Development and initial validation of an expanded and revised version of the Short-form McGill Pain Questionnaire (SF-MPQ-2)

SICU 罗慧2014-5-27

three commonly used pain rating scales

Visual analogue scale

No pain   Worst pain imaginable

|————————————————————————————|

Numerical rating scale

No pain   Worst imaginable pain

0	1	2	3	4	5	6	7	8	9	10

Verbal ratingscale

0	No pain
1	Mild pain
2	Moderate pain
3	Severe pain

Short-Form McGill Pain Questionnaire-2 (SF-MPQ-2)

This questionnaire provides you with a list of words that describe some of the different qualities of pain and related symptoms. Please put an **X** through the numbers that best describe the intensity of each of the pain and related symptoms you felt during the past week. Use 0 if the word does not describe your pain or related symptoms.

1. Throbbing pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
2. Shooting pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
3. Stabbing pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
4. Sharp pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
5. Cramping pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
6. Gnawing pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
7. Hot-burning pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
8. Aching pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
9. Heavy pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
10. Tender	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
11. Splitting pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
12. Tiring-exhausting	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
13. Sickening	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
14. Fearful	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
15. Punishing-cruel	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
16. Electric-shock pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
17. Cold-freezing pain	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
18. Piercing	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
19. Pain caused by light touch	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
20. Itching	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
21. Tingling or 'pins and needles'	none	0	1	2	3	4	5	6	7	8	9	10	worst possible
22. Numbness	none	0	1	2	3	4	5	6	7	8	9	10	worst possible

Aims and objectives

* The objective of the present research was to develop a single measure of the major symptoms of both neuropathic and non-neuropathic pain that can be used in studies of epidemiology,natural history,pathophysiologic mechanisms,and treatment response 。

* 本研究的目的是开发一个可用于研究神经性和非神经性疼痛主要症状的流行病学，自然历史，病理机制和治疗反应的测量工具。

Method

* We expanded and revised the Short-form McGill Pain Questionnaire (SF-MPQ)pain descriptors by adding symptoms relevant to neuropathic pain and by modifying the response format to a 0–10 numerical rating scale to provide increased responsiveness in longitudinal studies and clinical trials. The reliability, validity, and subscale structure of the revised SF-MPQ (SF-MPQ-2) were examined in responses from 882individuals with diverse chronic pain syndromes and in226 patients with painful diabetic peripheral neuropathy who participated in a randomized   clinical trial.

* 我们通过添加神经性疼痛相关的症状和修改0~10数字评价量表的回应模式来扩充和修订SF-MPQ，从而达到提升纵向研究和临床实验响应力的目的。SF-MPQ-2的信度，效度，分量表结构通过一个由882位不同症状的慢性疼痛患者和226位糖尿病性周围神经病变患者参加的随机临床实验得到检验。

Conclusions

* The data suggest that the SF-MPQ-2 has excellent reliability and validity and the results of both exploratory and confirmatory factor analyses provided support for four readily interpretable subscales—continuous pain,intermittent pain,predominantly neuropathic pain,and affective descriptors.These results provide a basis for use of the SF-MPQ-2in future clinical research including clinical trials of treatments for neuropathic and non-neuropathic pain conditions.

* 。数据表明SF-MPQ-2具有良好的信度和效度，具有探索性和验证性的因素分析结果兼容4个可解释的分量表：持续性疼痛，间歇性疼痛，主要的神经性疼痛，情感描述。这些结果为以后使用SF-MPQ-2做临床研究提供依据：包括治疗神经性和非神经性疼痛的临床实验。

Introductions-1

* The McGill Pain Questionaire (MPQ) and the Short-form McGill Pain Questionaire (SF-MPQ) merits:

* MPQ's & SF-MPQ's disadvantages:

Introductions-2

* The McGill Pain Questionnaire(MPQ)has been the preeminent measure of the sensory affective and evaluative qualities of pain since its publication over 30 years ago 。The MPQ has been used in the assessment of multiple types of acute and chronic pain and its reliability and validity have been extensively documented.

* 麦基尔疼痛问卷自出版30多年以来一直是疼痛感知和品质评价最卓越的评价工具。它被用于各种类型的急性和慢性疼痛的评估，其信度和效度被广为记载

Introductions-3

* The SF-MPQ includes visual analogue and verbal rating scales of pain intensity as wellas15 pain descriptors that are each rated on a four-point verbal scale ;its reliability and validity are well established..

* SF-MPQ，它包括疼痛强度的视觉模拟评估量表和语言评估量表，还包括15项描述语，这些描述语平均的分布在一个4-point的语言评估量表上，他的信度和效度一直口碑良好。

Introductions-4

* Since the MPQ and SF-MPQ were developed, t here has been increasing interest in a mechanism-based approach to the assessment and treatment of neuropathic pain.The assessment of the characteristics of neuropathic pain plays a critical role in research on its mechanisms and treatment. Over the past decade, nine measures have been developed to assess characteristic symptoms of neuropathic pain in studies of its mechanisms and treatment response[9,20]and to assist in distinguishing individuals with neuropathic pain from those with non-neuropathic pain

* 自从MPQ,SF-MPQ被开发出来，从发病机制出发去评估和治疗神经性疼痛的研究开始被很多人采用。对神经性疼痛特征的评估在研究其发病机制和治疗上起着至关重要的作用，过去的10年，在发病机制和治疗效果的研究中，9项评估量表被开发出来评估评估神经性疼痛的典型症状；这些评估工具被用来鉴别个体的神经性疼痛和非神经性疼痛。

Introductions-5

* the MPQ and SF-MPQ were developed for the assessment of all types of pain,but were not explicitly designed to assess the characteristics of neuropathic pain 。 Several symptoms that are thought to reflect mechanisms of neuropathic pain or that are especially common in individuals with neuropathic pain are not included in the SF-MPQ, which thus may not adequately characterize neuropathic pain. Moreover, the SF-MPQ uses a four-point rating scale, which may limit its responsiveness in detect ing small but meaningful changes in specific descriptors overtime and following treatment.

* MPQ,SF-MPQ是为评估各种类型的疼痛而设计的，但却没有明确用于神经性疼痛评估.一些被认为是反应神经性疼痛机制的症状或者神经性疼痛非常常见的症状都没有包括在SF-MPQ中，因此无法恰当的描述神经性疼痛。此外，SF-MPQ使用4-point评定量表，这可能会使一直以来的特别描述语和相应治疗上的微小但有意义的变化被监测不到。

2 Methods

* 2.1 overview: Institutional Review Board approval was obtained prior to initiating each of these studies ,and all participants gave informed consent before beginning any study procedures .

* 开始这些研究前，我们得到了机构审查委员会的批准，同时所有的参与者也知情同意.

Methods-2

* 2.2 participants
* 2.2.1 focus group: focus group participants were recruited from four clinics and had to be at least 21 years of age,have a history of chronic pain for at least 6 months,and be able to speak and understand English. A total of 31 individuals participated in the focus groups, and they reported having chronic pain for an average of 8 years.
* 重点参与人群是从4个医疗机构中招募的，参与者要求至少21岁，至少6个月的慢性疼痛病史，能说能懂英语。重点参与人群总共31人，他们声称有平均8年的慢性疼痛病史.

Method-3

* 2.2.2web survey: Individuals with chronic pain were invited to complete a survey posted on the American Chronic Pain Association(ACPA) website ,and respondents were asked to complete an initial eligibility screening that required participants to be 21 years of age or older and to have at least one chronic pain condition for at least 3 months.

* 慢性疼痛的人被邀请来完成一个发布在美国慢性疼痛协会网站上的调查，受访者被要求完成一个初始资格的筛选，要求参与者21岁以上，并至少有一个慢性疼痛的情况至少3个月。

Methods-4

* 2.2.3 diabetic peripheral neuropathy(DPN) clinical trial: Patients were recruited for a 4-week, double-blind, placebo-controlled Phase II RCT of a topical combination of amitriptyline and ketaminei n painful DPN by clinical research centers in India.The major inclusion criteria were18 years of age or older;bilateral pain in the lower extremities persisting for at least6 months asso-ciated with a diagnosis of Type 1 or Type 2 diabetes mellitus and distal symmetric sensorimotor polyneuropathy diagnosed by a physician who was trained and experienced in endocrinology, neurology,or pain management, not agreeing to maintain systemic pain treatments a t stable dos-ages during the study; and other pain more severe than lower extremity pain. No rescue medication was allowed for pain other than approved dosages of aspirin,acetaminophen,ornon-steroidalanti-inflammatory medications.

* 在印度的临床研究中心，招募了一批患者进行一个为期4周的双盲随机临床实验：在糖尿病周围神经病变，局部使用阿米替林和氯胺酮。主要的入选标准是18岁及以上，双下肢持续疼痛至少6个月，诊断为1型或2型糖尿病，远端对称性运动多神经病，医生被要求在内分泌学和神经病学或者疼痛管理接受过培训.不允许使用救援药物治疗疼痛，除了批准剂量的阿司匹林，对乙酰氨基酚或非甾体抗炎药物.

Methods-5

* 2.3 measures
* 2.3.1preliminary version of SF-MPQ-2 used in the web survey consisted of 24 items : ,the original15items retained form the SF-MPQ. On the basis of the results of research on neuropathic pain and the authors' clinical experience,7 items were added. Two additional items were added on the basis of the focus group discussions . . To provide increased responsiveness in longitudinal studies and clinical trials,a 0–10 NRS(0 = none;10 = worst possible) was used.
* 在线调查使用的是SF-MPQ-2的初版，由24项内容构成.15项内容原文引用自SF-MPQ。在神经性疼痛和作者的临床经验的基础上，SF-MPQ添加了7项内容，再添加了2项由小组讨论出来的内容，为了增加纵向研究和临床实验的影响力，0~10数字评估量表也被采用了。

Methods-6

* 2.3.2other measures included in the web survey:

* [The Brief Pain Inventory](BPI) rating :to assess pain intensity

* [Multidimensional Pain Inventory](MPI)interference scales:to assess the impact of pain on physical and emotional functioning.

* Physical Component Summary(PCS)and Mental Component Summary (MCS)scores were calculated 。

Method-7

* Responses to the 24 candidate items administered in the web survey were first examined in item analyses conducted to evaluate distributional characteristics and item–item correlations to assess redundancies in item content 。对在线调查的24个候选项目的回应进行分析来评估分布特点评估项目的相关性冗余项内容。

* . Next, t -tests, analyses of covariance controlling for age,sex,race/ethnicity,and BPI average pain intensity were used to compare participants with and without neuropathic pain. ， t-test,v2-分析，协方差分析年龄，性别，种族/民族，BPI平均疼痛强度被用来比较有神经性疼痛及没有神经性疼痛的参与者。

* exploratoryfactoranalyses(EFAs) withtwo-andthree-factorsolu-tions with varimax and promax rotations were conducted on the item responses ofall web survey participants and the subgroups with and without neuropathic pain.

* 探索性因素分析 2~3因素解决方案，方差最大化正交旋转。

Results-1

* A totalof882 participants completed the preliminary version of the SF-MPQ-2 that was included in the web ， They had experienced chronic pain for an average ofover8 years,and a majority reported three pain conditions,the maximum permitted for survey eligibility.共882名参与者完成了初步版本的SF-MPQ-2，包括在线调查结果。他们都经历过平均超过8年的慢性疼痛，多数回应3个痛苦的情况，调查资格的上限。Participants with neuropathic pain were significantly older and had significantly greater BPI average pain intensity in the past week than those with non-neuropathic pain,but the groups did not differ significantly in race/ethnicity,number of painful conditions reported,or duration of chronic pain.There was a significant sex difference, with male participants being equally likely to have neuropathic or non-neuropathic pain but female participants being more likely to have non-neuropathic pain than neuropathic pain

* 比起那些非神经性疼痛，神经性疼痛的参与者年龄明显偏大，和在过去的一周，有更高的BPI平均疼痛强度。但参与者在种族/民族，疼痛的数字，或慢性疼痛的持续时间没有明显差别。性别差异更显著：男性参与者在神经性和非神经性疼痛的比例差不多，女性参与则的非神经性疼痛比神经性疼痛多。

Results-2

* A totalof226 patients with painful DPN were enrolled in the RCT. On average,these individuals were 55.6 years of age; 46.0% were female and almost all had Type 2 diabetes(97.3%). The patients had diabetes for a mean of 8.8 years, DPN for a mean of 2.4 years, and their mean HbA1c was 8.1%。

* 总共有226名糖尿病周围神经病变病人参与到随机对照实验中。平均年龄为55.6岁i，46%为女性，几乎所有都被诊断为2型糖尿病。2型糖尿病的平均患病年限为8.8年，糖尿病性周围神经疼痛平均年限为2.4年，他们的平均HbA1C（糖化血红蛋白）为8.1%。

Results-3

* 3.1 item selection： .Significant differences in mean scores were observed for each of the nine new items in the preliminary version of the SF-MPQ-2 except' 'dull pain" and ''squeezing-pressure" as well as for six of the original15 SF-MPQ items初版新加入的9项平均得分和原版SF-MPQ的15项有显著的差异除了"钝痛"，和"挤压痛。" .

* On the basis of psychometric and conceptual considerations, —''dull pain" and''squeezing-pressure"—that did not differ significantly between individuals with neuropathic and non-neu-ropathic pain and that both loaded moderately on the second fac-tor were excluded from the final version of the SF-MPQ-2, which consists of22items在心理和感念考虑的基础上，"钝痛"和"挤压痛"—在神经性疼痛和非神经性疼痛的个体中没有显著的差异，都加载第二因素因而被排除在由22项内容组成的最终版本的SF-MPQ-2外。

* 3.2SF-MPQ-2 subscales: Onthe basis of the results of these （exploratory factor analyses） EFAs and of prior research on human experimental pain and on characteristic symptoms and signs in patients with neuropathic and non-neuropathic pain,four SF-MPQ-2 subscales were established. Three of these subscales consist of sensory descriptors and one consists of the original four SF-MPQ affective descriptors, as follows: (1) continuous pain descriptors (6items);

* 2) intermittent pain descriptors (6items)";

* (3) predominantly neuropathic pain descriptors (6items):''

* (4) affective descriptors (4 items)

* EFAS(因子探索研究)结果和之前人类实验疼痛的研究，神经性疼痛和非神经性疼痛的典型症状的基础上，产生了4个SF-MPQ-2子量表。三个子量表有感官描述符组成，一个由SF-MPQ的情感描述符组成，如下所示：（1）持续疼痛描述（6项）：搏动痛，绞痛，腰痛，疼痛，沉重的疼痛和轻微的疼痛；（2）间歇性疼痛描述符（6项）：刺痛，刺痛，锐痛，分裂的痛苦，电击同和穿透痛；（3）主要是神经性疼痛描述符（6项）：烧灼痛，冷痛，由轻触引起的疼痛，刺痛或发麻和麻木；（4）情感描述符（4项）：劳累，令人作呕，恐惧，惩罚。

Results-5

* 3.2.1reliability and validity .For each o fthese scales,scores were calculated by taking the mean of the item ratings included in the scale.Few participants had scores at the ceiling or floor for either the total or subscale scores. Internal consistency reliability for the total score was high and ranged from acceptable to high for the four subscale scores in the web survey data and in the data from the RCT.这几个量表，评分都由量表中的各项得分取平均分计算而来，对于总和及分量表得分，计划没有参与者的分数很低或者很高。总分的内部一致性信度比较高，范围从可接受到高-网络调查数据和RCT中的数据。

Discussions-1

* We have presented the development of an expanded and revised version of the SF-MPQ and the results of analyses of its reliability and construct validity 。 our objective was to revise the SF-MPQ so that it would provide a comprehensive assessment and characterization of the symptoms of both neuropathic and non-neuropathic pain.我们已经提出了扩大的发展和修正版本的SF-MPQ和结果分析的可靠性及结构效度，我们的目的是修正SF-MPQ-2，这样他可以提供能被理解的评估和神经性疼痛及非神经性疼痛的典型症状。

Discussions-2

* Although the initial development of the SF-MPQ-2 was based on focus groups and a web survey that included 882 people with a variety of chronic neuropathic and non-neuropathic pain conditions,these data have a number of limitations 。 The focus group participants were seeking treatment at specialized pain facilities and may not be representative of those who are not being treated or who receive treatment outside such settings

* 尽管SF-MPQ-2基于最初发展的焦点小组和一个包括882个经历各种慢性神经性疼痛和非神经性疼痛情况，这些数据有许多局限性。焦点小组参与者寻求专业治疗疼痛的设施，不得代表那些不接受治疗或在这样的专业的机构接受治疗的人群。

Discussions-3

* our survey was conducted on the ACPA website and the sample included individuals with chronic pain who were generally younger,Caucasian,and well-educated.The results may therefore not be representative of those who lack familiarity with the ACPA or who choose not to complete a web survey.Because of the characteristics of the survey sample we examined,the results may also not be representative of minority groups,the elderly,individuals with more than three chronic pain conditions,and those lacking access to the Internet or who do not use it.我们的调查是在ACPA网站上警醒，样本中的参与者年轻人，高加索人，受过良好的教育都有过慢性疼痛的经历。这些数据可能不能代表那些对ACPA陌生的人或者那些选择不完成该项调查的人。

* Financial disclosure

* Acknowledgements

* Appendix A.Supplementary data

* References

* The end.