ORIGINAL RESEARCH

The Pain Descriptors Used by Individuals with Musculoskeletal Pain from Northern India

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Background: Chronic pain is a common health problem worldwide that results in significant costs to society and has negative impacts on the individuals with chronic pain. In order to study and treat pain, valid and reliable pain assessment is necessary, including assessment of pain quality. However, all of the most commonly used measures of pain quality were developed in Western countries. Evidence has shown that some of these measures are not content valid for use in non-Western countries. Moreover, it remains unclear which pain descriptors are universal across people from different countries who speak different languages, and which are specific to individuals from a particular country or even from a particular region within one country.

Aim: The current study sought to: (1) identify the number and frequency of words used by native speakers of Hindi in northern India to describe their pain; (2) compare the rates of descriptor use in these individuals with samples of individuals from Nepal and the USA; and (3) investigate the content validity of the most commonly used pain quality measures for measuring pain in this Hindi-speaking population.

Methods: Two hundred and forty individuals with chronic musculoskeletal pain who speak and understand Hindi were asked to describe their pain.

Results: The results showed overlap as well as differences in the words used to describe pain with samples of individuals with pain from other countries. Moreover, *none* of the pain quality measures examined were found to be content valid in the Hindi-speaking sample, suggesting that these measures need to be adapted to assess pain quality in this population.

Conclusion: The study findings confirm the conclusion that pain quality measures developed in one country or in one pain population are not necessarily valid for assessing pain quality in a population from another country. The findings also suggest the possibility that a measure could be developed which would allow for more valid assessment of pain quality in individuals with pain from different countries.

Keywords: pain quality, descriptors, content validity, chronic pain, musculoskeletal pain, meaning, language

Introduction

Chronic pain is a common health problem worldwide that results in significant costs to society and has negative impacts on individuals with chronic pain and their families. For example, in the UK, 13% to 50% adults have been reported to have chronic pain, depending on how it is defined.[1] In India, the prevalence of chronic pain has been estimated to be 19% in the adult population.[2] Moreover, as a developing country, India has limited resources and many people with chronic pain in India pain rely on government-run clinics for treatment. As a result, the negative impact of chronic pain on the economy in India may be even greater than that of other countries with more resources.

Pain is a private experience that is not directly measurable by a laboratory test. Because pain is neither completely reducible to, nor separable from, its behavioral expressions,[3,4] knowing whether or not another person is experiencing pain and it quality requires valid and reliable self-report measures. This includes measures of pain quality. Among the most commonly used measures of pain quality are the two revised short forms of the McGill Pain Questionnaire (SF-MPQ, SF-MPQ-2),[5,6] the original and revised Pain Quality Assessment Scale (PQAS, PQAS-R),[7] the Neuropathic Pain Symptom Inventory (NPSI),[8]

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and the Neuropathic Pain Scale (NPS).[9] Although each of these measures assesses a variety of pain quality domains, the currently available evidence – conducted in samples of individuals with fibromyalgia, low back pain, and headache – provides the most support for the content validity for the PQAS-R.[7]

Given that pain does not have the same meaning for all people,[10] and is shaped by an individual's learning, history, and culture,[11] measures of pain quality developed in Western countries may not be valid or appropriate for use in non-Western countries. Consistent with this idea, prior research indicates that people from non-Western countries describe pain differently than people from Western countries. For example, in Nepal, people use a number of pain descriptors and sensory metaphors that are not used by people who are native speakers of English.[12] In order to be able to assess pain and understand it from an international perspective, it is therefore important to first understand how people from different countries experience and describe their pain in their own language. An understanding of both the similarities and the differences in how people who are raised and encultured in different countries describe their pain could be used to adapt or expand measures of pain quality, allowing for a more valid assessment of pain world-wide. This is especially important for research comparing individuals from different countries and cultures.[13]

Given these considerations, the primary aims of the current study were to (1) identify the number and frequency of words used by individuals who speak Hindi in northern India to describe their pain; (2) compare the rates of descriptor word use with samples of individuals with chronic pain from Nepal and the USA; and (3) evaluate the content validity of the most commonly used pain quality measures for assessing pain in the study sample. We hypothesized that many – but not all – of the words that reflect different pain quality domains mentioned by the study sample would overlap with those used by individuals who were raised and enculturated in Nepal and in the USA. Because of some similarities in language and culture between people who live in Nepal and those who live in northern India, we also hypothesized that there would be a greater overlap in the pain quality descriptors used by individuals born and raised in northern India and Nepal than between individuals born and raised in northern India and the USA. We also hypothesized that the pain quality measures developed in Western countries would include items that assess many – but not all – of the pain quality domains reflected by the descriptors used by the participants in the study sample.

Material and Methods

Participants

A convenience sample of 240 individuals with chronic musculoskeletal pain were recruited from the orthopedic outpatient department of the Pandit Bhagwat Dayal Sharma University of Health, Rohtak, India. All participants spoke Hindi. To be eligible, potential participants needed to: (1) be ≥30 years old (a 30-year age cutoff was chosen because younger individuals seen in the clinical are more likely to present with the types of acute pain problems that would exclude them from participation), (2) have chronic pain (report that they experienced bothersome pain on ≥50% of the days in the past 3 months with moderate or severe pain [ie, an average pain intensity in the past 7 days of at least 4 on the 0–10 Numerical Pain Rating Scale[14]]); and (3) had a musculoskeletal pain problem (as diagnosed by an orthopedic surgeon). The study excluded individuals who: (1) were not fluent in Hindi; or (2) reported that they had any acute causes of pain (eg, acute infection, wound) or reported an acute pain problem from a recent (ie, past 30 days) injury or surgery. The second exclusion criteria held even if a potential participant also had a musculoskeletal pain problem as the primary presenting complaint.

Procedures

Potential study participants were approached by one of the study investigators (PS: who was not a member of the treatment team) from September 2021 to September 2022. Of the approximately 1400 patients treated in the orthopedic outpatient clinic during this period, 240 (17%) were found to be eligible and agreed to participate. The study procedures were described to these individuals, and they signed or provided their thumb impression on an informed consent form. They were then interviewed in person for approximately 30 minutes by the study investigator (PS). An interview procedure was chosen over other possible approaches (eg, paper-and-pencil questionnaire) to maximize the chances for complete data. Participants were not reimbursed for participating in this study.

The interviews began by asking participants to provide sociodemographic information, including their age, sex assigned at birth, education level, employment status, and marital status. Next, in order to collect information about the words and phrases

used to describe their pain, the participants were asked to respond to the following two open-ended questions (which were asked in Hindi):

1. "Please describe your pain to me. What specific words would you use to describe how this pain feels?"

2. "Are there any other words that describe your pain?"

The second question was repeated until the participant indicated that they had supplied all of the words or phrases they would use to describe their pain. The study protocol was approved by Institutional Biomedical Research Ethical Committee of Pandit Bhagwat Dayal Sharma University of Health Sciences, in Rohtak, India, and the study procedures complied with the Declaration of Helsinki.

Descriptor Coding

The responses to the open-ended questions were recorded verbatim by the study investigator who conducted the interviews. The pain descriptors as stated by each participant (which could include individual words [eg, "hot"] or phrases [eg, "like ants crawling on my skin"]) were then transferred to an Excel spreadsheet. These descriptors were translated into English, and then coded and classified into different domains and subdomains using the same procedures described in prior studies.[7,12] Specifically, a descriptor was first classified with respect to its global domain (eg Sensory descriptor, affect descriptor) and then with respect to its subdomain (ie, more specific quality, such as throbbing or radiating in the sensory global domain, or lassitude or unbearable in the affect global domain). Potential global domains and subdomains initially considered were those identified from prior research,[7,12] and included the following: (1) sensory quality (often, a single word or very few words), (2) sensory metaphor (often, a phrase that included the words "feels like"), (3) sensory state (words or phrases that cannot be easily translated into English but represent sensory states in Hindi), (4) spatial domain (eg, location), (5) pain correlates (eg, statement about the cause or correlates of the pain), (6) pain interference (eg, effects of the pain), (7) affect (words or phrases reflecting emotional responses), and (8) pain magnitude (eg, pain intensity or severity). We planned to classify any descriptor that did not fall into one of these categories as falling into an "other" global domain. These "other" descriptors were to be examined to determine if a new global pain domain would be useful for classifying the responses made by the participants in this study.

After the initial descriptor coding was completed by the first study investigator, a second investigator reviewed these classifications to determine agreement. Any differences in classification were discussed until the two investigators came to consensus regarding how each descriptor should be classified. After this, the third investigator (MPJ) reviewed the results. Again, any differences of opinion regarding the coding was discussed among all three investigators until consensus was reached.

Data Analysis

We first computed descriptive statistics for the sociodemographic and pain history variables to describe the sample. To address the first study hypothesis – that is that many but not all of the words that reflect different pain quality domains would overlap with those used by individuals living in a Western country a – we identified the percent of descriptors used by ≥3% of both the study sample and samples from the USA[7,15] and determined the number of these descriptors that were used by the study sample. A 3% cutoff was selected based on the rates of different descriptors used by the study sample, balancing the need to consider descriptors used by an important subgroup of individuals against the need to avoid being overly inclusive. We then identified the number of descriptors used by ≥3% of the study sample that were not mentioned by ≥3% of individuals with chronic pain from the USA or Nepal.

To address the second study hypothesis – that is that there would be a greater overlap in pain quality descriptors used by individuals from northern India and Nepal than there would be between individuals from northern India and the USA – we identified the descriptors used by ≥3% of a sample of individuals with from Nepal[11] that were also used by individuals from the study sample, and compared this to the list of descriptors used by both the study sample and samples from the USA. We anticipated a greater number of overlapping items between the current and Nepalese sample than between the current and USA samples.

To evaluate the content validity of commonly used pain quality measures for assessing pain quality in individuals from northern India, we determined which of the descriptor domains used by ≥3% of the study sample were assessed by the SF-MPQ, SF-MPQ-2, PQAS, PQAS-R, NPSI, and NPQ. We anticipated that a measure that was content valid for assessing pain quality in the study sample would assess all of the most common descriptor domains.

Results

Descriptive information for the study sample is presented in Table 1. Of the 240 respondents enrolled in study, 180 (75%) self-identified as women and 60 (25%) self-identified as men. The mean age of the study sample was 46.72 years (SD, 11.16 years). Almost all of the participants (99%) were married. More than one-fourth of the sample had no years of formal education, and nearly one-fourth had at a minimum graduated from high school (ie, 12 years of education). See Table 1 for more details about the study sample.

Frequency of Pain Quality Descriptors in the Study Sample

See Table 2 for a list of the pain descriptors used by the study participants, along with their frequency and percent. As can be seen, 45 different descriptors were mentioned, and 21 of these were mentioned by 3% or more of the study sample. All of these descriptors could be classified into one of the eight the global domains identified in other studies[7,12,15] using the same classification strategy used here (ie, sensory quality, sensory metaphor, sensory state, spatial domain, pain correlate, pain interference, affect, or magnitude).

The vast majority of the descriptors mentioned by the study participants were classified as falling into the sensory domain; 237 (99%) of the participants provided at least one sensory word or phrase to describe their pain. The single subdomain used most often by the sample was "throbbing" (35%) followed by "pulling" (19%).

Sensory metaphors were the descriptors that start with sentence "my pain is like". In the study sample, 18% of the sample used a sensory metaphor to describe their pain, and "like something burning" was the most common, mentioned by 4% of the sample. The sensory state primary domain was created to make it possible to categorize words or phrases used by Nepalese individuals that could not easily be translated to other languages.[12] In the study sample, 10% of the participants described their pain as having a "grating sound" quality. Although individuals in Nepal use this same word to describe their pain, it has a different meaning in Hindi that it does in Nepalese.

Table 1 Participant Descriptive Information

Variable	Mean (SD)	N (%)
Age	46.72 ± 11.16	
Sex		
Male		60 (25%)
Female		180 (75%)
Marital Status		
Unmarried		3 (1%)
Married		237 (99%)
Education level		
No formal education		64 (27%)
Primary (1 to 5 years)		19 (8%)
Middle (6 to 8 years)		29 (12%)
Secondary (9 to 10 years)		46 (19%)
Senior secondary (11 to 12 years)		30 (13%)
High School Graduate or more (≥ 13 years)		52 (22%)

Table 2 Number and Percent of Pain Domains and Subdomains Presented in Order of Frequency in the Current Sample from Northern India, as Well as from a Sample from Nepal and Two Samples from the USA

Primary domain Subdomains	Northern India N=240 N (%)	Nepal[12] N=101 N (%)	USA 1[7] N=302 N (%) [Range, %]‡	USA 2[15] N=213 N (%) [Range, %]‡
Sensory Quality	237 (99%)	85 (85%)	290 (96%) [94–99]	201 (94%) [93–96]
Throbbing	86 (36%)	<3%	84 (28%) [11–55]	26 (12%) [9–15]
Pulling/Stretching	45 (19%)	10 (10%)	<3	<3
Radiating	31 (13%)	<3%	20 (7%) [3–9]	<3
Numb	23 (10%)	10 (10%)	14 (5%) [1–10]	16 (8%) [4–9]
Burning	21 (9%)	32 (32%)	67 (22%) [15–34]	96 (45%) [16–64]
Aching	18 (8%)	<3%	160 (53%) [32–72]	54 (25%) [18–44]
Heavy	14 (6%)	14 (14%)	<3	<3
Tearing	14 (6%)	_*	_*	_*
Pricking	13 (5%)	_*	_*	_*
Tingling	12 (5%)	24 (24%)	16 (5%) [2–11]	36 (17%)
Tender	5 (2%)	<3%	13 (4%) [1–10]	<3%
Cramping	5 (2%)	7 (7%)	74 (25%) [14–35]	19%
Tight	4 (2%)	_*	_*	_*
Hot†	4 (2%)	_*	_*	_*
Sore	4 (2%)	<3%	<3%	11 (5%) [0–11]
Flickering	2 (<1%)	_*	_*	_*
Electrical	1 (<1%)	<3%	27 (9%) [8–10]	48 (23%) [3–28]
Cold	1 (<1%)	<3%	9 (3%) [2–5]	7 (3%) [3–4]
Cutting	1 (<1%)	_*	_*	_*
Sensory metaphor	44 (18%)	52 (52%)	_*	_*
Like something burning	9 (4%)	3 (3%)	_*	_*
Like a wound	9 (4%)	5 (5%)	_*	_*
Like an ant moving	7 (3%)	4 (4%)	_*	_*
Like thread moving	6 (3%)	_*	_*	_*
Like nerve stretching	5 (2%)	3 (3%)	_*	_*
Like needle prick	5 (2%)	4 (4%)	_*	_*
Sensory states	50 (21%)	79 (79%)	_*	_*
Gratings sound (Kat-Kat)	24 (10%)	_*	_*	_*
Spatial	6 (3%)	53 (53%)	145 (48%) [39–54]	33 (15%) [6–27]
In the muscle	4 (2%)	15 (15%)	24 (8%)[0–12]	<3%

(Continued)

Table 2 (Continued).

Primary domain Subdomains	Northern India N=240 N (%)	Nepal[12] N=101 N (%)	USA 1[7] N=302 N (%) [Range, %]‡	USA 2[15] N=213 N (%) [Range, %]‡
Deep	3 (2%)	24 (24%)	27 (9%)[2–16]	12 (6%)[2–13]
Correlate /cause	80 (33%)	47 (47%)	53 (18%)[9–24]	_*
Stiff	79 (33%)	_*	_*	_*
Interference/effect	14 (6%)	37 (37%)	94 (31%) [29–34]	20 (9%) [5–15]
Weak	8 (3%)	_*	_*	_*
Tiring	3 (1%)	17 (17%)	18 (6%)[3–12]	<3%
Sickening	3 (1%)	_*	_*	_*
Affect	18 (8%)	19 (19%)	82 (27%) [24–31]	34 (16%) [15–20]
Lassitude	11 (5%)	_*	_*	_*
Killing	3 (1%)	_*	_*	_*
Unbearable	1 (<1%)	_*	_*	_*
Nagging	1 (<1%)	_*	_*	_*
Magnitude	34 (14%)	15 (15%)	103 (34%) [27–39]	29 (14%) [12–17]
Intense	31 (13%)	<3%	26 (9%) [6–13]	7 (3%) [2–7]
Mild	3 (1%)	7 (7%)	<3%	<3%

Notes: *This global domain was not identified in this study. †Hot was classified as a type of (ie, less magnitude than) "burning" in the prior studies. In Hindi, "hot" and "burning" are experienced as different qualities of pain, not as different magnitudes of the same quality. ‡Ranges of rates are presented for the findings from the two USA studies because rates were presented in those studies both overall as well as by distinct diagnostic groups. The ranges presented represent the lowest and highest rates for the different groups.

Two spatial descriptors were mentioned by some of the study participants were "in the muscle" (2%) and "deep" 2%). Eighty (33%) of the participants described their pain as having one or more correlates, with the pain being correlated with being or feeling "stiff" the most common. Eighteen participants (8%) mentioned a descriptor classified in the affect primary domain, with "lassitude" being the most frequently mentioned (5%). Thirty-four participants (14%) mentioned a descriptor that was classified as indicating the magnitude of the pain, with "intense" being the most common (13%).

Pain Quality Overlap with Individuals from the USA and Nepal

The reader will recall that we had hypothesized that many but not all descriptors noted by the study sample would overlap with those mentioned by individuals with chronic pain from the USA[7,15] and Nepal,[12] but that there would be greater overlap between descriptors used by the study sample and individuals from Nepal. As can be seen in Table 2, 13 of the 19 sensory quality descriptors (68%) mentioned by participates in the study sample were also mentioned by at least some individuals with chronic pain from one of the samples from the USA and by individuals from Nepal. Of the 10 descriptors mentioned by at least 3% of the participants in the current study, 8 (ie, 80%) were mentioned by some participants both in the USA and Nepal. The two descriptors used by the study sample and not used by the other samples were "tearing" and "pricking". Moreover, although "heavy" was used by more than 3% of the study sample and individuals from Nepal, it was used by less than 3% of individuals from the USA samples. "Throbbing" and "radiating" were used by >3% of the study sample and at least one sample from the USA, but were used by < 3% of the Nepalese sample. In sum, while there was significant overlap in the descriptors used by the study sample and individuals from both

Nepal and the USA, there was *not* greater overlap between the study sample and individuals from Nepal than between the study sample and individuals from the USA with respect to sensory descriptors.

On the other hand, none of the pain descriptors were classified as sensory metaphors from any USA-based sample, while 18% of the participants in the study sample and those from Nepal (52% of them) used sensory metaphors. Individuals from Nepal not only used a much larger percentage of sensory metaphors, they also used unique metaphors ("like an infection", "sleeping hands/feet", "like a needle prick", "like an ant bite", "like nettle leaf", and "like a broken bone") to describe their pain that were not used by the participants in the study sample. Similarly, only people from India and Nepal used at least one sensory state descriptor. However, the sensory state descriptors used by the two samples differed, with those from Nepal describing their pain as "kat-kat" (best translation in English from Nepali - "cold/achy"), "*jham-jham*" ("tingling" in English), *"chasaka", "katakka", "tanak-tanak", and* 'bhat-bhat', (the latter four words are difficult to translate into English) while the participants from India in the current study only used "kat-kat" (which from Hindi as used in northern India translates to "grating sound" in English).

Although at least some individuals from all three countries used spatial descriptors to describe their pain, the percentages used exhibited large differences, with only 3% of the study sample using at least one spatial descriptor. Many more from Nepal (53%) and from one of the USA samples (48%) used spatial descriptors. Similarly, although at least some individuals from all three countries mentioned pain's impact when asked to describe their pain, this occurred relatively rarely in the study sample (6%). One of the samples from the USA also noted pain's impact relatively rarely (9%), while the mention of impact occurred more often in the sample from Nepal (37%) and one of the samples from the USA (31%).

Affective descriptors were also used by some individuals in all samples (ranging from 8% in the study sample to 16% to 27% of the other samples). However, only one affect descriptor was used by > 3% of the study sample ("lassitude") and this descriptor was not used by any individuals from the other samples. Finally, some participants in all samples used at least one descriptor to indicate the magnitude of their pain, with "intense" being the most common in the study sample.

Content Validity of the Most Commonly Used Pain Quality Measure for a Hindi Speaking Population

Table 3 shows the results of the examination of the content validity of five pain quality measures for assessing the sensory component of pain for a Hindi-speaking population of individuals with chronic musculoskeletal pain. The findings of the current study showed that none of the measures examined assessed all of the descriptors used by >3% of the current Hindi-speaking sample. The measure with the most content validity for assessing pain quality in the study sample was the PQAS-R, which assesses seven (64%) of the 12 most common pain descriptors mentioned by the study sample. In order, the measures with the next highest levels of content validity for assessing pain quality in the study sample were the SF-MPQ-2 (55% of descriptors assessed), PQAS (45%), SF-MPQ (36%), NPS (9%) and NPSI (0%).

Table 3 Content Validity of Pain Quality Measures for Assessing the Most Common Pain Descriptors (ie, Those Mentioned by 3% or More of the Sample) in Individual from Northern India

Descriptor	PQAS	PQAS-R	SF-MPQ	SF-MPQ-2	NPSI	NPS
Throbbing (36%)		X	X	X		
Pulling (19%)						
Radiating (13%)	X	X				
Grating/Kat-Kat (10%)						
Numb (10%)	X	X		X		

(*Continued*)

Table 3 (Continued).

Descriptor	PQAS	PQAS-R	SF-MPQ	SF-MPQ-2	NPSI	NPS
Burning (9%)		X	X	X		X
Aching (8%)	X	X	X	X		
Heavy (6%)	X	X	X	X		
Tearing (6%)						
Pricking (5%)						
Tingling (5%)	X	X		X		

Abbreviations: PQAS = Pain Quality Assessment Scale, PQAS-R= Revised Pain Quality Assessment Scale, SF-MPQ = Short-form McGill Pain Questionnaire, SF-MPQ-2 = Short-form McGill Pain Questionnaire 2, NPSI = Neuropathic Pain Symptom Inventory, NPS = Neuropathic Pain Scale.

Discussion

The findings from the current study contribute to a growing body of research supporting the idea that pain measures developed in one country or culture are not necessarily valid for use in other countries or cultures. The study procedures could also serve as a model for how researchers might obtain the data needed to adapt measures to a specific group of individuals with pain, so that those measures are more appropriate for use in the population which the group represents. These issues are discussed in more detail below.

Pain is not Described in the Same Way in Different Countries

In a series of studies conducted to examine the question of how pain is described in different countries, researchers have classified the words that people use into overarching primary domains (ie, the type or category of word or phrases used, such as those that describe the sensory experience and those that describe the magnitude of pain) and subdomains (ie, the very specific words used within each of the primary domains).[7,15] When examining the current findings in light of those from other studies, the general conclusion that pain is not described in the same way between countries is confirmed. Using a cut-off of ≥3% frequency, the study participants used a total of 19 different words or phrases to describe their pain: 10 sensory qualities, four sensory metaphors, one sensory state, one pain correlate, one effect, one affect descriptor, and one magnitude descriptor. Of these, only three descriptors were used by 3% or more of the individuals in samples from other countries which used a similar strategy for examining the studies questions. All three of these descriptors were sensory qualities: "numb", "burning", and "tingling". A fourth descriptor – "cramping" – was mentioned by 2% of the study sample and >3% of the other samples. These findings support three critical conclusions: (1) pain is not described the same way from one country to another; (2) the adequate assessment of pain quality in any one country or for any population will likely require the use of a measure developed specifically for that country or population; and (3) a set of core pain qualities could potentially be identified that could serve as the basis for such a measure (for discussion of this second issue, see section on content validity, below).

To understand why metaphors are used more often to describe pain by individuals in India and Nepal, as compared to individuals in USA, would require more research. It could be hypothesized that the use of metaphor is related to a cultural preference for "thinking with stories",[16] or that customs and rituals associated with an individual's culture or religion may play a role in their preference for the use of metaphor. Testing these ideas would require more study.

Regardless of the reason for this greater use of metaphors, the findings have potential clinical implications. A metaphor can evoke a sense of familiarity, a belonging that binds a community together, making an experience easier to share with others.[17] Use of stories and metaphors can also be effective strategies for promoting positive change[18,19] and communicating complex ideas.[16,20] The use of metaphors is very common in clinical hypnosis – a treatment with proven efficacy for pain.[21] With clinical hypnosis, when pain is described as being "like a fire", a hypnotic suggestion would be to imagine the fire and then observe it changing in response to imagining the effects of putting "cooling" water

onto the fire, watching/experiencing the flames decrease in size, and eventually watching/experiencing the remaining embers cool. It would be interesting to examine the potential efficacy of the use of such metaphors in individuals from India and Nepal, and to compare those effects to similar hypnosis treatment provided to individuals from the USA or other western country.

The Most Commonly used Pain Quality Measures are not Valid for Assessing Pain Quality in Individuals from Northern India

The PQAS-R is the most content valid measure (of pain quality of the pain quality measures most commonly used) for assessing pain quality in individuals from northern India who speak Hindi, consistent with prior findings supporting the superior content validity of the PQAS-R over other pain quality measures.[12] However, the PQAS-R still only assessed 64% of the most commonly used pain qualities in the study sample. This indicates that even the PQAS-R is not, in fact, content valid for assessing pain quality in individuals with pain from northern India. Based on this finding, some adaptation of the PQAS-R or other pain quality measures would be needed for both (1) assessing pain quality in individuals from northern India and for (2) assessing pain quality for international/cross-country research.

Based on the findings from the current study – and assuming that the individuals with pain are administered other measures of pain domains as needed to achieve the specific clinical or research goals (ie, pain intensity, pain location, pain-related affect, the effects of pain) – a pain quality measure specific to people living in northern India would need to include fifteen items assessing ten sensory qualities ("throbbing", "pulling/stretching", "radiating", "numb", "burning", "aching", "heavy", "tearing", "pricking", and "tingling:), and four metaphors ("like something burning", "like a wound", "like an ant moving", "like a thread moving", and "kat-kat"). If the questions for this adapted scale were asked in the same format as either the PQAS-R or the SF-MPQ-2 – both of which ask respondents to indicate the magnitude of a specific pain quality on 0 to 10 numerical scales – then the findings from the use of this scale could be directly compared to the responses to PQAS-R (seven items would overlap) or SF-MPQ-2 (six items would overlap). The six overlapping items across all three measures would be "throbbing", "numb", "burning", "aching", "heavy", and "tingling". A similar approach could be used to create pain quality scales for assessing pain quality in any other specific populations. That is, first identify the pain qualities that are used by at least 3% of individuals in a specific population, and then create a measure that assesses those pain qualities for use in that population. Using a 0–10 numerical scale (ie, 0 = "No [pain quality]"; 10 = "Extreme [pain quality]") to assess the magnitude of each pain quality would allow for comparisons to findings from research studies that use or used the PQAS-R or SF-MPQ-2.

The findings from the current study, when considered in light of the findings from similar prior studies, could also be used to develop a set of core items that could serve as the basis of a new pain quality scale. For example, the three pain qualities that are consistent across all of the samples studied to date (ie, mentioned by ≥3% if the samples from the USA, Nepal, and India) are "numb", "burning", and "tingling". Each of these is also assessed by the PQAS-R and the SF-MPQ-2. To the extent that future research supports these three domains as being pain qualities common to individuals from different countries and cultures who speak different languages, items assessing these three pain qualities could serve as the core items of a global pain quality measure for use by researchers and clinicians across settings, populations, and countries. Using the requirement that all but one sample mentioned a specific pain quality at a ≥ 3% rate would also add the following three pain qualities to such a core measure: "throbbing", "aching", and "cramping". Two of these ("throbbing" and "aching") are also assessed by the PQAS-R and SF-MPQ-2. The fact that these two pain qualities are also assessed by the PQAS-R and SF-MPQ-2 provides additional support for their potential utility as pain descriptors which should be included in any core measure.

Study Limitations

The current study has a number of limitations which should be considered when interpreting the results. First, the sample was limited to individuals with chronic musculoskeletal pain. Had the sample not been restricted to only those with musculoskeletal pain, it is possible that the rates of the different qualities would have differed and additional pain qualities may have emerged as important. Also, the study was conducted in only one setting in a very large and diverse country. The extent to which our findings generalize to other settings or clinical populations in India is not known.

Furthermore, the study interviews were not audio recorded and transcribed, and the second coder was not blinded to the results of the first coder. Both of these limitations could have introduced bias. Finally, although the diagnosis of musculoskeletal pain was confirmed by a referring orthopedic surgeon, more specific pain diagnoses for the participants were not assessed or recorded. As a result, we were not able to evaluate the association between the rates of different pain descriptors and diagnosis. Although the study limitations do not change the key conclusions, more research is needed to identify descriptors used by additional populations of individuals with a variety of pain conditions, from different parts of India, and from different countries. Further research could identify and/or confirm the core items necessary for a measure of pain quality that would be useful for comparing findings between individuals from different countries and cultures. When possible, such research should make audio recordings of any interviews conducted and transcribe them for coding by independent coders.

Conclusion

Despite the study's limitations, the findings confirm the conclusion there are both similarities but also important differences in how people raised and encultured in different countries describe their pain. Additional foundational research conducted in different countries and in different pain populations is needed in order to inform the development of pain quality measures for individuals living in specific countries with specific pain conditions. In light of other similar studies, the findings suggest the possibility that a measure of pain quality could be developed that would allow for a more global comparison of findings; for example, the comparison of the effects of pain treatments on different pain qualities from one country to another. Overall, the findings indicate that (1) the PQAS-R appears is the most content valid of the commonly used measures of pain quality for use in individuals with musculoskeletal pain in northern India, and (2) both the PQAS-R and the SF-MPQ-2 assess some core pain qualities common to all pain populations studied to date. The three items assessing numb, burning, and tingling pain from either of these measures could serve as the initial core items for a universal measure. Finally, the use of metaphors to describe pain by the study sample, consistent with how individuals with chronic pain from Nepal describe their pain, is intriguing. It is not clear if this tendency is unique to individuals from Nepal and northern India, or perhaps to individuals who share a religious background such as Hinduism, or if it might be a common way that people describe their pain in many countries where pain assessment has not previously been well studied. Research examining this issue is needed.

Acknowledgments

Disclosure

The author(s) reported no conflicts of interest in this work.

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