

# 压力源及压力反应对大学生偏头痛患者 日常生活的影响

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**【摘要】** 背景 压力与偏头痛发作密切相关,但既往研究关于压力源及压力反应对大学生偏头痛人群日常生活的影响不明确。目的 探讨压力源及压力反应对大学生偏头痛人群日常生活的影响,以期改善大学生偏头痛人群的日常生活提供参考。方法 于2018年8月—2019年8月,采用随机抽样,选取符合《国际头痛疾病分类(第3版)》(ICHD-3)偏头痛诊断标准的458名川北医学院在校大学生为研究对象,采用自编问卷收集大学生一般资料和头痛特征,采用头痛影响测试量表(HIT-6)评定偏头痛对大学生日常生活的影响。采用学生生活应激问卷(SLSI)评定压力源及压力反应,采用汉密尔顿焦虑量表(HAMA)和汉密尔顿抑郁量表24项版(HAMD-24)评定大学生的焦虑症状和抑郁症状。采用Pearson相关分析考查HIT-6评分与各量表评分之间的相关性,采用多元线性回归分析大学生偏头痛人群日常生活的影响因素。结果 SLSI中的挫折( $r=0.138, P<0.01$ )、冲突( $r=0.168, P<0.01$ )、压力( $r=0.157, P<0.01$ )、变化( $r=0.148, P<0.01$ )、自我强加( $r=0.158, P<0.01$ )五个维度的压力源以及生理反应( $r=0.256, P<0.01$ )、情绪反应( $r=0.241, P<0.01$ )、行为反应( $r=0.164, P<0.01$ )、HAMA总评分( $r=0.192, P<0.01$ )、HAMD-24总评分( $r=0.250, P<0.01$ )、SLSI总评分( $r=0.250, P<0.01$ )与HIT-6评分均呈正相关,认知反应( $r=-0.104, P<0.05$ )与HIT-6评分呈负相关。多元线性回归分析结果显示,生理反应( $\beta=0.140, P<0.05$ )、焦虑( $\beta=0.159, P<0.05$ )、认知反应( $\beta=-0.091, P<0.05$ )可预测大学生偏头痛人群日常生活受影响的程度。结论 生理反应、认知反应、焦虑可能是大学生偏头痛人群日常生活的影响因素。

**【关键词】** 偏头痛;头痛影响测试量表;压力;日常生活

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## Impact of stressors and stress responses on the daily life of college students with migraine

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**【Abstract】** **Background** Stress is closely related to migraine attacks, however, previous studies on stressors, stress responses and their impact on the daily life of college students with migraine remain unclear. **Objective** To explore the impact of stressors and stress responses on the daily life of college students with migraine, in order to provide references for improving daily life of this population. **Methods** From August 2018 to August 2019, 458 students from North Sichuan Medical College who met the International Classification of Headache Diseases third edition (ICHD-3), were selected using random sampling method. General data and headache characteristics were collected. The 6-item Headache Impact Test Questionnaire (HIT-6) was used to assess the impact of migraine on daily life. Student-Life Stress Inventory (SLSI) was used to assess the stressors and stress responses. Hamilton Anxiety Scale (HAMA) and Hamilton Depression Scale-24 item (HAMD-24) were used to assess anxiety and depressive symptoms. Pearson correlation analysis were used to examine the relationship between HIT-6 score and scores on various scales. Multiple linear regression was used to analyze the influencing factors on daily life in college students with migraine. **Results** In the SLSI, stressors in the dimensions of frustration ( $r=0.138, P<0.01$ ), conflict ( $r=0.168, P<0.01$ ), pressure ( $r=0.157, P<$

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0.01), change ( $r=0.148, P<0.01$ ), self-imposed ( $r=0.158, P<0.01$ ), as well as physiological response ( $r=0.256, P<0.01$ ), emotional response ( $r=0.241, P<0.01$ ), behavioral response ( $r=0.164, P<0.01$ ), HAMA total score ( $r=0.192, P<0.01$ ), dHAMD-24 total score ( $r=0.250, P<0.01$ ), and SLSI total score ( $r=0.250, P<0.01$ ), were positively correlated with HIT-6 score. Cognitive response ( $r=-0.104, P<0.05$ ) was negatively correlated with HIT-6 score. Stepwise multiple linear regression revealed that physiological response ( $\beta=0.140, P<0.05$ ), anxiety ( $\beta=0.159, P<0.05$ ), and cognitive response ( $\beta=-0.091, P<0.05$ ) could predict the impact on daily life of college students with migraine. **Conclusion** Physiological response, cognitive response and anxiety may be the independent influencing factors on the daily life of college students with migraine. [Funded by Nanchong City University Science and Technology Strategic Cooperation Project (number, NSMC20170420)]

**【Keywords】** Migraine; HIT-6; Stress; Daily life

偏头痛是神经系统常见的原发性头痛之一,好发于青少年人群,其特点为双侧或单侧搏动样头痛,持续时间约4~72小时,可伴有恶心、呕吐、畏声和畏光等<sup>[1]</sup>。2016年,全球约有10亿人患有偏头痛<sup>[2]</sup>,2018年美国人群偏头痛的患病率为15.9%<sup>[3]</sup>,2016年我国人群偏头痛的患病率约为14.3%<sup>[4]</sup>。

压力是机体对身体或心理刺激所产生的感知需求的适应性反应<sup>[5]</sup>。压力源是引起机体反应的刺激因素<sup>[6]</sup>,通常分为挫折、冲突、压力、变化和自我强加五个维度<sup>[7]</sup>。压力反应是机体应对压力所产生的生理和心理反应,包括生理、情绪、行为、认知反应<sup>[7]</sup>。既往研究结果显示,压力是诱发偏头痛发作的重要因素<sup>[8-9]</sup>,而压力调节是改善慢性偏头痛的重要变量<sup>[10]</sup>。

受学业压力、人际关系以及不成熟的应对方式等的影响,大学生是偏头痛的高发群体。Yang等<sup>[11]</sup>研究显示,中国西部某医学院的大学生偏头痛患病率为6.67%;Wang等<sup>[12]</sup>研究结果显示,中国大学生偏头痛患病率为16.1%。多项研究指出,压力是大学生偏头痛发作排名靠前的诱发因素<sup>[13-14]</sup>。偏头痛会对患者工作、生活及学业等造成负面影响<sup>[15-16]</sup>,导致患者日常生活水平下降。然而,目前尚不清楚压力对大学生偏头痛人群日常生活的影响。因此,本文旨在探讨压力源和压力反应对大学生偏头痛患者日常生活的影响,以期改善大学生偏头痛人群的日常生活提供参考。

## 1 对象与方法

### 1.1 对象

于2018年8月—2019年8月,采用随机抽样方法选取四川省川北医学院1~4年级的大学生为研究对象。纳入标准:由2名神经内科医生诊断、符合《国际头痛分类(第3版)》(International Classification of Headache Disorders, third edition, ICHD-3)<sup>[17]</sup>偏头痛诊断标准。排除标准:①合并内分泌系统、免疫

系统、神经系统和其他严重躯体疾病者;②精神疾病史阳性者;③患有其他慢性病者;④拒绝完成量表者。符合纳入标准且不符合排除标准共458人。所有参与调查的大学生均知情同意,并签署知情同意书。本研究经川北医学院附属医院伦理委员会批准,审批号:2017ER(R)040。

### 1.2 评定工具

采用自编问卷收集大学生的基本信息,包括年龄、性别和头痛特征。

采用学生生活应激问卷(Student-Life Stress Inventory, SLSI)<sup>[7]</sup>评估压力源及压力反应。SLSI共51个条目,包含五个压力类别(挫折、冲突、压力、变化和自我强加)和四类压力反应(生理反应、情绪反应、行为反应、认知反应),采用1(从无)~5(总是)分5级评分,总评分范围51~255分,总评分越高表明所面临的压力及压力反应越大。本研究中,该量表Cronbach's  $\alpha$ 系数为0.809。

采用头痛影响测试量表(The 6-item Headache Impact Test Questionnaire, HIT-6)<sup>[18]</sup>评定头痛对日常生活的影响程度。该量表共6个条目,各条目计分如下:“从不”计6分,“很少”计8分,“有时”计10分,“经常”计11分,“总是”计13分,总评分为各条目评分之和,总评分范围36~78分,总评分越高表明头痛对日常生活的影响越大。本研究中,该量表Cronbach's  $\alpha$ 系数为0.708。

采用汉密尔顿焦虑量表(Hamilton Anxiety Scale, HAMA)<sup>[19]</sup>评定焦虑症状。HAMA共14个条目,采用0~4分5级评分,总评分为各条目评分之和,总评分范围0~56分,总评分越高表明焦虑程度越严重,总评分>7分表示存在焦虑症状。本研究中,该量表Cronbach's  $\alpha$ 系数为0.824。

采用汉密尔顿抑郁量表24项版(Hamilton Depression Scale-24 item, HAMD-24)<sup>[20]</sup>评定抑郁症状。HAMD-24大部分条目采用0~4分5级评分,少数条目采用0~2分3级评分,总评分为各条目评分

之和,总评分范围0~72分,总评分越高表明抑郁程度越严重,总评分>8分表明存在抑郁症状。本研究中,该量表Cronbach's  $\alpha$ 系数为0.768。

### 1.3 评定方法与质量控制

由2名经过专业培训的调查员进行评定,培训内容包括研究背景、研究设计、量表内容及评定标准。在入组当天完成问卷评定,问卷填写耗时约1h,问卷填写完成后当场回收整理,剔除存在严重逻辑错误以及作答结果与题项内容不一致的答卷。

### 1.4 统计方法

采用SPSS 26.0进行统计分析。符合正态分布的计量资料以( $\bar{x}\pm s$ )表示;计数资料以[n(%)]表示。采用Pearson与Spearman相关分析考查HIT-6评分与各量表评分之间的相关性,采用多元线性回归分析大学生偏头痛人群日常生活的影响因素。检验水准 $\alpha=0.05$ ,双侧检验。

## 2 结 果

### 2.1 一般资料、头痛特征及各量表评分

在458名大学生中,男性93名(20.31%),女性365名(79.69%);年龄( $19.53\pm 1.53$ )岁;一年级大学生251名(54.80%),二年级大学生136名(29.69%),三年级大学生39名(8.52%),四年级大学生32名(6.99%);轻度头痛206名(44.98%),中度头痛230名(50.22%),重度头痛22名(4.80%)。量表评定结果:HAMD-24总评分( $12.94\pm 7.97$ )分、HAMA总评分( $9.76\pm 6.68$ )分、HIT-6总评分( $54.51\pm 8.68$ )分、SLSI总评分( $123.39\pm 22.24$ )分、挫折( $18.42\pm 4.07$ )分、冲突( $7.24\pm 2.57$ )分、压力( $13.16\pm 2.83$ )分、变化( $9.05\pm 2.27$ )分、自我强加( $18.30\pm 3.54$ )分、生理反应( $27.44\pm 7.29$ )分、情绪反应( $10.45\pm 3.42$ )分、行为反应( $13.61\pm 4.47$ )分、认知反应( $5.94\pm 1.90$ )分。

女性大学生偏头痛检出率高于男性( $\chi^2=161.54$ ,  $P<0.01$ ),大学一年级学生偏头痛的检出率高于其他年级的大学生( $\chi^2=274.47$ ,  $P<0.01$ ),差异均有统计学意义。

### 2.2 相关分析

SLSI总评分、挫折、冲突、压力、变化和自我强加五个维度的压力源和生理反应、情绪反应、行为反应以及HAMD-24总评分、HAMA总评分与HIT-6

评分均呈正相关( $r=0.250, 0.138, 0.168, 0.157, 0.148, 0.158, 0.256, 0.241, 0.164, 0.192, 0.250$ ,  $P$ 均 $<0.01$ ),认知反应与HIT-6评分呈负相关( $r=-0.104, P<0.05$ )。见表1。

表1 偏头痛患者HIT-6评分与SLSI、HAMA及HAMD-24评分的相关性

Table 1 Correlation analysis between HIT-6 score and SLSI, HAMA and HAMD-24 scores in migraine sufferers

项 目	$r$	项 目	$r$	项 目	$r$
挫折	0.138 <sup>a</sup>	生理反应	0.256 <sup>a</sup>	HAMD-24总评分	0.192 <sup>a</sup>
冲突	0.168 <sup>a</sup>	情绪反应	0.241 <sup>a</sup>	HAMA总评分	0.250 <sup>a</sup>
压力	0.157 <sup>a</sup>	行为反应	0.164 <sup>a</sup>		
变化	0.148 <sup>a</sup>	认知反应	-0.104 <sup>b</sup>		
自我强加	0.158 <sup>a</sup>	SLSI总评分	0.250 <sup>a</sup>		

注:<sup>a</sup> $P<0.01$ ,<sup>b</sup> $P<0.05$ ;SLSI,学生生活应激问卷;HAMD-24,汉密尔顿抑郁量表24项版;HAMA,汉密尔顿焦虑量表

### 2.3 多元线性回归分析

将与HIT-6总评分具有相关性的压力源、压力反应各维度、SLSI总评分、HAMA总评分以及HAMD-24总评分纳入回归模型,以HIT-6总评分作为因变量,结果显示,生理反应( $\beta=0.140, P=0.023$ )、认知反应( $\beta=-0.091, P=0.046$ )、焦虑( $\beta=0.159, P=0.011$ )均是大学生偏头痛人群日常生活的影响因素。回归方程: $y=48.395+0.207*\text{HAMA总评分}+0.166*\text{生理反应}-0.414*\text{认知反应}$ 。见表2。

表2 偏头痛患者HIT-6相关因素的逐步多元线性回归分析

Table 2 Step-wise multiple linear regression of factors associated with HIT-6 in migraine sufferers

变 量	$B$	$SE$	$\beta$	$t$	$P$
生理反应	0.166	0.073	0.140	2.275	0.023
认知反应	-0.414	0.207	-0.091	-1.999	0.046
HAMA总评分	0.207	0.081	0.159	2.562	0.011

注:HAMA,汉密尔顿焦虑量表

## 3 讨 论

本研究结果显示,SLSI压力反应中的生理反应与大学生偏头痛人群日常生活影响呈正相关,这与Meşe等<sup>[21]</sup>的研究结果一致。恶心、呕吐、疲劳、恐惧感和重复性哈欠等症状是偏头痛患者常见的生理反应。生理反应是压力与偏头痛生物层面的联系<sup>[22]</sup>。既往研究结果显示,生理反应与偏头痛发作的部分症状类似<sup>[23]</sup>。生理反应与交感神经-肾上腺-髓质轴、下丘脑-垂体-肾上腺轴和免疫系统激活有关<sup>[24]</sup>。压力源诱发的生理反应导致去甲肾上腺素、肾上腺素、促肾上腺皮质激素释放激素、促肾上腺皮质激素、皮质醇释放到循环中,引起效应器

官系统的变化,出现心率和呼吸加快、血压升高等,偏头痛患者还可能出现复发性胃肠功能紊乱、良性阵发性眩晕等<sup>[17]</sup>。应对以上生理反应可能导致偏头痛患者学习和工作效率下降,进而影响社交活动<sup>[25]</sup>。压力源引起的生理反应也可能对患者情绪和睡眠造成负面影响,同时也会增加医疗支出,加重经济负担<sup>[26]</sup>。基于以上研究背景并结合本研究结果可知,压力源引发的生理反应是导致大学生偏头痛人群日常生活受影响的主要因素之一,进一步推测压力源引发的生理反应可能是偏头痛发作的机制之一。

本研究结果还显示,压力反应中的认知反应维度是大学生偏头痛人群日常生活的影响因素,与既往研究结果类似<sup>[27]</sup>。认知反应也称认知评估,包括思考并分析压力大小和策略的有效性<sup>[7]</sup>。有研究表明,不正确的压力应对策略可能导致偏头痛患者日常生活水平下降<sup>[28]</sup>。Ng等<sup>[29]</sup>研究表明,认知行为疗法有助于改善儿童偏头痛患者的日常生活。偏头痛患者应对压力的方式与日常生活密切相关<sup>[30]</sup>,积极的认知反应可能有助于改善不良心理状态<sup>[31]</sup>。既往研究结果显示,认知行为治疗有助于减少偏头痛患者头痛发作频率、头痛强度和持续时间<sup>[32-33]</sup>。结合上述研究背景及本研究结果可知,改善压力反应中的认知反应可能是提高大学生偏头痛人群日常生活水平的切入点。

本研究结果显示,焦虑与偏头痛患者日常生活受影响的程度相关,与既往研究结果一致<sup>[28]</sup>。焦虑常与偏头痛共病,并增加偏头痛患者的压力水平<sup>[34]</sup>。因此,改善大学生偏头痛人群的焦虑情绪是改善其日常生活的措施之一。

综上所述,生理反应、认知反应和焦虑是大学生偏头痛人群日常生活的影响因素。本研究局限性:横断面研究,难以推论因果关系;仅纳入一所大学的学生为研究对象,结论的外部效度受限。未来可开展大样本、多中心的追踪研究,进一步探索大学生偏头痛人群日常生活的影响因素。

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