *van de Vijver SJM, Oti SO, Agyemang C, Gomez GB, Kyobutungi C. Prevalence, awareness, treatment and control of hypertension among slum dwellers in Nairobi, Kenya. J Hypertens. 2013;31:1018–1024.*

7. *Guwatudde D, Mutungi G, Wesonga R, et al. The epidemiology of hypertension in Uganda: findings from the national non-communicable diseases risk factor survey. PLoS One. 2015;10:e0138991.*

8. *Yeboah EA. Dietary Factors Associated with Hypertension among Adults in Asesewa in the Upper ManyaKrobo District. Available from: ugspace.ug.edu.gh, ugspace.ug.edu.gh ugspace.ug.edu.gh. Accessed 15 July, 2019.*

9. *Agyemang, C., Attah-Adjepong, G, Ewusu-Dabo, E, et al. Stroke in Ashanti region of Ghana. Ghana Med J. 2012;46:12–17.*