



• 灾害精准护理 •

灾害素养现状及影响因素分析: 基于全国107 997例护士的调查^{*}

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【摘要】目的 了解中国护士灾害素养现状及其影响因素,为制定提升我国护士队伍灾害素养精准干预方案提供科学依据。**方法** 采用横断面调查设计和便利抽样,于2021年9-10月抽取我国东部、中部、西部及东北地区医疗卫生机构的护士进行线上调查。调查内容包括所调查护士的人口社会学特征、职业特征、灾害救援特征、自我效能及灾害素养水平。灾害素养水平使用前期开发的临床护士灾害素养模型进行测评。**结果** 共调查全国护士107 997名,灾害素养得分为(255.62±53.92)分。多重线性回归分析结果显示:东部地区[非标准化回归系数(non-standardized regression coefficient, B)=2.365, 95%置信区间(confidence interval, CI): 1.647~3.082]、男性(B =9.418, 95% CI : 7.892~10.944)、本科及以上(B =3.822, 95% CI : 3.195~4.450)、三级医院(B =3.569, 95% CI : 3.000~4.138)、军队/地方公立医院(B =2.606, 95% CI : 1.750~3.463)、急诊急救科(B =2.921, 95% CI : 2.149~3.694)、中级职称(B =2.918, 95% CI : 2.209~3.627)、高级职称(B =5.801, 95% CI : 4.448~7.155)、参与过灾害救援(B =5.566, 95% CI : 5.020~6.112)、所在单位参与过灾害应急救援(B =3.257, 95% CI : 2.429~4.084)、所在单位已组建灾害救援队(B =5.967, 95% CI : 5.103~6.831)、读书期间接受过灾害护理教育(B =6.205, 95% CI : 5.621~6.790)、工作期间参加过灾害教育培训(B =8.776, 95% CI : 8.027~9.525)、自我效能(B =5.117, 95% CI : 5.069~5.165)是我国护士灾害素养的保护因素。**结论** 我国护士灾害素养处于中等偏下水平,仍亟须提升。下一步应重点关注中西部地区、女性、大专及以下、读书期间没有接受过灾害护理教育、初级职称、妇儿科及辅助科室、基层医疗卫生机构、一二级医院、个人和所在单位没有灾害救援经验、所在单位没有建立灾害救援队、工作期间没有接受过灾害护理教育培训及自我效能低的护士,并采取措施提升其灾害素养水平。

【关键词】 灾害素养 护士 影响因素 多重线性回归

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【Abstract】 Objective To study the level of disaster literacy among nurses in China and the influencing factors and to provide scientific basis for developing effective interventions to improve the disaster literacy among Chinese nurses. **Methods** Between September 2021 and October 2021, an online survey was conducted among nurses from health care institutions in eastern, central, western, and northeastern China by using a cross-sectional survey design and convenience sampling. The content of the survey included the surveyed nurses' sociodemographic characteristics, occupational characteristics, disaster relief characteristics, self-efficacy, and disaster literacy level. A disaster literacy model developed previously was used to assess the nurses' disaster literacy. **Results** A total of 107 997 nurses were covered in the survey and their disaster literacy score was found to be 255.62±53.92. According to the findings of multiple linear regression, the protective factors for disaster literacy among Chinese nurses included the following, being based in Eastern region (non-standardized regression coefficient [B]=2.365, 95% confidence interval [CI]: 1.647-3.082), male sex (B =9.418, 95% CI : 7.892-10.944), bachelor's degree or higher level of education (B =3.822, 95% CI : 3.195-4.450), tertiary-level hospitals (B =3.569, 95% CI : 3.000-4.138), military/local public hospitals (B =2.606, 95% CI : 1.750-3.463), emergency department (B =2.921, 95% CI : 2.149-3.694), intermediate professional title (B =2.918, 95% CI : 2.209-3.627), senior professional title (B =5.801, 95% CI : 4.448-7.155), participation in disaster rescue (B =5.566, 95% CI : 5.020-6.112), the institution being previously involved in disaster emergency rescue (B =3.257, 95% CI : 2.429-4.084), the institution having set up disaster rescue team (B =5.967, 95% CI : 5.103-6.831), having received nursing education in disaster preparedness in school (B =6.205, 95% CI : 5.621-6.790), having received on-the-job disaster preparedness education and training (B =8.776, 95% CI : 8.027-9.525), and self-efficacy (B =5.117, 95% CI : 5.069-5.165). **Conclusions** In China, disaster literacy among nurses is at a medium to low level and needs to be improved. For the next step, efforts should be focused on nurses with the following features, being based in the central and western regions, female sex, having completed junior college education or less, no nursing education in disaster preparedness in school, having junior professional titles, being from

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gynecology, pediatrics, and auxiliary departments, working in grassroots medical and health institutions and primary and secondary-level hospitals, neither the individual respondent nor her institution having any experience in disaster rescue, the institution having no disaster rescue team, not having any on-the-job nursing education and training in disaster preparedness, and having low self-efficacy. Measures should be taken to improve their disaster literacy level.

【Key words】 Disaster Literacy Nurse Influencing factors Multiple linear regression

灾害现场不同于医院环境,其救治环境恶劣、条件简陋、物资药品匮乏、任务紧迫、心理压力大,对护理人员灾害响应提出了更高要求。越来越多的国内外证据表明,灾害响应已经成为国家公共安全和应急治理体系的重要组成部分^[1]。护士队伍是我国乃至全球最大的卫生专业群体,也是灾害救援的第一响应者^[2-3]。护士队伍在抗击新型冠状病毒疫情、汶川特大地震、非典疫情等灾害事件中发挥了至关重要的作用^[4]。因此,这样一支庞大的专业群体灾害素养的提升,会极大提高我国公共安全治理和灾害应急响应水平。然而,这一点常常被忽视^[5]。

现有研究表明,目前大多数的护理人员并没有为灾害应急响应做好充分准备^[6-7]。而《2020年世界护理状况报告》指出,未来全球护理事业将重点关注灾害护理学科发展^[8]。因此,现在比以往任何时候都更需要明确影响护士队伍灾害素养的重要因素,针对因素精准干预,以使其在灾害应急中充分发挥更大的潜力和作用。本研究以全国四大经济区域的护士为研究对象,探讨其灾害素养现状及影响因素,为政府和医疗机构制定精准干预方案提供科学依据。

1 对象与方法

1.1 调查对象

根据中国四大经济区域划分法^[9],在全国范围内招募调查对象,纳入标准为:①年龄 ≥ 18 周岁;②通过规培或实习轮转正式定科的临床护士;③能够获得完整的研究信息;④无精神疾病和意识障碍,有足够精力完成调查项目且思维正常;⑤知情同意并自愿参加本研究。本研究已通过江苏大学医学伦理审查。

1.2 抽样方法

采用便利抽样,在考虑区域、医院等级、医院性质等的基础上,于2021年9-10月,通过中华护理学会灾害护理专委会向全国各省专委会发布招募通知,由各省专委会向省内招募符合标准的护士,符合标准且自愿参加的护士通过问卷星链接填写问卷。回收问卷134 669份,剔除26 672份无效问卷(填写时间小于5 min、全部选择同一选项、选项有缺失及填写选项与问卷所提供选项不一致问卷),最终回收有效问卷107 997份,有效率80.2%。所有研究对象均知情同意,并自愿参加本研究。

1.3 调查内容

中国护士灾害素养调查问卷包括三部分。第一部分为调查对象的人口社会学特征:所在区域、年龄、性别、民族、教育背景;第二部分为调查对象的职业特征:医院等级、医院性质、科室、专业技术职称;第三部分为调查对象的灾害救援特征:是否参与过灾害救援、所在单位是否参与过灾害应急救援、所在单位是否已经组建灾害救援队、读书期间是否接受过灾害护理教育、工作期间是否接受过灾害护理培训及灾害素养。自我效能被定义为个人对胜任艰难生活事件的能力的信念^[10]。文献研究表明,自我效能是医护人员应对灾难意愿的关键因素^[11]。具有积极职业自我效能感的价值观和兴趣被证明可以激发工作主动性和潜力^[12]。即具有较高自我效能感的人会表现出更多的备灾行为,并在发生灾难时采取有效的干预策略。因此,本研究将自我效能纳入问卷的第三部分。

采用心理资本问卷(Psychological Capital Questionnaire, PCQ)中的自我效能量表评估护士的自我效能水平^[13]。量表有6个条目,Likert's 6点法赋分,量表的得分越高,其自我效能水平越高。该量表已在我国护士群体中被广泛应用^[14]。

采用笔者前期博士课题中开发的临床护士灾害素养模型测评临床护士的灾害素养水平^[15]。该模型包含34个条目,将34个条目编制成临床护士灾害素养自评问卷,每个条目按照李克特的10分度量法(非常不符合=1,非常符合=10)对指标进行自评得分。分值范围34~340分,得分越高,表明灾害素养水平越高。该自评问卷在前期调查中已通过验证,其Cronbach's α 系数为0.984,较为可靠。

1.4 统计学方法

采用率、构成比、 $\bar{x} \pm s$ 进行统计描述。采用 t 检验、方差分析及线性趋势检验比较不同特征护士灾害素养的得分差异。采用多重线性回归模型分析护士灾害素养的影响因素(逐步回归法,因子纳入、剔除标准分别为 $P \leq 0.05$ 、 $P \geq 0.10$)。 $\alpha = 0.05$ 。

2 结果

2.1 调查对象的基本特征

本次共调查我国四大经济区域31个省区的护士

107 997 人, 其中男性 3 354 人 (3.1%), 女性 104 643 人 (96.9%)。平均年龄 (32.52±7.47) 岁, 以汉族 (92.3%)、本科及以上文化程度 (73.2%)、三级医院 (63.6%)、军队/地方公立医院 (80.3%)、外科 (32.1%)、初级职称 (58.1%) 为

主。本次调查中 51.8% 的护士参与过灾害救援、84.1% 所在单位参与过灾害应急救援、85.2% 所在医院已组建灾害救援队。60.4% 读书期间接受过灾害护理教育, 81.4% 工作期间参加过灾害护理培训。见表 1。

表 1 中国护士灾害素养影响因素的单因素分析 (n=107 997)

Table 1 Single factor analysis of influencing factors of disaster literacy in Chinese nurses (n=107 997)

Variable	Case	%	Disaster literacy score		
			$\bar{x} \pm s$	F/t	P
Region				35.302	<0.001
Northeast	7 339	6.8	259.77±57.13		
Eastern	36 096	33.4	257.03±51.07		
Central	38 842	36.0	254.61±55.64		
Western	25 720	23.8	253.98±54.13		
Sex				-14.383	<0.001
Female	104 643	96.9	255.20±54.06		
Male	3 354	3.1	268.79±47.64		
Ethnicity				-1.701	0.089
Minority ethnicities	8 338	7.7	254.65±55.15		
Han Chinese	99 659	92.3	255.70±53.82		
Highest education attained				-18.192	<0.001
Junior college and below	28 973	26.8	250.70±56.15		
Bachelor's or above	79 024	73.2	257.42±52.97		
Hospital grade				-27.311	<0.001
Secondary/primary-level hospital	39 322	36.4	249.72±56.01		
Tertiary-level hospital	68 675	63.6	259.00±52.39		
Type of hospital				89.133	<0.001
Community-level medical and health institutions	11 653	10.8	251.91±55.95		
Private hospital	9 652	8.9	250.45±55.34		
Military/local public hospital	86 692	80.3	256.69±53.43		
Clinical department				35.636	<0.001
Internal medicine	19 778	18.3	254.93±54.09		
Surgery	34 708	32.1	256.56±53.85		
Obstetrics and gynecology	8 231	7.6	253.70±54.55		
Pediatrics	6 266	5.8	252.25±54.80		
Emergency	19 574	18.1	259.14±51.64		
Auxiliary departments	19 440	18.0	253.00±55.32		
Professional title				245.693	<0.001
Junior	62 764	58.1	252.93±54.34		
Intermediate	37 144	34.4	258.08±53.44		
Senior	8 089	7.5	265.19±51.18		
Have you ever been involved in disaster relief?				-38.206	<0.001
No	52 011	48.2	249.16±54.92		
Yes	55 986	51.8	261.62±52.27		
Whether the institution was involved in disaster emergency rescue?				-49.634	<0.001
No	17 223	15.9	237.13±57.91		
Yes	90 774	84.1	259.13±52.40		
Whether the institution has a disaster rescue team?				-61.262	<0.001
No	16 016	14.8	231.94±57.12		
Yes	91 981	85.2	259.74±52.24		
Did you receive nursing education on disaster preparedness in school?				-55.091	<0.001
No	42 741	39.6	244.60±8.49		
Yes	65 256	60.4	262.83±8.01		
Have you received on-the-job nursing training on disaster preparedness?				-63.19	<0.001
No	20 078	18.6	234.31±57.30		
Yes	87 919	81.4	260.49±51.91		

2.2 调查对象的灾害素养水平及分布特征

我国护士灾害素养总分为(255.62±53.92)分,自我效能得分为(27.33±5.56)分。不同性别、教育背景、区域、医院等级、医院性质、科室、职称、是否参与过灾害救援、所在单位是否参与过灾害应急救援、所在单位是否组建灾害救援队、读书期间是否接受过灾害护理教育、工作期间是否接受过灾害护理培训的调查对象灾害素养差异有统计学意义($P<0.001$):女性、大专及以下、中西部地区、二级/一级、民营医院、儿科、初级职称、未参与过灾害救援、所在单位未参与过灾害救援、所在单位未组建灾害救援队、读书和工作期间未接受过灾害护理教育/培训者灾害素养得分低。见表1。线性趋势检验结果显示,年龄($r=0.037$, $P<0.001$)、自我效能($r=0.562$, $P<0.001$)与护士灾害素养相关,护士灾害素养得分随着年龄的增长和自我效能水平的升高而增加。

2.3 调查对象灾害素养的影响因素分析

以护士灾害素养得分为因变量,人口社会学特征(区域、年龄、性别、教育背景)、职业特征(医院等级、医院性质、科室、专业技术职称)、灾害救援特征(是否参与过灾害救援、所在单位是否参与过灾害应急救援、所在单

位是否组建灾害救援队、读书期间是否接受过灾害护理教育、工作期间是否接受过灾害护理培训)及自我效能为自变量进行多重线性回归分析。赋值时,二分类变量以0、1赋值;无序多分类变量转换为哑变量后进行分析,赋值见表2。多重线性回归分析中参数检验结果显示 $P<0.001$,模型通过了参数检验。决定系数(R^2)=0.345,调整后 $R^2=0.345$,DW检验值为1.998,接近于2,表明随机误差项之间不存在相关性,研究结果可用。多重共线性诊断结果显示,本研究所有变量容忍度均小于1,所有变量方差膨胀系数(variance inflation factor, VIF)均小于10,提示变量间不存在多重共线性。回归结果显示,东部地区、男性、本科及以上学历、三级医院、军队/地方公立医院、急诊急救科、中高级职称、参与过灾害救援、所在单位参与过灾害救援、所在单位已组建灾害救援队、读书和工作期间接受过灾害护理教育/培训及自我效能高的调查对象灾害素养较高。见表3。

3 讨论

3.1 中国护士灾害素养水平亟须进一步提升

本次调查发现,一半以上的调查对象灾害素养得分

表2 中国护士灾害素养影响因素多重线性回归分析变量赋值

Table 2 Variable value assignment for multivariate linear regression analysis of factors affecting disaster literacy in Chinese nurses

Independent variable	Assignment (including dummy variables)
Region	Northeast: Northeast=1; Eastern=0; Central=0; Western=0 Eastern: Northeast=0; Eastern=1; Central=0; Western=0 Central: Northeast=0; Eastern=0; Central=1; Western=0
Sex	Female=0; male=1
Highest education attained	Junior college and below=0; bachelor's or above=1
Hospital grade	Secondary/primary-level hospital=0; tertiary-level hospital=1
Type of hospital	Private hospital: community-level medical and health institutions=0; private hospital=1; military/local public hospital=0 Military/local public hospital: community-level medical and health institutions=0; private hospital=0; military/local public hospital=1
Clinical department	Internal medicine: surgery=0; internal medicine=1; obstetrics and gynecology=0; pediatrics=0; emergency=0; auxiliary departments=0 Obstetrics and gynecology: surgery=0; internal medicine=0; obstetrics and gynecology=1; pediatrics=0; emergency=0; auxiliary departments=0 Pediatrics: surgery=0; internal medicine=0; obstetrics and gynecology=0; pediatrics=1; emergency=0; auxiliary departments=0 Emergency: surgery=0; internal medicine=0; obstetrics and gynecology=0; pediatrics=0; emergency=1; auxiliary departments=0 Auxiliary departments: surgery=0; internal medicine=0; obstetrics and gynecology=0; pediatrics=0; emergency=0; auxiliary departments=1
Professional title	Intermediate: junior=0; intermediate=1; senior=0 Senior: junior=0; intermediate=0; senior=1
Have you ever been involved in disaster relief?	No=0; yes=1
Whether the institution was involved in disaster emergency rescue?	No=0; yes=1
Whether the institution has a disaster rescue team?	No=0; yes=1
Have you received on-the-job nursing training on disaster preparedness during the working period?	No=0; yes=1
Did you receive nursing training on disaster preparedness in school?	No=0; yes=1

表 3 中国护士灾害素养影响因素的多重线性回归分析 (n=107997)

Table 3 Multiple linear regression analysis of influencing factors of disaster literacy among nurses in China (n=107997)

Variable	Nonnormalized coefficient		$S\beta$	T	P	95% confidence interval		Collinearity	
	B	Standard error				Lower	Upper	Tolerance	VIF
(constant)	85.986	1.164		73.840	0.000	83.704	88.269		
Northeast vs. Western	-0.516	0.581	-0.002	-0.888	0.375	-1.656	0.623	0.824	1.213
Eastern vs. Western	2.365	0.366	0.021	6.459	0.000	1.647	3.082	0.592	1.690
Central vs. Western	0.491	0.357	0.004	1.376	0.169	-0.208	1.190	0.602	1.660
Age	-0.044	0.026	-0.006	-1.663	0.096	-0.096	0.008	0.453	2.205
Sex	9.418	0.779	0.030	12.094	0.000	7.892	10.944	0.967	1.034
Highest education attained	3.822	0.320	0.031	11.936	0.000	3.195	4.450	0.877	1.141
Hospital grade	3.569	0.290	0.032	12.295	0.000	3.000	4.138	0.905	1.105
Private hospital vs. Community-level medical and health institutions	1.138	0.607	0.006	1.875	0.061	-0.051	2.328	0.589	1.699
Military/local public hospital vs. Community-level medical and health institutions	2.606	0.437	0.019	5.963	0.000	1.750	3.463	0.583	1.714
Internal medicine vs. surgery	-0.251	0.390	-0.002	-0.644	0.519	-1.015	0.513	0.777	1.288
Obstetrics and gynecology vs. surgery	-1.504	0.537	-0.007	-2.803	0.005	-2.557	-0.452	0.870	1.150
Pediatrics vs. surgery	-2.117	0.600	-0.009	-3.527	0.000	-3.294	-0.941	0.896	1.116
Emergency vs. surgery	2.921	0.394	0.021	7.416	0.000	2.149	3.694	0.766	1.305
Auxiliary departments vs. surgery	-3.018	0.400	-0.022	-7.546	0.000	-3.802	-2.234	0.747	1.338
Intermediate vs. junior	2.918	0.362	0.026	8.067	0.000	2.209	3.627	0.598	1.673
Senior vs. junior	5.801	0.691	0.028	8.400	0.000	4.448	7.155	0.534	1.873
Have you ever been involved in disaster relief?	5.566	0.279	0.052	19.979	0.000	5.020	6.112	0.911	1.098
Whether the institution was involved in disaster emergency rescue?	3.257	0.422	0.022	7.713	0.000	2.429	4.084	0.738	1.354
Whether the institution has a disaster rescue team?	5.967	0.441	0.039	13.540	0.000	5.103	6.831	0.719	1.390
Have you received on-the-job nursing training on disaster preparedness during the working period?	8.776	0.382	0.063	22.972	0.000	8.027	9.525	0.799	1.252
Did you receive nursing training on disaster preparedness in school?	6.205	0.298	0.056	20.802	0.000	5.621	6.790	0.829	1.206
Self-efficacy	5.117	0.025	0.528	208.048	0.000	5.069	5.165	0.942	1.061

B: non-standardized regression coefficient; VIF: variance inflation factor; $S\beta$: standardization coefficient.

在中等以下水平,与近年来国内学者的区域性调查结果基本一致^[16-17],另一方面也提示我国护士队伍灾害素养水平仍需尽快提升。本研究中306分以上的占比19.4%,这得益于近年来我国卫生应急在经历一次次重特大灾害事件的考验下,应急体系和能力建设得到加强^[4]。但17.1%的调查对象灾害素养得分在203分以下,57.2%的调查对象得分在271分以下,可能原因是我国灾害护理学科的起步较晚^[18],现有研究大多是基于知识技能或态度的经验传递式培训,而不是基于素养的形成^[19-20]。能力是完成一项目标或者任务所体现出来的外在表现,而素养是由训练和实践而获得并升华为个体一种长期、稳定、内在的、更深层次更有内涵的一种修养。因此,护士灾害素养是护士灾害护理能力发展的目标,是灾害护理知识与技能、过程与方法、情感态度价值观的整合与提升。灾害素养的形成有利于护士在灾害特有情境下因地制宜地处理错综复杂的各种突发状况。因此,下一步亟须提升我国护士队伍灾害素养整体水平。

3.2 影响中国护士灾害素养的人口社会学因素

本次研究发现,相较于西部地区,东部地区护士队伍灾害素养较高,这可能与东部多个省区已开展灾害护理专科护士培训有关^[21],也可能与本研究中西大区域占比悬殊有关,这需要进行进一步验证。本次研究发现,女性、文化水平低、读书期间未接受过灾害护理教育是影响中国护士灾害素养得分的不利因素。护理工作以女性为主,在中国传统文化下,女性常扮演多重角色,她们可能会怀孕和/或正在抚养小孩,而不得不分散在工作上的精力,这使得我们应更多关注灾害医学领域中女性专业人员的素养提升。但因本研究中男性护士占比不足5%,因此,该结果仍需进一步验证。但过往研究也确实证实了男护士因其身体素质优势或生活中更可能关注社会事件等,促使其灾害素养水平较高^[22]。因此,在队伍建设中发挥更多男护士的作用可能有助于队伍整体素养的提升。护士学历越高,在校时间越久,越有可能接受灾害教育或培训,其批判性思维越高^[23],这可能是高学历护士灾

害素养水平较高的原因。本次调查中本科及以上学历护士占比73.2%,是灾害护理学科建设的重要力量。因此,建议在下一步灾害素养精准干预中关注并引入高学历护士进行教育培训。

3.3 影响中国护士灾害素养的职业特征因素

本次研究结果显示,所在医院等级低、基层医疗卫生机构、妇儿科、低职称者灾害素养得分较低。在我国分级诊疗体系中,基层医院指二级及以下医院,包括卫生院及社区卫生服务中心^[24]。相较于三级医院,基层医院的救灾物资储备、灾害评估体系、灾害护理教育培训及标准化救治经验等相对较少。灾害事件发生时,冲在最前线的往往是军队或地方公立三甲医院的救援队伍。因此,这导致基层医院灾害救援经验不足,护士灾害素养较低。国内学者吴玲玲等^[25]、马衣努尔·托合提等^[26]研究也证实了这一结果。同时,相对于急诊急救、外科及内科,妇产科、儿科及辅助科室护士被选拔为灾害救援护士的可能性较低。而职称越高,护士的临床经验越为丰富,参与救援的可能性更大,其灾害素养更高。因此,建议在下一步精准干预中能够兼顾医院的不同等级、不同规模、不同科室及职称较低的护士,提供基层化培训、灾前强化训练、分散化远程教育培训等。

3.4 影响中国护士灾害素养的灾害救援特征因素

本次研究结果显示,81.4%的中国护士工作期间参加过灾害护理培训,84.1%所在医院参与过灾害救援,85.2%所在医院已经组建灾害救援队,这说明灾害救援逐渐被我国医疗卫生机构关注并重视,护士队伍是灾害救援的重要力量。而48.2%的中国护士尚未参与过灾害救援,39.6%读书期间未接受过灾害护理教育,这一数据提示下一步我国灾害护理学科发展需要努力的方向。

研究结果还显示,本人和所在单位未参与过灾害救援、所在单位未组建灾害救援队、读书或工作期间未接受过灾害护理/培训者灾害素养得分较低。灾害救治需要训练有素的护士,但灾害现场与医院环境存在很大差异。尽管近年来护理人员在灾害事件中的重要作用逐渐被关注,但护理人员在日常工作中亲身体验灾害救援的机会并不多。而灾害事件具有突发性、紧急性、复杂性,这致使灾害应急响应存在多样性、紧急性和阶段性,对护理人员的应急保障能力提出更高要求。课题组前期研究已证实,加强灾害教育培训和灾害模拟演练是提升护士灾害素养的首要策略^[15]。但目前众多学者只关注了灾害护理模拟研究而不是实际应用,其长期应用的效果评价甚少^[27]。本课题组前期通过最佳证据总结和救援护士深度访谈发现,情景模拟、实战化/军事化模拟、虚拟现实

模拟三种干预策略能够提升护士灾害素养水平^[15],建议政府部门或医疗机构在下一步的精准干预中灵活应用,并对培训效果进行持续性评估。

此外,自我效能较高的护士比自我效能低的护士灾害素养高,这与之前的研究结果相一致^[28-29]。因此,护士认识到参与灾害应急是其工作的重要组成部分,这一点非常重要。研究证实,由于缺乏知识、经验和技能,护士可能会感知到较高的风险及严重后果,因此不会自愿参与灾害一线救援^[30]。本研究中55.6%的中国护士自我效能得分低于30分。而既往研究结果也表明,心理急救训练可以提高自我效能和自信心^[31]。因此,作为医疗卫生机构和管理者,针对性地开展灾害响应教育培训,努力提高护士的自我效能感以提高他们应对灾难的意愿很重要。

本研究尚存以下局限性:首先,调查期间正值新型冠状病毒疫情反复,出于安全考虑,仅使用了网络问卷。其次,由于持续的疫情反复,该研究仅实施了便利抽样而不是分层随机抽样,并且尚未在其他文化背景下进行测试,因此可能会限制其研究结果的普遍性。建议未来的研究实施随机抽样,并在不同文化背景下进行验证。

综上,本研究以中国护士灾害素养问卷测量了我国护士人口社会学特征、职业特征、灾害救援特征及自我效能分布,并较为全面地分析了我国护士灾害素养的影响因素,发现中西部地区、女性、大专及以下、读书期间没有接受过灾害护理教育、基层医疗卫生机构、一二级医院、妇儿科及辅助科室、初级职称、个人和所在单位没有灾害救援经验、所在单位没有建立灾害救援队、工作期间没有接受过灾害护理教育培训及自我效能低的临床护士是重点关注人群,应采取相应措施提升该部分护士群体的灾害素养水平。

* * *

作者贡献声明 张娣负责论文构思、数据编审、正式分析、经费获取、调查研究、研究方法、验证、可视化和初稿写作,张利岩负责项目管理、提供资源、监督指导和审读与编辑写作。所有作者已经同意将文章提交给本刊,且对将要发表版本进行最终定稿,并同意对工作的所有方面负责。

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