

论著·临床研究

住院患者慢性病共病现状调查及流行病学分析

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[摘要] **目的**·分析慢性病共病的现状及分布特征, 为进一步加强共病患者对疾病自我管理, 实施全程、全方位的共病管理提供参考依据。**方法**·选取2020年12月—2023年2月上海交通大学医学院附属仁济医院老年科2 045例住院患者, 收集患者一般生命体征、实验室检查指标及患病情况等资料, 分析慢性病及共病的流行病学患病分布特征。**结果**·调查人群慢性病发生率为99.6%, 共病患者占94.2%。患病率排名前5位的慢性病依次为高血压(43.68%)、糖尿病(24.81%)、恶性肿瘤(21.48%)、高脂血症(18.38%)和冠心病(11.99%)。其中男性高血压、糖尿病、冠心病、慢性阻塞性肺病、脑卒中、慢性肾脏病检出率均明显高于女性($P<0.05$)。共病患者中, 合并5种慢性病的患者比例最高(11.99%), 其次为合并7种慢性病(10.26%)、6种慢性病(10.04%)。在不同年龄段患者中, 50~59岁的患者共病发生率最高(27.78%)。合并2种慢性病的人群中, 50~59岁的患者比例高达40.82%。男性患者发生共病的比例(95.37%)高于女性(93.77%), 但差异无统计学意义($P=0.125$); 合并2种和5种慢性病的男性患者比例分别为70.41%和60.63%, 均显著高于女性患者(29.59%和39.37%)。其中冠心病与糖尿病、高血压与冠心病、高血压与糖尿病的发病具有相关性($r=0.24$, $r=0.27$, $r=0.35$, 均 $P<0.05$)。**结论**·中老年人群慢性病及共病患病率较高, 并且随着年龄的增长, 共病数量明显增加。

[关键词] 老年人; 老龄化; 共病; 慢性病; 流行病学

[DOI] 10.3969/j.issn.1674-8115.2024.04.006 **[中图分类号]** R592 **[文献标志码]** A

Investigation and epidemiological analysis of chronic diseases and comorbidities in hospitalized patients

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[Abstract] **Objective**·To investigate the current situation and distribution characteristics of chronic comorbidities, and to provide reference for further improving the self-management of comorbidities and implementing the whole course and all-round management of comorbidity. **Methods**·Two thousand and forty-five inpatients in the Department of Geriatrics, Renji Hospital, Shanghai Jiao Tong University School of Medicine were enrolled in this study from December 2020 to February 2023. The general vital signs, routine laboratory examination and disease status were collected. The epidemiological distribution characteristics of chronic diseases and comorbidities were analyzed. **Results**·The incidence of chronic diseases in the surveyed population was 99.6%, and the incidence of comorbidities was 94.2%. The top 5 chronic diseases were hypertension (43.68%), diabetes mellitus (24.81%), malignant tumor (21.48%), hyperlipidemia (18.38%) and coronary heart disease (11.99%). The detection rates of hypertension, diabetes mellitus, coronary heart disease, chronic obstructive pulmonary disease, stroke and chronic kidney disease in males were significantly higher than those in females ($P<0.05$). The proportion of patients with 5 chronic diseases was the highest (11.99%), followed by 7 chronic diseases (10.26%) and 6 chronic diseases (10.04%). Among the patients of different ages, the comorbidity rate was the highest in the patients aged 50–59 years (27.78%). In different age groups, patients aged 50 to 59 with 2 chronic diseases had the highest incidence of comorbidity, which was as high as 40.82%. Although the overall proportion of comorbidities among male patients (95.37%) was higher than that among females (93.77%), there was no statistically significant difference ($P=0.125$). However, the proportions of male patients with 2 and 5 chronic diseases were 70.41% and 60.63%, respectively, which were significantly higher than those of female patients (29.59% and 39.37%). The correlations between coronary heart disease and diabetes mellitus, hypertension and coronary heart disease, hypertension and diabetes mellitus were higher ($r=$

[基金项目] 国家自然科学基金(81870554, U22A20287)。

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[Funding Information] National Natural Science Foundation of China (81870554, U22A20287).

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0.24, $r=0.27$, $r=0.35$, all $P<0.05$). **Conclusion**· The prevalence of chronic diseases and comorbidities is high in the middle-aged and elderly population, and the number of comorbidities increases significantly with the increase of age.

[Key words] elderly people; aging; comorbidity; chronic diseases; epidemiology

2008年世界卫生组织(WHO)将共病定义为同一患者同时患有2种或2种以上的慢性病^[1]。共病与年龄密切相关,随着年龄增长,共病患病率也呈上升趋势。共病问题已成为慢性病管理的一个挑战。2018年《中国老年疾病临床多中心报告》^[2]显示,我国住院患者慢性病和共病现象尤为突出,人均患病4.68种,共病患病率高达91.36%。慢性病共病是导致患者身体功能衰退、生活质量下降、医疗服务利用率增大、疾病负担加重、残疾和死亡风险增大的重要原因。共病的多发和高发严重降低了中老年人的健康水平和生活质量,患者再入院率上升,社会经济负担加重,已成为医疗卫生工作面临的严峻问题。我国目前在慢性病共病流行病学方面研究较少。本研究对上海交通大学医学院附属仁济医院老年科住院患者常见慢性病及共病进行流行病学调查及分析,以期对慢性病尤其是共病的管理提供理论依据。

1 对象与方法

1.1 研究对象

选取2020年12月—2023年2月上海交通大学医学院附属仁济医院老年科住院患者为研究对象,所有住院患者均具备完整的临床资料。

1.2 资料收集

收集患者一般生命体征测量及体格检查结果资料。实验室常规检查项目包括血常规、尿常规、血生化检查、肝肾功能、血脂、血糖、乙型肝炎五项、甲状腺功能以及红细胞沉降率等。辅助检查包括B超、心电图及胸部CT检查等。

1.3 共病的确定及依据

以同一患者同时患有2种或2种以上的慢性病为共病。慢性病诊断依据WHO相关标准,结合病史、体征观察与实验室检查结果,作出相应诊断。高血压依据《中国高血压防治指南(2018年修订版)》诊

断标准^[3]:收缩压 ≥ 140 mmHg(1 mmHg=0.133 kPa)或舒张压 ≥ 90 mmHg。糖尿病依据《中国2型糖尿病防治指南(2020年版)》诊断标准^[4]:具有糖尿病症状,同时随机血糖 ≥ 11.1 mmol/L,或空腹血糖 ≥ 7.0 mmol/L,或口服葡萄糖耐量试验(OGTT)2 h后血糖 ≥ 11.1 mmol/L。高脂血症依据《中国成人血脂异常防治指南(2016年修订版)》诊断标准^[5]:3项指标(总胆固醇 ≥ 6.2 mmol/L,低密度脂蛋白胆固醇 ≥ 4.1 mmol/L,三酰甘油 ≥ 2.3 mmol/L)中满足任意一项,即可诊断为高脂血症。收集病史时,部分疾病由研究对象或直系亲属提供,并根据患者情况及既往在二级及以上医院确诊结果为依据。

1.4 统计学分析

数据经双人平行录入,录入后将原始数据与已录入的电子文档进行校对,并进行逻辑检错。应用SPSS 26.0统计软件进行数据分析。定量资料采用 $\bar{x}\pm s$ 表示,定性资料采用 $n(\%)$ 表示,男女组间比较采用两独立样本 t 检验或 χ^2 检验,患病率随年龄变化趋势采用Cochran-Armitage检验,疾病相关性分析采用Spearman相关分析。 $P<0.05$ 表示差异有统计学意义。

2 结果

2.1 一般情况

住院患者共2 045人,其中男性1 274人(62.3%),女性771人(37.7%),年龄为30~99岁,平均年龄为(61.5 \pm 15.2)岁。不同性别的患者年龄比较,差异无统计学意义($P=0.057$)。慢性病发生率为99.6%,共病发生率为94.2%。

2.2 慢性病检出情况

患病率排名前5位的慢性病依次为高血压(43.68%)、糖尿病(24.81%)、恶性肿瘤(21.48%)、高脂血症(18.38%)和冠心病(11.99%)。常见的慢性病中,男性高血压、糖尿病、冠心病、慢性阻塞性肺病(chronic obstructive pulmonary diseases,

COPD)、脑卒中、慢性肾脏病 (chronic kidney disease, CKD) 的检出率均明显高于女性, 差异均有统计学意义 ($P<0.05$)。高脂血症、恶性肿瘤、风湿

性疾病、焦虑/抑郁等的检出率在男女患者间比较, 差异无统计学意义 ($P>0.05$)。详见表1。

表1 研究人群基本特征及男女患者间的比较

Tab 1 Characteristics of the population and comparison between male and female patients

Variable	Total (n=2 045)	Female (n=771)	Male (n=1 274)	P value
Age/year	61.5±15.2	60.7±15.3	62.0±15.0	0.057
Age range/n(%)				0.173
30–39 years	114 (5.57)	56 (7.26)	58 (4.55)	
40–49 years	362 (17.70)	136 (17.64)	226 (17.74)	
50–59 years	568 (27.78)	213 (27.63)	355 (27.86)	
60–69 years	370 (18.09)	135 (17.51)	235 (18.45)	
70–79 years	332 (16.23)	128 (16.60)	204 (16.01)	
80–89 years	209 (10.22)	76 (9.86)	133 (10.44)	
90–99 years	90 (4.40)	27 (3.50)	63 (4.95)	
Hypertension/n(%)	809 (43.68)	235 (34.46)	574 (49.06)	0.000
Diabetes mellitus/n(%)	457 (24.81)	113 (16.64)	344 (29.58)	0.000
Hyperlipidemia/n(%)	330 (18.38)	107 (16.24)	223 (19.63)	0.074
Coronary artery disease/n(%)	213 (11.99)	46 (7.01)	167 (14.90)	0.000
Stroke/n(%)	164 (9.29)	41 (6.26)	123 (11.08)	0.000
COPD/n(%)	52 (2.96)	4 (0.61)	48 (4.35)	0.000
CKD/n(%)	98 (5.56)	24 (3.67)	74 (6.67)	0.008
Malignant tumor/n(%)	384 (21.48)	140 (20.99)	244 (21.77)	0.704
Thyroid nodule/n(%)	452 (25.87)	169 (26.45)	283 (25.54)	0.681
Hyperthyroidism/n(%)	20 (1.13)	6 (0.92)	14 (1.26)	0.512
Hypothyroidism/n(%)	75 (4.24)	43 (6.52)	32 (2.89)	0.000
Rheumatic disease/n(%)	35 (2.00)	16 (2.45)	19 (1.73)	0.302
Anxiety/depression/n(%)	39 (2.22)	13 (1.98)	26 (2.36)	0.673

2.3 共病发生情况及影响因素分析

共病患者中, 合并5种慢性病的比例最高 (11.99%), 其次为合并7种慢性病 (10.26%)、6种慢性病 (10.04%), 见图1。在不同年龄段患者中, 50~59岁的患者共病发生率最高 (27.78%)。合并

2种慢性病的人群中, 50~59岁的患者比例高达40.82%, 显著高于其他年龄段人群 ($P=0.000$); 合并5种慢性病的人群中, 50~59岁的患者比例高达28.05%, 也显著高于其他年龄段人群 ($P=0.000$)。见表2。

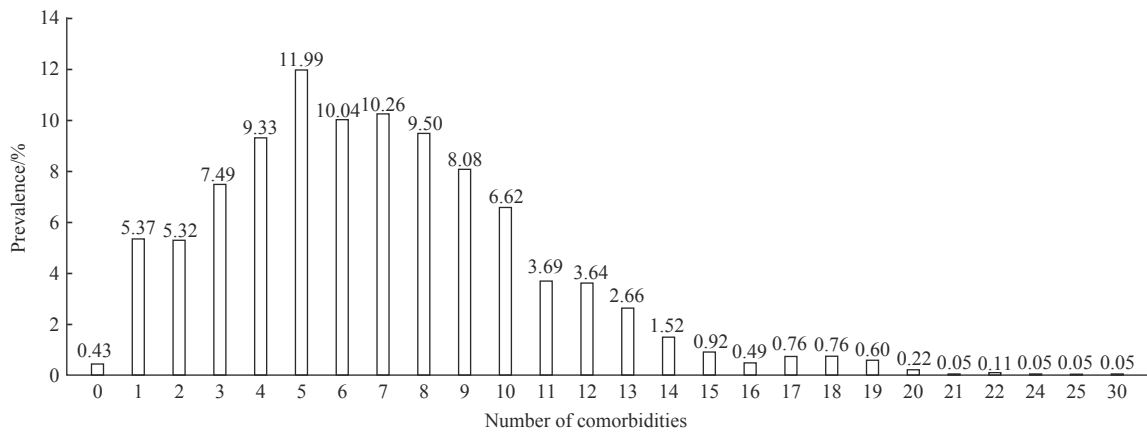


图1 研究人群共病数量的分布情况

Fig 1 Distributions of comorbidities of the study population

尽管总体男性患者发生共病的比例 (95.37%) 高于女性 (93.77%), 但差异无统计学意义 ($P=0.125$); 但在合并 2 种慢性病的男性患者比例为 70.41%, 明显高于女性 (29.59%); 合并 5 种慢性病

的男性患者比例为 60.63%, 也明显高于女性 (39.37%) (表 2)。高血压、糖尿病、冠心病、脑卒中中等常见病的发病趋势与年龄呈正相关 ($P<0.05$), 见表 3。

表 2 共病数量在不同性别及年龄组的分布趋势

Tab 2 Trends of comorbidities on different genders and age groups

Variable	Number of comorbidities							P value
	0	1	2	3	4	5	≥6	
Age/n(%)								0.000
30–39 years	1 (12.5)	12 (12.12)	5 (5.10)	19 (13.77)	13 (7.56)	19 (8.6)	25 (2.26)	
40–49 years	3 (37.5)	14 (14.14)	23 (23.47)	35 (25.36)	48 (27.91)	57 (25.79)	162 (14.63)	
50–59 years	3 (37.5)	38 (38.38)	40 (40.82)	43 (31.16)	52 (30.23)	62 (28.05)	298 (26.92)	
60–69 years	1 (12.5)	15 (15.15)	19 (19.39)	20 (14.49)	24 (13.95)	38 (17.19)	199 (17.98)	
70–79 years	0 (0)	16 (16.16)	9 (9.18)	19 (13.77)	21 (12.21)	15 (6.79)	207 (18.70)	
80–89 years	0 (0)	2 (2.02)	1 (1.02)	2 (1.45)	11 (6.40)	29 (13.12)	142 (12.83)	
90–99 years	0 (0)	2 (1.01)	1 (1.02)	0 (0)	3 (1.74)	1 (0.45)	74 (6.68)	
Gender/n(%)								0.043
Female	4 (50.0)	44 (44.44)	29 (29.59)	45 (32.61)	78 (45.35)	87 (39.37)	390 (35.23)	
Male	4 (50.0)	55 (55.56)	69 (70.41)	93 (67.39)	94 (54.65)	134 (60.63)	717 (64.77)	

表 3 常见慢性病患病率随年龄变化的趋势

Tab 3 Trend of prevalence of common chronic diseases with age

Variable	Age group							P for trend
	30–39 years	40–49 years	50–59 years	60–69 years	70–79 years	80–89 years	90–99 years	
Hypertension/n(%)	10 (11.49)	77 (24.06)	175 (34.25)	158 (47.59)	176 (57.14)	148 (71.84)	65 (73.86)	0.000
Diabetes mellitus/n(%)	15 (15.63)	37 (11.60)	89 (17.62)	95 (28.27)	102 (33.89)	87 (43.50)	32 (37.65)	0.000
Hyperlipidemia/n(%)	15 (16.30)	71 (22.12)	103 (20.52)	56 (17.55)	48 (16.61)	27 (13.92)	10 (12.82)	0.010
Coronary artery disease/n(%)	0 (0)	7 (2.28)	34 (6.92)	44 (13.88)	39 (13.3)	54 (27.14)	35 (41.67)	0.000
Stroke/n(%)	0 (0)	2 (0.65)	11 (2.25)	19 (6.05)	25 (8.68)	65 (32.83)	42 (50.0)	0.000
COPD/n(%)	0 (0)	0 (0)	2 (0.41)	5 (1.60)	16 (5.59)	13 (6.60)	16 (19.51)	0.000
CKD/n(%)	0 (0)	3 (0.98)	4 (0.82)	6 (1.92)	18 (6.25)	37 (18.69)	30 (35.71)	0.000
Malignant tumor/n(%)	15 (17.24)	30 (9.84)	79 (15.86)	72 (22.50)	102 (34.69)	63 (31.50)	23 (27.38)	0.000
Rheumatic disease/n(%)	1 (1.16)	2 (0.66)	5 (1.02)	8 (2.56)	12 (4.20)	4 (2.12)	3 (3.70)	0.002
Anxiety/depression/n(%)	2 (2.30)	1 (0.33)	3 (0.61)	8 (2.56)	9 (3.11)	9 (4.62)	7 (8.33)	0.000

Note: Cochran-Armitage test was used for trend test.

2.4 常见慢性病共病相关性分析

高血压与糖尿病、高脂血症、冠心病、脑卒中、COPD、CKD、焦虑/抑郁均有相关性 (r 值分别为 0.35、0.11、0.27、0.23、0.06、0.18、0.07, 均 $P<0.05$)。糖尿病与高脂血症、冠心病、脑卒中、CKD、恶性肿瘤、风湿性疾病均具有相关性 (r 值分别为

0.06、0.24、0.20、0.19、0.06、0.06, 均 $P<0.05$)。冠心病与高脂血症、脑卒中、COPD、CKD、焦虑/抑郁均有相关性 (r 值分别为 0.11、0.21、0.10、0.19、0.10, 均 $P<0.05$)。在多种疾病中, 高血压、糖尿病、高脂血症、冠心病的两两相关性较明显, 其共病发生较为多见 (表 4)。

表4 常见慢性病间的相关性 (r)Tab 4 Correlation among common chronic diseases (r)

Variable	Diabetes mellitus	Hyperlipidemia	Coronary artery disease	Stroke	COPD	CKD	Malignant tumor	Rheumatic disease	Anxiety/depression
Hypertension	0.35 ^①	0.11 ^①	0.27 ^①	0.23 ^①	0.06 ^①	0.18 ^①	0.02	0.04	0.07 ^①
Diabetes mellitus		0.06 ^①	0.24 ^①	0.20 ^①	0.01	0.19 ^①	0.06 ^①	0.06 ^①	-0.01
Hyperlipidemia			0.11 ^①	0.10	-0.02	0.08	-0.06 ^①	-0.02	-0.01
Coronary artery disease				0.21 ^①	0.10 ^①	0.19 ^①	0.01	0.004	0.10 ^①
Stroke					0.13 ^①	0.29 ^①	-0.004	0.03	0.15 ^①
COPD						0.11 ^①	0.04	0.03	0.07 ^①
CKD							0.04	0.04	0.05 ^①
Malignant tumor								-0.02	0.05 ^①
Rheumatic disease									0.04

Note: Spearman correlation analysis was used. ^① $P < 0.05$, compared with left corresponding disease.

3 讨论

近年来,我国人口老龄化呈现进一步加剧并逐渐高龄化态势,持续关注老年人的动态健康状况及加强对老年共病患者的健康管理势必成为今后的焦点。随着年龄的增长,人体生理功能逐渐衰退,老年退行性病变可导致各种机体功能障碍。有研究表明,中老年人中,多种慢性病共存的患者与单一慢性病患者相比,死亡风险增大^[6],住院次数和住院时间增加^[7-8]。同时,共病患者还与机体功能和与健康相关的生活质量具有明显相关性^[9]。此外,慢性病共病患者需要消耗更多的医疗资源,家庭及社会的经济负担也明显加重^[10]。因此,急需解决中老年人群慢性病和共病的管理问题。

在针对苏格兰急诊就诊患者的数据研究^[11]显示:21%的患者患有多种慢性病,其中最常见疾病是CKD(10.9%)、高血压(9.2%)、慢性肺病(8.8%)、糖尿病(7.2%)和肿瘤(4.8%);并且,患有多种慢性病与住院风险具有明显相关性,其中患有6种或6种以上慢性病患者再次就诊及住院风险均最高。而西班牙和德国的人口患病率研究^[12-13]表明,65岁及以上人口的共病患病率约为60%。印度的调查^[14]显示:34.51%的人群具有共病情况;其中,最常见的慢性病是高血压(47.9%),其次是糖尿病(22.1%);75岁人群相对于年轻人群更容易出现共病情况。研究^[15]显示,80岁以上老年人群一年中新诊断出的疾病数量比0~20岁人群高5倍,80岁以上的男性和女性平均分别患有3.24和3.57种慢性病。加拿大在院患者数据研究^[16]显示,65岁及以上成年人的

整体共病患病率高达75%。本研究结果显示,住院患者中,慢性病检出率为99.6%。随着年龄的增加,患者共病发生率升高,共病种类也明显增加。其中患病率排名前5位的慢性病依次为高血压、糖尿病、恶性肿瘤、高脂血症和冠心病。男性患者高血压、糖尿病、冠心病、COPD、脑卒中、CKD的发生率明显高于女性;而高脂血症、恶性肿瘤、风湿性疾病、焦虑/抑郁的发生率,两性患者无显著差异。这一结果与其他研究结果并不完全一致,可能与各研究的数据质量、人群种族、疾病种类等不同有关,同时也可能与各地区间地理环境、生活习惯、经济、医疗状况等差异有关。

慢性病共病是老年人患病的主要特征之一。我国的研究^[17-18]显示,老年人慢性病共病患病率为65.14%~81.80%。我国85%的老年住院患者同时患有2种疾病,约50%患有3种及以上疾病^[19]。在住院患者中,老年慢性病共病患者比例在各级别医院中存在较大差异,社区医院中占57.3%^[20],而三级甲等医院的共病患病率达81.8%~91.36%^[2]。针对北京朝阳医院的调查研究显示,老年共病患者的疾病种类集中在5~9种^[21]。马珂等^[22]对全科医学科住院患者共病情况的研究分析显示,住院患者共病患病率达94.79%,以合并4~6种疾病的患者居多。

针对中国患者的纵向研究结果显示,共病患者的比例随着年龄的增长而显著增大。在2015年50~54岁的2339人中,有51.7%的患者患有多种生理疾病,75岁及以上的患者中68.5%患有多种生理疾病,并且患病数量与门诊及住院次数呈正相关^[23]。WANG等^[24]针对我国南方多地区的人群调查研究显示:

11.1%的人患有2种及以上的慢性病;随着年龄的增长,共病患病率增大;女性、教育程度低、缺乏医疗保险以及不健康的生活方式或行为是共病的独立预测因素。RONG等^[25]对中国28个省的数据进行统计后发现,在多病患者中,高血压患病率最高(86.81%),其次是心脏病(59.07%)、糖尿病或高血糖(45.33%)、脑卒中(27.47%)。多种疾病的患病率在不同研究中差异很大,取决于参与者的年龄和包括的慢性病数量^[26]。GU等^[27]的研究显示:60岁以上的患者共病患病率约为56.5%;在多种慢性病中,高血压患病率最高(48.2%)。这与本研究初步分析结果一致。

本研究结果与其他相关研究结果比较,共病比例偏高,考虑与老年科就诊人群有关。老年科患者多为因慢性病而就诊的人群,且对自身健康关注度较高。此外,结合慢性病流行病学和本地特点,一方面呈现慢性病的发病年轻化现象;另一方面,由于上海地理位置、饮食结构、人群的教育程度、经济状况等多方面因素,使疾病能够尽早发现并确诊、治疗。本研究数据说明共病现象是普遍存在的,已严重威胁中老年人的健康和生存质量,同时也给患者带来了巨大的经济负担。因此,加强健康教育、早诊断、早治疗显得尤为重要。如果能进一步扩大样本量,或者进行多中心、大规模前瞻性队列研究,明确老年共病患者患病特点、共病之间的相互关联及影响因素,则可以完

善老年人群共病管理提供更加可靠的依据,并制定相应的、个体化的诊疗策略。

利益冲突声明/Conflict of Interests

所有作者声明不存在利益冲突。

All authors disclose no relevant conflict of interests.

伦理批准和知情同意/Ethics Approval and Patient Consent

本研究已通过上海交通大学医学院附属仁济医院医学伦理委员会批准(审批号:KY2021-071-B)。所有研究过程均遵照《赫尔辛基宣言》的条例进行。受试对象或其亲属已经签署知情同意书。

All experimental protocols in this study were reviewed and approved by the Ethics Committee of Renji Hospital, Shanghai Jiao Tong University School of Medicine (Approval No. KY2021-071-B), and all the protocols were carried out by following the guidelines of the *Declaration of Helsinki*. Consent letters have been signed by the research participants or their relatives.

作者贡献/Authors' Contributions

郝明秀负责论文撰写;陈鸿伟负责数据统计;王俊琳、唐吟菡、吴芸芸和金玉华参与数据整理;胡耀敏负责研究设计。所有作者均阅读并同意最终稿件的提交。

HAO Mingxiu was responsible for manuscript writing. CHEN Hongwei was responsible for data organization. WANG Junlin, TANG Yinhan, WU Yunyun and JIN Yuhua were responsible for data collection. HU Yaomin was responsible for conception. All the authors have read the last version of paper and consented for submission.

• Received: 2023-09-25

• Accepted: 2024-03-04

• Published online: 2024-04-28

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[本文编辑] 吴洋