

· 临床研究 ·

## 扬州地区老年人、中年人及青年人听力情况调查分析

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**【摘要】目的** 调查分析目前扬州地区老年人群( $\geq 60$ 岁)、中年人群( $\geq 45$ 岁且 $< 60$ 岁)和青年人群( $\geq 30$ 岁且 $< 45$ 岁)听力状况,着重了解老年性聋的分布和严重程度的相关情况,为老年性聋的预防、治疗提供科学可靠的依据。**方法** 用随机抽样的方法调查扬州市区、江都、仪征、宝应、高邮、安徽天长的听力情况。总共选取2116人,运用纯音测听、声导抗、听力筛选等方法进行统计分析。**结果** 首先进行耳部检查,去除耵聍及异物等,确诊传导性听力损失人群(外耳或中耳疾病患者),给予治疗指导意见,并在研究中予以排除,老年组人群听力减退比例为65.57%,其中轻度听力损失为46.78%,中度听力损失为13.31%,中重度听力损失为4.25%,重度听力损失为1.23%。中年组人群听力减退比例为48.12%,其中轻度、中度、中重度和重度听力损失分别为41.76%、4.34%、1.45%和0.58%。青年组人群听力减退比例为47.05%,其中各度听力损失分别为37.12%、6.76%、2.73%和0.43%,老年人、中年人及青年人听力损失的差异有统计学意义。**结论** 随着年龄增长,听力损失情况逐步加重。听阈随着年龄的增长而提高,并且在高频处,听力损失尤为明显。重视老年性疾病(如高血压、糖尿病、冠心病、脑供血不足等)的预防与治疗,避免噪声环境,拒绝烟酒等,对于防治老年患者的听力损失,有积极作用。

**【关键词】** 老年人; 中年人; 青年人; 听力情况; 老年性聋

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## Survey on hearing conditions of elderly, middle-aged and young people in Yangzhou area

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**【Abstract】 Objective** To survey the hearing conditions of the elderly ( $\geq 60$  years), middle-aged (45 to 60 years) and young adults (30 to 45 years) living in Yangzhou area, focusing on conditions related to the distribution and severity of presbycusis in order to provide reliable reference for the prevention and treatment of senile hearing loss. **Methods** A total of 2 116 people living in Yangzhou area (including the downtown of Yangzhou, Jiangdu, Yizheng, Baoying, and Gaoyou, Tianchang of Anhui Province) were subjected by random sampling and enrolled in this study. Their hearing conditions were examined by pure tone audiometry and acoustic immittance test. Their physical condition and medical history were also recorded. **Results** After ear inspection, earwax and foreign matter were removed, and those diagnosed with conductive hearing loss (outer or middle ear diseases) received treatment guidance and were excluded from the study. The hearing loss ratio was 65.57% for the elderly group, and those of mild hearing loss accounted for 46.78%, of moderate for 13.31%, moderate to severe for 4.25%, and severe for 1.23%. The ratio was 48.12% for the middle-aged group, with those of mild, moderate, moderate to severe and severe hearing loss for 41.76%, 4.34%, 1.45%, and 0.58%, respectively. For the young group, the ratio was 47.05%, 37.12%, 6.76%, 2.73%, and 0.43%, respectively. There were significant differences in the hearing loss conditions among the elderly, middle-aged and young people. **Conclusion** Hearing loss condition becomes gradually severe with aging. Hearing threshold is also increased along with aging, and hearing loss is more obvious in high frequencies. It is of great significance in the prevention and treatment of hearing loss for the elderly to prevent and treat some senile diseases (hypertension, diabetes, coronary heart disease, and cerebral blood supply insufficiency, etc), to avoid noisy environment, and to quit smoking and alcohol drinking.

**【Key words】** aged; middle-aged; young adult; hearing condition; presbycusis

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近日,国家统计局发布2014年国民经济和社会发展的统计公报。公报显示,2014年年末我国 $\geq 60$ 岁人口数为21 242万人,占总人口数的比例为15.5%。据WHO统计,当一个国家或地区 $\geq 60$ 岁老年人口占总人口数 $> 10\%$ ,即意味着这个国家或地区的人口处于老龄化社会。因此,老年人的身体健康状况,得到了利益广泛的关注。老年性聋作为继高血压、冠心病后第三大老年人常见慢性疾病<sup>[1,2]</sup>,严重影响老年人的日常生活,并且因为疾病本身发病缓慢,轻度听力损失有时难以察觉,故发病率统计较为困难。为更好地加强老年性聋的防治,本研究分别对老年人( $\geq 60$ 岁)、中年人( $\geq 45$ 岁且 $< 60$ 岁)和青年人( $\geq 30$ 岁且 $< 45$ 岁)进行调查分析,现报告如下。

## 1 对象与方法

### 1.1 研究对象

用容量比例概率抽样(probability proportion to size, PPS)的方法,在扬州地区(分别为扬州市区、江都、仪征、宝应、高邮以及安徽天长)设立6个调查点,在社区及居委会进行随机调查,每个调查点调查300~400人,总数约为2 000人,按照WHO对于年龄的划分,将30~45岁的人群称为青年人,45~60岁的人群称为中年人, $\geq 60$ 岁称为老年人,本研究选取年龄 $\geq 30$ 岁者进行统计分析,共调查2 116人。

### 1.2 仪器

采用ORBITER 922型听力计测定纯音听阈(Madsen公司,丹麦),听力监测室符合要求。

### 1.3 方法

在监测点随机进行抽样检查。首先进行耳部检查,去除耵聍及异物等,确诊传导性听力损失人群(外耳或中耳疾病患者),给予治疗指导意见,并在研究中予以排除。同时进行病史采集(尤其关注老年人高血压、糖尿病、冠心病、脑供血不足等常见病),随后进行纯音听力检查,并进行相关指导。

### 1.4 诊断

具体诊断标准如下。正常听力:纯音听阈 $< 25$ 分贝(dB),对一般的声音及语言分析清楚;轻度听力损失:纯音听阈26~40dB,对细小的声音难以分辨。

中度听力损失:纯音听阈41~55dB,对日常语言有听觉上的困难,与人交谈感到模糊不清;中重度听力损失:纯音听阈56~70dB,对于较大的谈话声、汽车声仍感到模糊;重度听力损失:纯音听阈71~90dB,对于叫喊声及洪亮的声音才有反应;极重度听力损失:纯音听阈 $> 90$ dB,通常极难感觉声音的存在,需要依靠助听器辅助,才能感受声音的声震动力<sup>[3,4]</sup>。

### 1.5 统计学处理

对数据资料采用SPSS15.0软件进行统计分析。以 $P < 0.05$ 为差异有统计学意义。

## 2 结果

本次共调查2 116人,各年龄组的听力损失情况(表1)和各年龄组的听力分级情况(表2)结果表明,老年人群听力减退比例为65.57%,其中轻度听力损失为46.78%,中度听力损失为13.31%,中重度听力损失为4.25%,重度听力损失为1.23%;中年组人群听力减退比例为48.12%,其中轻度、中度、中重度和重度听力损失分别为41.76%、4.34%、1.45%和0.58%;青年组人群听力减退比例为47.05%,其中各度听力损失分别为37.12%、6.76%、2.73%和0.43%。可见,随着年龄的增长,青年人、中年人及老年人耳聋患病率增加,并且耳聋的程度逐步加重,其差异有显著性意义( $P < 0.01$ )。

表1 各年龄组听力损失情况  
Table 1 The distribution of hearing loss in each age group

| Group       | n    | Hearing loss [n(%)]* |
|-------------|------|----------------------|
| Young adult | 695  | 327 (47.05)          |
| Middle aged | 692  | 333 (48.12)          |
| Elderly     | 729  | 478 (65.57)          |
| Total       | 2116 | 1138 (53.78)         |

Young adult group: 30-45 years old; middle aged group: 45-60 years old; elderly group: over 60 years old.\*There is significant difference in incidence of hearing loss among the different age groups

## 3 讨论

老年性耳聋,具体来讲,是指随着年龄的增长,在排除噪声、耳毒性药物和遗传因素参与的情况下,听觉器官随着身体其他组织器官一起发生的、缓慢进行的老化过程而出现听力减退的生理现象。随着年龄的增长,青年人、中年人及老年人耳聋患病率增加,并且耳聋的程度逐步加重,其差异有统计学

表2 各年龄组听力分级情况  
Table 2 The classification of hearing conditions in each age group [n(%)]

| Group       | n    | Normal      | Mild        | Moderate   | Moderate to severe | Severe   |
|-------------|------|-------------|-------------|------------|--------------------|----------|
| Young adult | 695  | 368 (52.95) | 258 (37.12) | 47 (6.76)  | 19 (2.73)          | 3 (0.43) |
| Middle aged | 692  | 359 (51.88) | 289 (41.76) | 30 (4.34)  | 10 (1.45)          | 4 (0.58) |
| Elderly     | 729  | 251 (34.43) | 341 (46.78) | 97 (13.31) | 31 (4.25)          | 9 (1.23) |
| Total       | 2116 | 978 (46.22) | 888 (41.96) | 174 (8.22) | 60 (2.84)          | 16 (0.8) |

Young adult group: 30–45 years old; middle aged group: 45–60 years old; elderly group: over 60 years old. There is significant difference in classification of hearing conditions among the different age groups

意义 ( $P < 0.01$ )。白丽霞等<sup>[5]</sup>对于北京市区 $\geq 60$ 岁的人群进行普查,听力减退患病率为41.9%。唐云青等<sup>[6]</sup>对苏州城乡地区 $\geq 60$ 岁老年人普查结果显示,听力减退率为58.4%。刘丞等<sup>[7]</sup>调查江苏省 $\geq 60$ 岁老年人群,听力减退标准化患病率为59.49%。以上研究在调查的方法和标准上,与本次调查相同或相似,结果亦相近,本次调查听力减退率为65.57%。

究其病因,笔者考虑是在多种因素的共同影响下而导致的。青年人及中年人的病因主要包括以下几个方面。(1)生活习惯。如吸烟、饮酒等不良嗜好,摄入过量的饱和脂肪酸等均可升高血液黏度,进而影响内耳微循环,诱发听力损失<sup>[8]</sup>。(2)免疫因素。临床上许多自身免疫性疾病的患者(如系统性红斑狼疮、多发结节动脉炎等)往往伴有感音神经性聋。提示自身免疫性疾病的病理生理可能参与了突发性耳聋的发生。有时患者同时伴有病毒感染的可能<sup>[9,10]</sup>。(3)心理因素。近来,有心理学研究指出,焦虑等情绪通过促进人体释放去甲肾上腺素,导致人体血液流变学的改变,进而影响内耳微循环,产生听力损失<sup>[11,12]</sup>。老年人的病因主要包括以下几个方面。(1)衰老性病变。由于机体的衰老和神经系统的减退,耳部器官出现相应的衰老状况,是一种与年龄相关的退行性病变。随着年龄的不断增长,氧自由基的生成,在听觉器官内逐步增加,相应出现抗氧化酶功能的逐步减弱,可出现耳部细胞的修复能力的逐步减弱,同时引起血管硬化,骨质增生,从而导致老年性聋<sup>[13]</sup>。(2)遗传因素。遗传因素在听觉器官的衰老过程中起到了重要的作用,老年性聋的发病年龄和发病速度在很大程度上和遗传因素有关。(3)综合生活因素。包括老年患者在日常生活中承受的的各种环境压力和老年人自身的身体状况等综合影响。如各种噪声带来的影响,微弱的血管病变以及耳部疾患,如中耳炎、耳毒性药物的使用等。

针对扬州地区老年性聋的现状,对于老年性耳聋的治疗和预防,笔者提出如下建议。(1)治疗方面。①药物治疗。首先要对原发病进行诊断

和治疗,可以选用扩血管药、改善微循环药物、提高脑组织代谢的药物以及神经营养药物。②助听器。对于中重度老年性聋的患者,助听器是比较好的选择,有助于老年人生活质量的提高,同时可减轻耳鸣的症状<sup>[14]</sup>。③耳蜗植入器。老年性聋患者常规治疗方法无效可考虑电子耳蜗的植入,其具备对耳蜗电信号的重塑能力,以及直接刺激听神经的特性,借以提高患者的听力状况,并缓解耳鸣的状况<sup>[15]</sup>。(2)预防方面。老年性聋对于患者的晚年生活质量有极为显著的影响,导致一系列疾病的产生<sup>[16,17]</sup>。因此,早期诊断老年性聋并积极进行预防,显得极为重要。①加强锻炼。老年人应积极进行体育锻炼,以增强体质,增强免疫力,抑制衰老的过程。②强化饮食管理。老年人饮食要清淡,控制糖、脂肪和油的摄入,并多食用蔬菜和水果,以防止糖尿病、高血压、冠心病等全身疾病的发生。③拒绝烟酒。烟酒刺激可引起小动脉痉挛,并破坏内耳的感觉上皮,从而对听力产生损害。④避免噪声刺激。必要时使用护耳器或用耳塞,用以减低隔音,降低噪声对于耳部的刺激。⑤避免药物损伤。尽量避免使用耳毒性药物,如链霉素、新霉素、卡那霉素、庆大霉素等。⑥重视耳鸣及听力下降。老年人一旦出现耳鸣及听力下降症状后,应及时到医院检查,早期诊断,明确损害程度、早期治疗,防止耳聋状况的加重。

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