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· 临床研究 ·

江苏北部某村农民高血压的危险因素及控制情况分析*

周 宝¹ 黄亚新² 褚 明² 程 洁³ 吴文汇⁴ 陈国良^{1Δ}

(1 海军军医大学海军医学系 上海 200433; 2 南京医科大学第一附属医院内科 江苏 南京 210029;

3 同济大学附属上海市肺科医院呼吸科 上海 200433; 4 同济大学附属上海市肺科医院肺循环科 上海 200433)

摘要 目的:研究江苏北部某村农民高血压的危险因素及控制情况,为农村高血压疾病的防控提供更多的参考依据。**方法:**选择2018年1月~2018年12月江苏北部某村124名农民高血压患者作为观察组,124名非高血压人群作为对照组,通过应用单因素和多因素分析方法分析其高血压发病的主要危险因素,并统计其血压控制情况。**结果:**单因素分析结果显示超重或肥胖($OR=6.038, P<0.001$)、高盐饮食($OR=6.167, P<0.001$)、高油饮食($OR=9.626, P=0.002$)、家族史($OR=8.008, P<0.001$)、缺乏体育锻炼($OR=4.202, P<0.001$)、吸烟($OR=3.067, P<0.001$)等因素与该村农民高血压发生显著相关。多因素分析结果显示超重或肥胖($Exp(B)=3.931, P<0.001$)、家族史($Exp(B)=6.212, P<0.001$)、高盐饮食($Exp(B)=2.257, P<0.001$)、缺乏体育锻炼($Exp(B)=3.393, P=0.007$)、吸烟($Exp(B)=2.513, P=0.018$)是该村农民高血压发生的危险因素。124例高血压患者的血压控制率为47.58%(59/124),不同性别和年龄段农民高血压患者的血压控制率比较无统计学差异($P>0.05$)。**结论:**高血压发病是遗传因素和生活习惯共同作用的结果,超重或肥胖、高盐饮食、缺乏体育锻炼、吸烟是农村地区高血压发病的危险因素。农村高血压的控制情况一般,需引起重视。

关键词:江苏北部;农民;高血压;危险因素;控制情况

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Risk Factors and Control condition of Hypertension among Farmers in a Village in Northern Jiangsu*

ZHOU Bao¹, HUANG Ya-xin², CHU Ming², CHENG Jie³, WU Wen-hui⁴, CHEN Guo-liang^{1Δ}

(1 Department of Naval Medicine, The Second Military Medical University, Shanghai, 200433, China;

2 Department of Internal Medicine, The First Affiliated Hospital to Nanjing Medical University, Nanjing, Jiangsu, 210029, China;

3 Department of Respiratory, Shanghai Pulmonary Hospital Affiliated to Tongji University, Shanghai, 200433, China;

4 Department of Pulmonary circulation, Shanghai Pulmonary Hospital Affiliated to Tongji University, Shanghai, 200433, China)

ABSTRACT Objective: To study the risk factors and control condition of hypertension among farmers in a village in northern Jiangsu, and to provide effective more reference for the prevention and control condition of hypertension in rural areas. **Methods:** From January 2018 to December 2018, 124 peasants with hypertension in a village in northern Jiangsu were selected as the observation group, and 124 non-hypertension person as the control group. The main risk factors of hypertension in peasants were analyzed by single factor and multi-factor analysis method, and their blood pressure control was counted. **Results:** Univariate analysis showed that overweight or obesity ($OR=6.038, P<0.001$), high-salt diet ($OR=6.167, P<0.001$), high-oil diet ($OR=9.626, P=0.002$), family history ($OR=8.008, P<0.001$), lack of physical exercise ($OR=4.202, P<0.001$), and smoking ($OR=3.067, P<0.001$) were significantly associated with hypertension in the village. Multivariate analysis showed that overweight or obesity ($Exp(B)=3.931, P<0.001$), family history ($Exp(B)=6.212, P<0.001$), high-salt diet ($Exp(B)=2.257, P<0.001$), lack of physical exercise ($Exp(B)=3.393, P=0.007$), smoking ($Exp(B)=2.513, P=0.018$) were the main risk factors for hypertension in the village. The blood pressure control rate of 124 hypertensive patients was 47.58% (59/124). There was no significant difference in blood pressure control rate among the hypertensive patients of different genders and age groups ($P>0.05$). **Conclusion:** Hypertension is the result of a combination of genetic factors and lifestyle habits. Overweight or obesity, high salt diet, lack of physical exercise, and smoking are risk factors for hypertension in rural areas. The control of hypertension in rural areas is general and needs to be taken seriously.

Key words: Northern Jiangsu; Farmers; Hypertension; Risk factors; Control

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作者简介:周宝(1984-),男,硕士研究生,研究方向:慢性病预防与控制,电话:13564154293, E-mail: zhoubao198410@163.com

Δ 通讯简介:陈国良(1951-),男,硕士,教授,研究方向:公共卫生管理,电话:13611864197, E-mail: cgl307@126.com

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前言

据报道,我国 2014 年全死因死亡人数为 984 万,其心血管疾病占全死因死亡人数的 45.0%,心血管疾病已成为我国第一位的致死疾病^[1]。既往研究显示血脂异常、吸烟、高血压、超重、糖尿病以及肥胖是心血管疾病的主要危险因素^[2-4]。据统计,全世界范围内的心血管死亡事件中大约有 14%是由高血压疾病导致,而在发达国家中则高达 18%^[5]。多项研究均证实采取有效的降压治疗可以明显降低心脏事件、中风以及心力衰竭的发生率及死亡率^[6-8]。1993~2008 年,城市居民的高血压发生率增加了 1.6 倍,而由于农村地区经济和文化水相对较落后,农村居民对高血压的管理及认知能力相对薄弱,农村的高血压发生率增加了 3.4 倍,因此应当更加重视农村的高血压危险因素控制和疾病防治^[9]。但是国内针对农村村民高血压患病危险因素的综合研究比较少见。为探索农村居民高血压发病的危险因素和控制情况,本研究对江苏北部农村周圈村居民进行高血压危险因素的病例对照研究,以期采取相应的防治措施提供科学的依据,结果报道如下。

1 对象与方法

1.1 研究对象

研究地区为江苏北部农村周圈村,全村人口 1351 人,其中男性 792 人,占比 58.62%;30~70 周岁(含 30 和 70 周岁)人口 871 人,占比 64.47%。研究对象来源于本村 30~70 周岁(含 30 和 70 周岁)的常驻居民。按照成组匹配法,设置观察组和对照组,进行高血压危险因素的病例对照研究:(1)观察组:观察组来源于村医处登记的,已于乡镇卫生院及以上医疗机构确诊为高血压的患者,共计 187 名,30~70 周岁人群高血压患病率 23.61%。对其中出现如下情况的患者予以排除:①收缩压 ≥ 220 mmHg 或舒张压 ≥ 120 mmHg;②恶性高血压、高血压危象患者;伴有严重的心、肺、肾等疾病患者;继发性高血压、糖尿病后高血压患者;肿瘤、尿毒症等重大疾病,精神疾病患者。经过筛选后,共有 124 例高血压患者符合条件进入观察组。(2)对照组:采用成组匹配法,从符合条件的多个对照对象中,采取随机抽样的方法抽取 124 名研究对象作为对照组。入组条件:①年龄为 30~70 周岁(含 30 和 70 周岁)的本村居民;②未患高血压人群;③无肿瘤、尿毒症等重大疾病,精神疾病患者;无严重的心、肺、肾等疾病患者。

1.2 研究方法

1.2.1 问卷调查法 采用自行设计的调查问卷,由经过统一专业培训的课题研究人员和村医组成的调查组进行一对一面访调查。

1.2.2 调查内容 调查的内容主要包括研究对象的性别、婚姻状况、年龄、文化程度、家庭年收入、身体质量指数(Body Mass Index, BMI)、高血压家族史等一般的人口学特征;农活劳动、体育锻炼、饮酒、吸烟等生活行为方式;高盐饮食、高油饮食等饮食习惯。其中,成年人体质指数 BMI(kg/m^2)为 24(含)至 28 定义

为超重,28(含)以上为肥胖;高盐饮食指食用盐摄入量大于 10 g/天,且连续 6 个月以上;高油饮食指按照《中国居民膳食指南》的建议,植物油摄入量超过 25 g/日,且连续 6 个月以上。家族史指(外)祖父(母)、父(叔)、母(舅)、兄弟姐妹等几代有亲属关系的人中,至少有一人患有高血压;农活劳动指根据中国疾病预防控制中心编著的中国成人慢病相关危险因素监测方案与工作手册定义的高强度和中强度工作^[9];体育锻炼指每周至少 2 次主动、有意识地强身健体而进行的活动,连续 6 个月以上且目前仍在坚持运动;饮酒指每周饮酒至少 2 次,每次 200 mL(各种类型的酒按照酒精含量换算为 52°白酒)以上,连续 6 个月以上且目前仍在饮酒;吸烟指每天吸烟至少 4 支,连续 6 个月以上且目前仍在吸烟或戒烟 2 年以内。

1.2.3 调查安排 采用入户调查法,由调查小组与研究对象进行一对一面访调查。由于部分农民白天散落在田间劳作,入户调查工作安排在上午 7~9 时或者下午 6~8 时进行,如果被调查对象农活劳作比较劳累,等待 1 个小时或约定次日再进行调查。

1.2.4 质量控制 对照组严格按照随机选择研究对象;严格培训调查人员,采用同一测量工具和流程方法进行测量;采用双人对比录入的方式进行数据录入。以防范选择、混杂、失访测量等偏倚。

1.3 统计学分析

数据采用 SPSS 19.0 进行统计学分析,单因素分析中,对于连续性变量,采用独立样本 t 检验,对于分类变量,采用卡方检验。采用后退式 Logistic 逐步回归分析进行多因素分析,剔除水平取 $\alpha=0.10$ 。参数估计采用极大似然估计,以 $P<0.05$ 为差异有统计学意义。

2 结果

2.1 问卷发放和回收情况

本次调研共发放调查问卷 248 份,回收 248 份,问卷回收率为 100%;回收问卷有效率 100%。调查对象经过严格筛选,调查人员经过严格培训,保障了问卷的有效性。

2.2 病例组 and 对照组基本情况的均衡性分析

病例组和对照组的年龄、性别、婚姻状况、收入情况等基本信息比较均无统计学差异,均衡性较好,具有可比性,见表 1。

2.3 高血压危险因素的单因素分析结果

单因素分析结果显示研究地区的超重或肥胖($\text{OR}=6.038$, $P<0.001$)、高盐饮食($\text{OR}=6.167$, $P<0.001$)、高油饮食($\text{OR}=9.626$, $P=0.002$)、家族史($\text{OR}=8.008$, $P<0.001$)、缺乏体育锻炼($\text{OR}=4.202$, $P<0.001$)、吸烟($\text{OR}=3.067$, $P<0.001$)等因素与高血压发生的关系有统计学意义。农活劳动($\text{OR}=0.763$, $P=0.299$)和饮酒($\text{OR}=0.595$, $P=0.093$)等因素与高血压发生的关系无统计学意义,见表 2。

2.4 高血压危险因素的 multivariate 分析结果

为评价各因素对高血压发病的综合作用,在单因素分析的基础上应用后退式 Logistic 逐步回归分析方法,对单因素分析有统计学意义的高血压危险因素,包括超重或肥胖、家族史、高

盐饮食、高油饮食、缺乏体育锻炼、吸烟等因素,进行综合分析,按照 $\alpha=0.10$ 的排除水平,逐步去除模型中无统计学意义的因素。

多因素分析结果显示超重或肥胖($\text{Exp (B)}=3.931, P<0.001$)、家族史($\text{Exp (B)}=6.212, P<0.001$)、高盐饮食($\text{Exp (B)}=5.257, P<0.001$)、缺乏体育锻炼($\text{Exp (B)}=3.393, P=0.007$)、吸烟($\text{Exp (B)}=2.513, P=0.018$) 等因素与高血压发生的关系有统计学意义,为该村高血压的危险因素。高油饮食($\text{Exp (B)}=7.540, P=0.087$)与高血压发生的关系无统计学意义,尚不能认为是该村高血压的危险因素,见表3。

表1 病例组和对照组人口学基本信息比较

Table 1 Comparison of the basic demographic information between case group and control group

Demographic Characteristics		Observation group(n=124) n/ $\bar{x} \pm s$	Control group(n=124) n/ $\bar{x} \pm s$	t/ χ^2	P
Gender	Male	73	68	0.411	0.521
	Female	51	56		
		56.02± 8.589	56.25± 8.484	0.208	0.835
Year	30-39 years old	2	0	3.128	0.372
	40-49 years old	25	32		
	50-59 years old	49	44		
	60-70 years old	48	48		
Marital status	Marital status	113	113	0.082	0.994
	Non-marital status*	11	11		
Degree of Education	No formal education	36	35	0.082	0.994
	Primary school	71	73		
	Junior middle school	13	12		
	High school and above	4	4		
Family annual income	0-3 ten thousand yuan	22	31	2.179	0.336
	>3 ten thousand yuan	54	46		
	≤ 9 ten thousand yuan	48	47		
	>9 ten thousand yuan	48	47		

*Non-marital status: including unmarried, separated, divorced, widowed and other circumstances.

表2 高血压危险因素的单因素分析结果

Table 2 Univariate analysis of the risk factors for hypertension

Analysis factors		Observation group(n=124)	Control group (n=124)	OR	95%CI	t/ χ^2	P
Overweight or obese	Yes	84(67.74%)	32(25.81%)	6.038	[3.480, 10.475]	43.795	0.000
	No	40(32.26%)	92(74.19%)				
Family history	Yes	88(70.97%)	29(23.39%)	8.008	[4.535, 14.139]	56.325	0.000
	No	36(29.03%)	95(76.61%)				
High salt diet	Yes	111(89.52%)	72(58.06%)	6.167	[3.136, 12.127]	31.711	0.000
	No	13(10.48%)	52(41.94%)				
High oil diet	Yes	123(99.19%)	115(92.74%)	9.626	[1.201, 77.173]	6.669	0.010
	No	1(0.81%)	9(7.26%)				
Lack of physical exercise	Yes	113(91.13%)	88(70.97%)	4.202	[2.024, 8.725]	16.407	0.000
	No	11(8.87%)	36(29.03%)				
Farm labor	Yes	45(36.29%)	53(42.74%)	0.763	[0.458, 1.271]	1.080	0.299
	No	79(63.71%)	71(57.26%)				
Smoke	Yes	46(37.10%)	20(16.13%)	3.067	[1.681, 5.596]	13.957	0.000
	No	78(62.90%)	104(83.87%)				
Drink wine	Yes	22(17.74%)	33(26.61%)	0.595	[0.323, 1.094]	2.827	0.093
	No	102(82.26%)	91(73.39%)				

表3 高血压危险因素的多因素分析结果

Table 3 Multivariate analysis of the risk factors for hypertension

Factor	B	S.E	Wals	P	Exp (B)	95%CI	
						Lower	Upper
Overweight Or Obese	1.369	0.342	16.018	0.000	3.931	2.011	7.685
Family History	1.826	0.342	28.480	0.000	6.212	3.176	12.149
High Salt Diet	1.659	0.420	15.591	0.000	5.257	2.307	76.134
High Oil Diet	2.020	1.180	2.932	0.087	7.540	0.747	11.980
Lack Of Physical Exercise	1.222	0.452	7.321	0.007	3.393	1.400	8.221
Smoke	0.921	0.388	5.629	0.018	2.513	1.174	5.379

2.5 血压控制情况

本研究中 124 例高血压患者的血压控制率为 47.58 % (59/124), 其中, 女性血压控制率为 47.06 % (24/51), 男性为 47.94 % (35/73), 不同性别的血压控制率比较无统计学差异 ($P>0.05$)。在不同年龄段人群中, 30-39 岁的血压控制率为 50.0% (1/2), 40-60 岁为 47.30 % (35/74), 60 岁及以上为 47.92 % (23/48), 各年龄段间的血压控制率比较无统计学差异 ($P>0.05$)。

3 讨论

高血压的发生是多因素综合作用的结果^[10], 由于不同地区的风俗饮食习惯以及经济发展水平具有较大的差异, 高血压的危险因素具有一定的差异^[11]。本研究针对上述问题, 通过单因素和多因素分析发现超重或肥胖 ($BMI \geq 24$)、家族史、高油饮食、高盐饮食、体育锻炼、吸烟等因素是研究地区高血压发病的主要危险因素。

多项研究显示 BMI 是高血压发病的重要危险因素^[12-14]。超重或肥胖的发生可能与该村村民饮食习惯和缺乏运动等有关, 本次调查发现该村村民食物摄入主要集中在晚餐, 摄入量较大, 午餐多为简单的干粮且时间上不规律; 晚餐摄入后, 看电视和静坐打牌是主要的文娱活动, 缺乏规律性的运动锻炼, 从而导致超重或肥胖。指导村民通过改善饮食习惯, 加强规律性的运动, 合理控制体重, 是防控高血压的重要措施。本研究显示家族史是高血压的危险因素, 与多项研究的结果相一致: 高血压的分布呈明显家族聚集现象, 有高血压家族史人群高血压发病率高^[15-19]。由于农村的生活和饮食习惯影响, 高盐饮食是农村地区高血压发病重要的危险因素。本研究显示高盐饮食是高血压的危险因素, 这可能与食用腌制食品有关。本次调查中发现该村居民日常大量食用腌制的咸菜、豆酱、萝卜干等, 盐分很高。村民家庭主要由家庭妇女负责做饭, 加强家庭妇女高盐饮食危害的认识和合理使用的宣传和指导, 将对整体村民高盐饮食情况的改善起到事半功倍的效果。村民的农活劳动占据大量的时间和精力, 且农村居民体育锻炼的意识非常薄弱, 很多村民将日常的体力劳动和体育锻炼等同, 极少从事规范、规律的体育锻炼, 同时缺乏专业性的体育锻炼的场所和指导。因此, 缺乏体育锻炼是高血压发病的危险因素。此外, 长期大量吸烟会促进动脉粥样硬化和内膜增厚, 使血管弹性下降, 从而导致高血压的发生^[20-24]。本次调查中发现该村各场所极少存在禁烟标识, 村民对吸烟危害的认识不足, 有必要加强吸烟危害的宣传和控烟。研究表明将高血压患者的血压控制为理想状态可以降低 10 %

~20% 的心血管疾病发病率, 降低 30% 的中风发病率, 降低 40 %~50% 的充血性心力衰竭发病率, 并且使患者的总死亡率降低 10%^[25-28]。高血压早期患者器官病损程度低, 对日常生活影响较小, 未能引起患者的足够重视^[29,30], 特别是在经济、文化及卫生基础条件相对薄弱的农村地区, 农村居民存在卫生健康知识缺乏、自我保健意识淡薄、服务设施匮乏、专业管理指导不到位等问题, 使得一些危险因素没能得到尽早、有效的控制和引导, 影响农村居民高血压的发生和发展。应当逐步加强健康教育, 完善健康服务模式, 完善农村医疗保障制度。

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