Relationship between hypertension and psychology, obesity, smoking and sport in Diyala Governorate in young's and adults between (25-45) ages

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Abstract:
Elevated blood pressure showed a direct correlation with generalized anxiety conditions and significant depressive illnesses. Elevated blood pressure remains a significant global health concern, and emphasis should be placed on initial preventative strategies, particularly among healthcare professionals who serve as a conduit to the broader population. Amendable risk elements for hypertension encompass increased weight and corpulence, inadequate intake of produce, a sedentary lifestyle, job-related stress and smoking beverage intake. The central aim was to ascertain the frequency of elevated blood pressure and pre-hypertension along with their predisposing factors in countryside and metropolitan regions of the province among adult males and adult females within the years of (25 and 45). We conducted a blood pressure test for 100 people from Khanaqin, Jalawla and Sadiah) cities in Diyala Governorate, who were visiting Khanaqin General Hospital and two health centers. A sub-sample of young men and women between the age 25 and 45 years constituted participants for the present study. Research findings demonstrated that people who participate in consistent physical activity do not develop hypertension. Although the study revealed that individuals who smoke have elevated blood pressure, overweight individuals, with females showing greater rates of obesity compared to males, also experience hypertension. The research indicated that a portion of the individuals involved in the investigation lacked wholesome daily routines. This could lead to significant predisposing elements for the advancement of elevated blood

pressure. **Keywords:** high blood pressure, psychology, obesity, sport, smoking

العلاقة بين ارتفاع ضغط الدم وعلم النفس والسمنة والتدخين والرياضة في محافظة ديالى لدى الشباب والبالغين بعمر (25-45) سنة

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الخلاصة:
أظهر ارتفاع ضغط الدم ارتباطًا مباشرًا بحالات القلق العام وأمراض الاكتئاب الكبيرة. لا يزال ارتفاع ضغط الدم مصدر قلق صحي عالمي كبير، ويجب التركيز على الاستراتيجيات الوقائية الأولية، لا سيما بين المتخصصين في الرعاية الصحية الذين يعملون كقناة للسكان الأوسع. تشمل عناصر الخطر القابلة للتعديل لارتفاع ضغط الدم زيادة الوزن والسمنة، وعدم كفاية تناول الفواكه، ونمط الحياة خامل، والإجهاد المرتبط بالوظيفة، والتدخين. كان الهدف الرئيسي هو تحديد انتشار ارتفاع ضغط الدم وارتفاع ضغط الدم الطبيعي وعوامل الخطر في المناطق الريفية والحضرية من الولاية بين الرجال والنساء الذين تتراوح أعمارهم بين 25 و45 عامًا .أجرينا فحص ضغط الدم على 100 شخص من مدن خانقين، جلولاء والسعدية في محافظة ديالى كانوا يزورون مستشفى خانقين العام ومركزين صحيين. وشكلت هذه الدراسة عينة فرعية من الشبان والشابات الذين تتراوح أعمارهم بين 25 و45 سنة. أظهرت نتائج البحث أن الأشخاص الذين يشاركون في نشاط بدني متسق لا يصابون بارتفاع ضغط الدم. على الرغم من أن الدراسة كشفت أن الأفراد الذين يدخنون يعانون من ارتفاع ضغط الدم، وبينت الدراسة ايظا ان الأشخاص يعانون من مشاكل نفسية جمعيهم كان لديهم ضغط الدم المرتفع، إلا أن الأفراد الذين يعانون من زيادة الوزن، حيث تظهر الإناث معدلات أعلى من السمنة مقارنة بالذكور، يعانون أيضًا من ارتفاع ضغط الدم. وأشار البحث إلى أن جزءًا من الأفراد المشاركين في التحقيق يفتقر إلى الإجراءات اليومية الصحية. قد يؤدي هذا إلى عناصر استعداد كبيرة لتقدم ضغط الدم المرتفع.
الكلمات المفتاحية: ارتفاع ضغط الدم، حالة النفسية، السمنة، الرياضة، التدخين

Introduction

High blood pressure is still a global public health issue and primary preventive measures must be prioritized, particularly among health practitioners who are a channel for the entire population. High Blood Pressure prevention, detection, evaluation, and treatment is based on standards set by the World

Health Organization, WHO, and Joint National Committee. The (WHO 2013), defines high blood pressure as blood pressure above 140/90 mmHg when diagnosed multiple times. Hypertension is known as a silent killer because it usually doesn't present any warning signs or symptoms at the initial stage, and many individuals are unaware of their condition. The American Psychological Association (APA) categorizes psychological distress as mood variations that are accompanied by painful physical and mental symptoms, making it a risk factor for hypertension. Anxiety and depression are commonly used to measure it, as Liu et al. concluded that there is a bidirectional relationship between psychological stress and hypertension. Hypertension is caused by modifiable risk factors such as overweight and obesity, low fruit and vegetable consumption, physical inactivity, occupational stress and smoking. Genetics, age, gender, and race are all risk factors that we can't control, according to Casey et al., 2006). For a comprehensive and inclusive high blood pressure management program to be successful, the participation of patients, families, communities, and healthcare delivery systems is essential. The aim of this study was to measure the knowledge that young adults have about hypertension, the management of hypertension and the complications of hypertension. Our goal was to investigate how often psychological distress (depression, anxiety, and stress) is present

Material and Methods

To collect data from various populations, epidemiological studies typically use cross-sectional designs. Accurately measuring blood pressure requires standard protocols, such as using calibrated sphygmomanometers and ensuring appropriate conditions during measurement. The recruitment of representative samples and the handling of confounding variables pose challenges for researchers. The findings of the Hypertension and High-Normal Blood Pressure Prevalence study have already been disseminated, including a thorough account of its structure, participants, and procedures. In short,

this was a population-based, snapshot survey conducted between December and January (2024-2025). The main goal was to find out the rate of hypertension and high-normal blood pressure, as well as their underlying causes, in both rural and urban areas. We administered a blood pressure test to 100 individuals from Khanaqin, Jalawla and Sadiah) cities in Diyala Governorate, who were visiting Khanaqin General Hospital and two health centers. For the current investigation, individuals were chosen from a segment of young adult males and females ranging in age from 25 to 45 years old. We collected information by employing a previously validated questionnaire. The documentation encompassed details regarding fundamental socio-economic and demographic factors, tobacco use, exercise levels, eating patterns, and prior medical background concerning high blood pressure, abnormal cholesterol, and elevated diabetes mellitus. Calibrated sphygmomanometers were used to measure blood pressure on the subject's left arm while they were sitting in a sitting position at heart level and had rested for at least 15 minutes. The participants were required to refrain from drinking coffee, tea, or smoking within half an hour of measuring their blood pressure. The final blood pressure was determined by combining the mean of the last two readings taken 3 minutes apart. We randomly selected 100 people, 40 of them were examined at Khanaqin General Hospital, 35 of them were examined at General Health Center, and 25 of them were examined at Sabaa Nisan Health Center.

Result

In Al-Diyala Province, a study was conducted to investigate the prevalence of high blood pressure among individuals aged 25 to 45 years. One hundred individuals were randomly selected from this age group. The sample was divided into four groups: Group 1: 25 individuals who engage in regular sports, show in (table 1), Group 2: 25 individuals who smoke show in (table2), Group 3: 25 individuals who are obese show in (table3) and Group 4: 25 individuals who psychology shows in (table 4). Data Collection: A complete medical history was obtained for each

participant, including: Name, Age and Gender. Research results showed that individuals who engage in regular exercise do not experience high blood pressure. While the research indicated that smokers have high blood pressure, obese individuals, with women exhibiting higher obesity rates than men, also suffer from high blood pressure. Regarding the final group, psychology, it all had high blood pressure.

Table 1
Systolic and Diastolic Blood Pressure Measurements for a Group of regular sport.

Number	Gander	Age	Systolic (mmHg)	Diastolic (mmHg)
1	Male	40	10	8
2	Male	28	11	6
3	Male	26	12	6
4	Male	45	11	6
5	Male	36	12	8
6	Female	40	11	7
7	Female	38	10	8
8	Female	25	12	6
9	Male	44	12	6
10	Female	30	12	7
11	Female	31	12	8
12	Male	34	12	6
13	Female	37	12	7
14	Male	26	10	8
15	Female	27	10	6
16	Female	33	12	7
17	Female	40	11	8
18	Male	31	11	8
19	Male	40	11	7
20	Male	27	12	7
21	Male	35	10	8
22	Male	27	12	8
23	Male	40	11	7
24	Male	39	12	8
25	Male	40	12	8

Table 2
Systolic and Diastolic Blood Pressure Measurements for a Group of smoking

Number	Gander	Age	Systolic (mmHg)	Diastolic (mmHg)
27	Male	29	12	8
28	Male	40	12	9
29	Male	39	12	8
30	Male	38	15	10
31	Male	37	14	9
32	Male	32	12	8
33	Male	29	11	8
34	Male	27	12	8
35	Male	33	12	8
36	Male	30	12	8
37	Male	34	12	8
38	Male	44	12	8
39	Male	40	15	9
40	Male	40	14	9
41	Male	40	12	8
42	Male	29	12	8
43	Male	34	11	7
44	Male	39	15	9
45	Male	39	16	10
46	Male	45	12	8
47	Male	27	12	8
48	Male	28	12	8
49	Male	40	12	8
50	Male	35	14	9

Table 3
Systolic and Diastolic Blood Pressure Measurements for a Group of obese

Number	Gander	Age	Systolic (mmHg)	Diastolic (mmHg)
51	Male	30	12	8
52	Male	36	14	9
53	Female	33	12	8
54	Female	39	15	10
55	Male	25	12	7
56	Female	32	12	8
57	Female	40	12	9
58	Female	40	16	9
59	Female	29	12	6
60	Female	43	12	7
61	Female	37	12	8
62	Female	39	12	8
63	Female	28	12	7
64	Female	40	14	9
65	Male	40	15	9
66	Female	39	17	9
67	Female	44	12	7
68	Female	27	13	8
69	Female	37	12	8
70	Female	45	12	8
71	Female	37	15	9
72	Female	33	12	8
73	Female	30	12	8
74	Male	26	12	7
75	Male	28	12	8

Table 4
Systolic and Diastolic Blood Pressure Measurements for a Group of psychology.

Number	Gander	Age	Systolic (mmHg)	Diastolic (mmHg)
76	Male	40	16	9
77	Male	36	14	9
78	Male	34	14	8
79	Male	32	13	9
80	Male	27	15	9
81	Male	29	16	10
82	Male	40	14	9
83	Male	31	15	9
85	Male	26	14	9
86	Female	27	14	8
87	Female	45	17	10
88	Female	43	15	9
89	Male	39	18	11
90	Male	40	15	9
91	Male	33	14	9
92	Female	39	16	10
93	Female	40	13	7
94	Male	31	15	10
95	Male	29	14	10
96	Male	38	16	10
97	Female	40	12	9
98	Male	40	12	8
99	Female	28	13	9
100	Female	36	15	8

Discussion

A community survey was conducted to assess high blood pressure and risk factors, and 100 people were tested from Khanaqin, Jalawla and Sadiah) cities in Diyala Governorate, who were visiting Khanaqin General Hospital and two health centers. Based on our results, the occurrence of high blood pressure in adults stood at 37%, surpassing the general occurrence of hypertension, which was 30% in a comprehensive meta-analysis incorporating substantial studies from India

(Anchala R et al., 2014). Furthermore, the prevalence was documented as 29% in the US National Health and Nutrition Examination Survey. (Fryar CD et al., 2017). Blood pressure and hypertension risk are linked to socio-economic and demographic factors (Abubakar et al., 2009). The study examined a well-known belief that normotensive individuals who display substantial responses to mental and physical challenges are at risk for hypertension 21. As age progressed, there was a rise in the prevalence of high blood pressure, as demonstrated in various other studies, Hypertension can be induced by high consumption of smoking and alcohol, which are both relevant influences on blood pressure (Husain A et al.,2014). The incidence of workplace accidents, low productivity, and illnesses has always been linked to work stress (Goyal R et al., 2016). According to the Framingham study, overweight individuals account for 70% of newly diagnosed hypertension cases (Cavagioni & Pierin, 2012). The significance of this study's outcomes suggests that elevated blood pressure can impact individuals across various age groups, both younger and older adults. According to Perry (2002), individuals in developed nations face an increased likelihood of developing hypertension as they age. Whelton et al. ,2003) indicate that intensive exercise can lower heart rate and blood pressure; therefore, it's crucial to maintain an exercise regimen even upon achieving lower blood pressure. Patients should be encouraged to engage in regular, moderate activity such as 30-minute brisk walks 3 to 5 times weekly (Mani et al., 2009). To enhance adherence, diverse activities like walking thrice a week combined with swimming, cycling, tennis, or gardening can be incorporated (Buckman & Westcott, 2006).

Conclusion

The research indicated that a portion of the individuals who participated in the investigation did not engage in wholesome lifestyle practices. This can be a contributing factor to significant risk elements in the development of high blood pressure. Therefore, intensive education is needed to educate

people regarding their lifestyle habits. Although they had some knowledge of the complications of hypertension, they are not practicing good lifestyle habits. Understanding hypertension disparities remains an important and complex issue in human health. There is a great need for further research to better understand and effectively address the role of psychosocial factors in the disproportionate burden of hypertension on racial/ethnic minorities. Adopting a lifespan approach that considers the build-up of risks throughout an individual's life could assist in tackling some of the unresolved questions among researchers regarding the influence of psychological and social elements on the likelihood of developing hypertension. Adopting a lifecourse approach, which considers the cumulative impact of risks over time, could provide insights into the unresolved questions surrounding the effect of psychosocial factors on hypertension risk that continue to perplex researchers.

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