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The use of Arts-Based Research in Chronic Pain: A Scoping Review

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ABSTRACT

Background: As an emerging approach, arts-based research holds potential to advance understanding of the complex and multidimensional experiences of chronic pain and means of communicating this experiential evidence. This scoping review aimed to map and explore the extent of arts-based research in chronic non-cancer pain, understand the rationale behind using arts-based research methods, and identify directions for future research.

Methods: Databases PsycINFO, MEDLINE, EMBASE, and CINAHL were searched for eligible English-language articles from inception to November 2022. Out of 1321 article titles and abstracts screened for eligibility, 18 articles underwent full-text screening, with 14 ultimately meeting all inclusion criteria. We conducted a narrative synthesis of data extracted from the 14 reviewed articles.

Results: The review articles focused on a wide range of chronic non-cancer pain conditions, with 12/14 employing qualitative methods (86%), one repeated measures experimental design, and another a multiphase, multimethod design. Seven articles described the use of drawing, painting, or mixed-media artwork; four used photography; two used body mapping; and one used e-book creation. The rationale for arts-based research included exploring and better understanding patients' experiences with chronic non-cancer pain, constructing an intervention, and investigating or validating a clinical tool. Nine articles reported that their arts-based research methods produced unintended therapeutic benefits for participants. Recommendations for future research included using arts-based research to better understand and communicate with patients and providers, exploring convergence with art therapy, and designing creative and flexible multiphased studies involving collaboration across disciplines.

Conclusions: Despite the wide variation in sample and art modalities across reviewed articles, arts-based methods were considered suitable and highly effective for investigating chronic non-cancer pain.

RÉSUMÉ

Contexte: La neuromodulation par radiofréquence pulsée (NRFP) du nerf grand occipital (NGO) est envisagée chez les patients souffrant de céphalées qui ne parviennent pas à obtenir un bénéfice analgésique durable à partir des blocages nerveux à l'aide d'un anesthésique local et de stéroïdes. Cependant, les données probantes à l'appui de cette pratique ne sont pas claires.

Objectifs: Cette revue systématique narrative vise à explorer l'efficacité et la sécurité de la NRFP du NGO sur les maux de tête.

Méthodes: Des bases de données ont été consultées pour trouver des études, publiées jusqu'au 1er février 2024, portant sur la NRFP du NGO chez des adultes souffrant de céphalées. Les résumés et les affiches ont été exclus. Le critère principal était le changement dans l'intensité des maux de tête. Les critères secondaires comprenaient l'effet sur la fréquence mensuelle des céphalées, la santé mentale et physique, l'humeur, le sommeil, la consommation d'analgésiques et les effets secondaires. Deux examinateurs ont évalué et extrait les données.

Résultats: Vingt-deux articles (2 essais contrôlés randomisés, 11 cohortes et 9 rapports de cas/séries) portant sur 608 patients ont été recensés. Une hétérogénéité considérable a été observée en termes de devis de l'étude, de diagnostic des céphalées, de la cible et des paramètres de la FRP et de l'orientation de l'image. Les réglages de la NRFP variaient (38-42°C, 40-60 V, et 150-400 Ohms). Les études ont démontré que la NRFP procurait une analgésie significative et réduisait la fréquence des céphalées dans la migraine chronique de trois à six mois, et un soulagement significatif de la douleur pour la névralgie occipitale pendant six à dix mois. Des effets indésirables légers ont été

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signalés dans 3,1 % des participants de la cohorte. Une minorité d'études ont fait état de résultats secondaires. La qualité des données probantes était faible.
Conclusion: Les données probantes de faible qualité indiquent un bénéfice analgésique de la NRFP du NGO pour la névralgie occipitale et la migraine chronique, mais son rôle pour d'autres types de céphalées doit être davantage étudié. La cible et les paramètres optimaux de la NRFP restent floues. Des essais contrôlés randomisés de haute qualité sont nécessaires pour explorer davantage le rôle de cette intervention.

Introduction

Chronic non-cancer pain is a serious health care issue worldwide. A 2017 systematic review and meta-analysis of studies from 40 countries found prevalence rates ranging from 8.7% to 64.4%, with a pooled mean of 31%.[1] Chronic pain is defined as pain that persists or recurs for over 3 months and can be classified as chronic primary or one of six secondary pain syndromes.[2] Chronic primary pain is pain in one or more anatomical regions that persists or recurs longer than 3 months and is associated with significant emotional distress or functional disability and cannot be better accounted for by another chronic pain condition.[2] This pain can be the sole or leading complaint and can be conceived as a distinct disease requiring special treatment and care. In six other subgroups, pain is secondary to, and a symptom of, underlying disease and is referred to as chronic secondary pain syndromes: chronic cancer-related pain, chronic neuropathic pain, chronic secondary visceral pain, chronic posttraumatic and postsurgical pain, chronic secondary headache or orofacial pain, and chronic secondary musculoskeletal pain.[2]

Tremendous strides have been made in conceptualizing chronic pain as a multidimensional, dynamic, reciprocal interaction among biological, psychological, and social factors and developing assessment techniques and pain management interventions.[3] However, in practice, there tends to be a rather narrow focus on biological and physiological aspects and pain severity, with the use of ordinal pain scales that limit understanding of the experience and impact of the condition on daily life.[4] Further, the prognosis for chronic pain is often uncertain, varies considerably between patients, and is overlooked or dismissed by clinicians.[5,6] In the face of ineffective treatment, chronic pain can clearly threaten a robust sense of hope for the future. Chronic pain has the potential to severely affect the quality of life of individuals, such that they experience diminished functioning in virtually every domain of life, including employment, relationships, physical well-being, emotional/mental well-being, and engagement in hobbies.[5–7] Unaddressed and unresolved psychosocial challenges can have devastating outcomes, with suicide rates for those who experience chronic pain double that of the general population.[8] Along with psychosocial interventions to augment the treatment of chronic pain itself, novel approaches that support and enable people to live and even thrive in the context of chronic pain are needed. Arts-based research might represent a novel approach to evidence generation of relevance given the current state of chronic pain evidence.

Arts-based research is an emerging qualitative research approach and refers to the use of any art form (or combinations thereof) by the researcher and/or participants at any point in the research process to generate, interpret, and/or communicate knowledge.[9,10] Despite this definition, it is noteworthy that a growing variety of approaches and art forms or modalities fall under the general rubric of arts-based research. Common rationale for using arts-based research include providing rich descriptions, highlighting and enhancing an understanding of people's lived experiences and meanings of illness, and attending to contextual factors.[10] This methodological approach could be especially valuable for enhancing comprehension of health conditions lacking established illness trajectories, diagnostic consensus, or effective interventions, such as chronic pain. Arts-based research can also facilitate novel dissemination of findings and enhance knowledge translation strategies. There are several reasons why arts-based health research can also provide a powerful stimulus for change: it can make research accessible without oversimplification, it can create a safe place for dialogue about challenging issues, it can trigger emotional engagement to facilitate change, and it can challenge academic or authoritative representations of research.[11]

We could locate no review that examined how arts-based research is used to understand and communicate about chronic non-cancer pain, though several reviews describe the use of art therapy as treatment.[12–15] Understanding the breadth and depth of arts-based research used in chronic non-cancer pain research is foundational to identifying emerging trends, research gaps, and areas for future research or action. To achieve this, we conducted a scoping review to map the potentially large and diverse literature, aiming to explore the extent of arts-based research as a process and product in chronic non-cancer pain investigations and understand the rationale behind using arts-based research.

Methods

We followed scoping review methodological guidance articulated by Arksey and O'Malley[16] and Levac and colleagues,[17] which included a process of identifying the research questions, identifying relevant articles, article selection, data charting and extraction, and collating, summarizing, and reporting the review results. Our conducting and reporting of this review were guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews guidelines and checklist.[18]

Identification of the Research Question

We designed this scoping review to answer the following research questions: (1) what is the extent of arts-based research as a process and product in chronic non-cancer pain investigations? and (2) what are the rationales behind using arts-based research? Collectively, our team conducts clinical and basic research on endometriosis-associated chronic pain with interest in the utility of qualitative and arts-based methodologies to understand people's experiences and to develop and disseminate novel patient-facing materials. This interest stems from ongoing collaborations with the Endometriosis Patient Advisory Board at the British Columbia Women's Hospital and Health Center, which has advocated for creative methods for research and knowledge translation. However, patient partners were not involved as research team members in conducting this scoping review due to the lack of funding for this project. We firmly believe that patient partners should be appropriately compensated for their valuable time and contributions.

Identification of Relevant Articles

We identified relevant published literature from four medical databases: MEDLINE (Ovid), PsycINFO, EMBASE, and CINAHL. Database search strategies were constructed in consultation with a medical librarian at the University of British Columbia. We identified keywords and subject terms for the two main concepts of chronic pain (chronic pain, persistent pain, long-term pain, long term pain) and arts-based research, including search terms for diverse art genres (arts-based research, arts based research, arts-informed research, arts informed research, film, poetry, painting, drawing, body mapping, digital storytelling, music, song, theater), combining these using Boolean logic. We refined the search several times based on identified keywords in relevant articles and applied these to subsequent searches. We ended up using the same search strategy across databases because the controlled vocabulary for the chronic pain concept, as well as the relevant keywords for chronic pain and arts-based methods yielded the most relevant articles. We conducted forward and backward reference chaining where we searched the citations in the reference lists of all relevant articles. We also identified subsequent articles that had cited the relevant articles already included. The search strategy was undertaken between July and August 2021 and then repeated in November 2022. Please see the Supplementary Materials for the search terms used across databases.

Article Selection

For inclusion, articles were empirical, published in English-language peer-reviewed journals, focused on participants living with chronic primary or secondary pain as per medical definitions, and utilized arts-based research methods of data collection. We included articles where the sample was predominantly composed of adults (19 years of age or greater). The review was directed toward chronic non-cancer pain because the main conditions we were interested in (e.g., endometriosis, chronic pelvic pain, fibromyalgia, chronic unexplained pain) are benign pain conditions and therefore are distinct from cancer in their causes of pain, treatment approaches, and supportive care services offered. Other exclusion criteria included all gray literature, discussion papers, other reviews, and investigations of art as therapy or arts-based treatments for chronic pain. Social media content investigations were also excluded because the postings comprising data collection were not based on art creation and/or included data from participants who did not experience chronic pain.

In total, 1661 citations were identified via database searches and 16 via hand-searching, which were imported into the software platform Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia. Available at https://www.covidence.org/, and 356 duplicate records were removed. Subsequent screening was done using Covidence. One reviewer screened the 1321 article titles and abstracts for eligibility using the inclusion and exclusion criteria. Two independent reviewers completed full-text screening of 18 articles, and a third reviewer was consulted to resolve disagreements. Fourteen articles met the inclusion

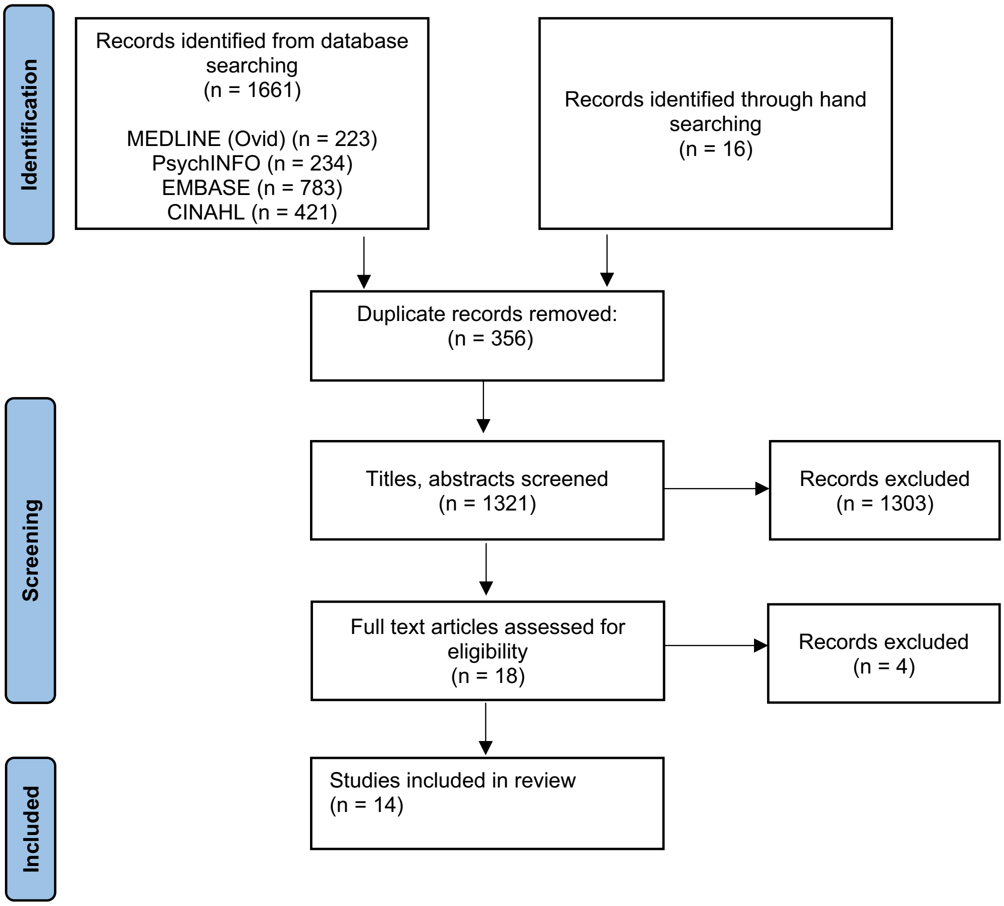

Figure 1. Scoping review flow diagram.

criteria and comprised the data set for the scoping review (see Figure 1).

Data Charting and Extraction

Data extraction was completed in a standardized format by one reviewer per document using Excel and double-checked by a second reviewer. We pilot-tested our data extraction form with a sample of five documents and met as a team to clarify elements for extraction. Two team members reviewed all extracted data, and omissions or conflicts were resolved through robust team discussion. The following data were extracted from each article: sample size and participant characteristics (age, sex and/or gender, ethnicity, type or chronic pain, duration of pain), purpose, research methodology, research methods (data collection and data analysis), arts-based modality, the rationale for the arts-based modality, main findings, and recommendations for future research. We considered methodology to be the overarching approach guiding the research, encompassing the theoretical framework, principles, and logic behind the study or project design, whereas research methods encompassed the specific techniques and procedures involved in sampling, data collection, and data analysis. We considered arts-based modality to be the artistic practices, techniques, or tools (i.e., drawing, painting, photos) used by study or project participants.

Collating, Summarizing, and Reporting the Results

The extraction phase was followed by a narrative synthesis of the research design/methodology, the arts-based modalities used, predominant rationales for conducting arts-based research, main study or project findings, and recommendations. This process allowed us to map the breadth of arts-based research in chronic pain, identify the main rationales for using arts-based research in a population living with chronic pain, and identify gaps and future directions in the literature. During the synthesis phase, it became evident that numerous articles described a therapeutic effect for study or project participants; thus, we summarized these data as well.

Table 1. Scoping review—Arts-based research in chronic pain ($N = 14$).

Study, Country	Study aim	Sample	Study methodology/methods	Study findings
Abichandani et al.,[20] UK	To investigate whether people with CNP can recognize their own PD to support the validity of the PD in reporting the experience of pain	20 women (age range 21–32 years; ethnicity not reported). Participants with CNP Duration of pain 1 to 10 years	Experimental, repeated measures Data collection: Participants completed PD on a digital body chart, which was modified with software. A series of PDs were presented to each participant who rated the likeliness of each PD to their own original on a scale from 0 to 100, with 100 representing "this is my pain" Data analysis: Statistical	People with CNP rated their original PD with the highest degree of similarity when presented with their original PD among a number of distorted versions
Antunovich et al.,[19] New Zealand	To explore the experiences of people living with CRPS through drawings and interviews	48 individuals (34 female, 14 male; mean age 51 years ± 15; 39 white, 3 Maori, 6 other ethnicity) Participants with CRPS Duration of pain 11 months to 9 years	Qualitative, thematic analysis Data collection: Participants completed a semistructured interview and three drawings about their perceptions and experiences of CRPS Data analysis: Reflexive thematic analysis wherein interview data and drawings were grouped and coded into themes	Thematic findings included (1) CRPS experienced as a source of severe symptoms and emotional difficulties, (2) CRPS undermines personal and social identity, and (3) psychological responses result that protect against the emotional and social impact of severe symptoms Psychological responses: (a) searching for an explanation; (b) "nothing is my fault," emphasizing a lack of personal responsibility and personal control; and (c) detaching the limb from the self
Barnes et al.,[21] Canada	To explore the role of self-compassion in women's experiences of the affective-emotional dimension of chronic pain	7 women (aged 19–34 years; 6 white, 1 Indigenous ethnicity) Participants with chronic pain unrelated to another health condition or a diagnosed pain condition Duration of pain 5 months to 7 years	Qualitative, photovoice, narrative inquiry Data collection: Focus groups on pain experiences, reflective photovoice where participants generated photos representing experiences discussed in the focus group and to inform individual interviews Data analysis: Holistic content analysis of images and interview transcripts to create collective narratives	Three coconstructed collective narratives: (1) the emotional challenges of chronic pain, (2) the journey to self-awareness, and (3) the transition to a self-compassionate mindset: a potential regulator of emotions. Results highlight self-compassion as a relevant resource for women with chronic pain to manage their affective-emotional experiences
Henare et al.,[22] New Zealand	To inform understanding of people who experience chronic pain through the images created in artwork and by the meaning given to the narratives	14 individuals (10 women, 4 men; aged 27–63 years; 9 New Zealand Europeans, 1 New Zealand Maori, 1 Fiji Indian, 1 North American, 1 Scot, 1 English ethnicity) Participants with chronic back pain, knee pain, abdominal pain, total body pain, and foot pain Duration of pain 1 to 37 years	Qualitative, phenomenology Data collection: Participants who previously created mixed media (drawing, sketching, painting) artwork were invited to describe their art and how it showed the meaning of their pain during an individual interview Data analysis: Thematic analysis of images and interview data guided by van Manen's Lifeworld Existential as Guides to Reflection	Thematic findings included (1) a journey of loss of self and redefinition, (2) gaining pain and losing self, (3) redefining self, (4) identity through others, and (5) being hopeful and being on a journey. Strong association between participation in valued occupation, the maintenance and redefinition of identity, experiencing oneself as competent, and being hopeful about the future
Hughes et al.,[23] UK	To use photoelicitation and IPA to explore the lived experience of people with chronic pain and paraplegia to identify issues that influence their QoL	6 individuals (5 females, 1 male; aged 32–64 years; English speaking; ethnicity not reported) Participants with paraplegia and chronic pain Duration of pain 2 to 42 years	Qualitative, photoelicitation, IPA Data collection: Participants generated photos of things that gave their life quality or reduced their QoL and then discussed their photos regarding QoL in an individual interview Data analysis: IPA of interview transcripts	QoL for was experienced as a complex interaction across several life domains. Three superordinate themes described how QoL domains functioned to make up the overall experience: (1) experiencing QoL through the perception of self and identity, (2) interpersonal relationships as facilitators and barriers to QoL, and (3) life in a wheelchair: pain experience and management

(*Continued*)

Table 1. (Continued).

Study, Country	Study aim	Sample	Study methodology/methods	Study findings
Kattari and Beltrán[24] United States	To examine the experience of having a marginalized disability identity by exploring the experiences of people living with nonapparent disabilities, chronic pain, and/or chronic illness	8 individuals (3 cisgender women, 2 trans men, 1 genderqueer, 1 cisgender man, 1 femme; aged 16–40 years; 6 white, 2 mixed ethnicity) Participants with a range of chronic disabilities and chronic pain Duration of pain not reported	Qualitative, phenomenological photovoice Data collection: Participant or professional photography and artwork creation guided by prompts for pain representation. Participants submitted a self-reflexive journal to inform their images and artwork Data analysis: Coding of images and writing, discussion of emerging codes with participants and other disabled individuals, researcher journaling Images and artwork shared in-person at a community event and online	Thematic findings included (1) unfettered anger, (2) challenging expectations, (3) duality of reality, and (4) resistance/resilience
Kirkham et al.,[25] UK	To examine how patients represent their pain pictorially, how they describe those pictures, and how they then use them as a springboard for further reflection on their pain experience	7 women (aged 36–52 years; 7 white) Participants with multiple sources of chronic pain Duration of pain 6 to 21 years	Qualitative, IPA Data collection: Participants given paper and materials (crayons, pencil, paint) to illustrate their experience of living with chronic pain followed by semistructured individual interviews asking about the drawings, experiences living with chronic pain, coping strategies, struggles, and hopes and fears. Data analysis: IPA adapted to incorporate the use of visual material	Participants demonstrate powerfully and with immediacy their internal perceptual worlds, indicative of how they perceived their experience living with pain. Participants describe the pictures as illustrating suffering and punishment. Color was used to emphasize emotions such as despair. The pictures included representation of temporal change, either from self before pain to self with pain or from self with pain to expectation of a self in the future without pain
Lou et al.,[26] Australia	To explore utility of visual art in expressing and managing participants' persistent pain experiences through a visual diary	6 individuals (3 female, 2 male, 1 non-binary; aged 21–71 years; ethnicity not reported) Participants with generalized pain and posttraumatic pain, fibromyalgia, and connective tissue disorders Duration of pain not reported	Qualitative descriptive approach Data collection: Participants attended 5 weekly sessions involving art observation, creation, and discussion. Through the process of creating art, participants explored their ideas about pain experiences and behaviors using visual and written data in self-reported pain diaries Data analysis: Thematic analysis	Use of a pain diary including visual art and engaging in art-based activities enabled participants to explore their experiences of chronic pain. Participants found value in using art and art-making to express, manage, or distract from their pain experience
Nizza et al.,[27] UK	To use case study to demonstrate that drawings done by an individual with chronic pain, paired with interviews, can stimulate deep reflection and allow the inexpressible to be expressed	1 woman (aged 47 years; ethnicity not reported) Participants with fibromyalgia, degenerated discs, and depression Duration of pain 3 years	Qualitative, case study, IPA Data collection: The participant drew a picture of her pain at three interviews, each followed by an individual semistructured interview Data analysis: Drawings and interview transcripts analyzed using IPA	Use of drawings in a longitudinal design showed how a patient's relationship with chronic pain can visibly change over time and their drawings, when reviewed retrospectively, enable insight and ownership of progress
Phillips et al.,[28] UK	To explore whether people with chronic pain could generate an image of their pain and offer an in-depth characterization of the content and nature of such images using visual analysis	54 individuals (43 female; aged 22–79 years; 46 white ethnicity) Participants with multiple pain locations, including lower limbs, lower back, and neck and shoulders. Diagnoses classified as degenerative changes, neuropathic, or other Duration of pain 16 months to 30 years	Qualitative Data collection: Participants were asked to draw an image of their pain at home and provide a written comment about their drawing Data analysis: Pain drawings were interpreted using a critical visual methodology framework	Thematic findings included (1) pain as an attacker, (2) the nature of pain, and (3) the impact of pain. Most participants were able to evoke and draw an image of their pain, and these images provided insights into their pain experiences beyond the use of words

(*Continued*)

Table 1. (Continued).

Study, Country	Study aim	Sample	Study methodology/methods	Study findings
Reid et al.,[29] Canada	To actively work with children attending a pediatric chronic pain clinic and their parents to develop, refine, and evaluate the usability of an art and narrative-based electronic book for pediatric chronic pain	Parents or caregivers of 17 children with chronic pain participated in interviews to generate the e-book. 14 caregivers or parents participated in the usability evaluation (participant demographics not reported) Type and duration of pain not reported	Multiphase, multimethod design, usability testing Data collection: Qualitative interviews used to compile parents' narratives Data analysis: Thematic analysis of interview data used by a creative writer to generate a story about a child living with chronic pain Followed by e-book development, expert clinician feedback, prototype usability evaluation, and prototype refinement	Parents preferred receiving health information in a narrative form rather than the standard information-based format Parents' knowledge increased after using the e-book, as did confidence in their knowledge about chronic pain and its management
Skop,[31] Canada	To explore the health care experiences of men and women diagnosed with fibromyalgia	35 men and women total. 25 engaged in body mapping within a series of focus group sessions (participant demographics not reported) Participants with fibromyalgia Duration of pain not reported	Qualitative Data collection: four phases including preparation, facilitating a pilot focus group, running two focus groups, and returning to the field to reach saturation. Participants completed five sessions, each of which had different themes, including trust, health and illness bios, personal health care journey, resilience and coping, and sharing. Verbal and visual focus group data concurrently collected and analyzed Data analysis: Multilayered visual coding scheme influenced by constructivist grounded theory	Thematic findings included (1) experiences of structural barriers to accessing health care services and unsupportive attitudes from providers; (2) health care experiences affected by gender, age, class, and race; and (3) self-management strategies to cope with health care barriers
Tarr et al.,[31] UK	To reframe the patients' experiences with chronic pain from an isolating interaction to a collective space for discussing, sharing, and reinterpreting the pain experience	22 individuals (15 people with pain, 5 pain clinicians, 2 carers; demographic information not reported) Type and duration of pain not reported	Qualitative Data collection: Participation in art workshops recorded and transcribed Data analysis: Methodological reflection	The process of participation was central, and the improvisational space that unfolded within the workshops was primary. Participants valued the collective space that unfolded
Wallace et al.,[32] United States	To examine the utility of a combination of qualitative methods, photovoice, one-on-one interviews, and focus groups, in examining daily experiences of patients living with chronic pain	25 individuals (21 women, 4 men; aged 32–73 years; 17 black, 8 white ethnicity) Type and duration of pain not reported	Qualitative, photovoice Data collection: Participants took photographs that reflected their experiences with chronic pain and then took part in an individual interview and focus groups to provide further insight Data analysis: Guided by grounded theory methods	Thematic findings included (1) undesired effects/burdens of medications, (2) loss of striving for independence, (3) effect on social interactions/relationships, (4) pain effect on activities of daily living, (5) constant search for convenience/a better situation, (6) interactions with physicians, and (7) frustration/depression with pain

CNP = chronic neck pain; CRPS = complex regional pain syndrome; IPA = interpretive phenomenological analysis; PD = pain drawing; QoL = quality of life.

Results

Fourteen articles met the inclusion criteria and comprised this scoping review (see Table 1 for article details).[19–32] Almost half were conducted in the UK (n = 6), three originated in Canada, two in New Zealand, two in the United States, and one in Australia. None of the articles explicitly indicated that people with chronic pain were co-researchers or members of the research team. Sample sizes varied considerably from a case study of a woman with fibromyalgia who made pain drawings at three time points[27] to a study of 54 adults who each made one pain drawing.[28] Five articles described enrolling less than 9 participants; the remaining seven enrolled between 14 and 48 participants. All articles included women in their sample, with 5 also including men[19,22,23,28,30] and two including gender-diverse individuals.[24,26] Ages ranged across articles from 16 to 79 years. Of the articles that reported on ethnicity, participants were found to predominately self-report as white.[19,21,24,25,28] Twelve articles reported employing qualitative methodologies, such as phenomenology, narrative inquiry, or generic approaches, with methods of data collection primarily including focus groups, individual interviews, and the artwork itself[19,21 – 28,30–32]; one article indicated the use of repeated measures in an experimental design[20]; and another used a multiphase, multimethod design.[29] Arts-based modalities used included drawing/sketching (n - = 6),[19,20,22,25,27,28] photos (n = 4),[21,23,24,32] painting (n = 2),[22,25] body mapping (n = 2),[30,31] e-book construction (n = 1),[29] use of a pain diary on the process of observing and creating visual art (n = 1),[26] and multimodal art workshops (n = 1).[31] In eight articles, artwork was treated as data and subjected to analysis by researchers, yet there was limited elaboration on the specifics of the artwork analysis.[19,21,22,24,25,27,28,30]

Articles focused on many types of chronic pain. Six investigated chronic pain in general, at multiple body sites.[21,22,26,28,31,32] Two articles investigated pain in fibromyalgia[27,30]; two articles investigated complex chronic pain cases.[19,25] Abichandani et al.[20] focused on chronic neck pain; Hughes et al.[23] focused on individuals with paraplegia-related pain; Reid et al.[29] recruited family members to study chronic pain in children, and Kattari and Beltrán[24] focused on chronic pain in individuals with disabilities.

We present our findings across three themes that summarize patterns across articles in this scoping review: rationale for the use of arts-based research in chronic pain, therapeutic effects of arts-based research and modalities, and recommendations and directions in arts-based research on chronic pain.

Rationale for Use of Arts-Based Research in Chronic Pain

Arts-based research was employed to (1) explore and better understand the lived experience of chronic pain, (2) construct an intervention, and (3) investigate or validate a clinical tool for pain patients. See Table 2 for details on rationales for studies or projects and the arts-based modality used. More than half the articles indicated the use of visual arts-based modalities to better understand the lived experience of individuals with chronic pain (n = 7).[19,22–25,30,32] In four articles, drawing, painting, or body mapping (a process of creating life-size artwork that represents people's identities within their social contexts) activities with participants yielded rich details about how chronic pain affects their interior world, self-identity, and emotional and psychological states.[19,22,25,30] As acknowledged by Skop,[30] there is no single method of body mapping, and the aforementioned article utilized a wide variety of art techniques such as drawing, painting, and collage for participants to create their body maps. Three articles reported the use of photos to develop in-depth descriptions and understandings of individuals' experiences with chronic pain.[23,24,32] The authors selected photovoice and photoelicitation methods because they did not require artistic skill or coordination demanded by drawing and painting and offered these patients a voice to improve health care communication and interventions. Several authors concluded that combining multiple qualitative methods, such as photovoice with interviews or focus groups, may empower patients to communicate their pain experience more effectively to health care professionals caring for them.[23,32] Across articles, authors argued that the artwork and photos produced by participants captured and communicated subtleties and layers of their experience that discursive methods such as verbal interviews, clinical scales, or other text-based methods alone do not access.

Two articles reported unique, multiphased designs to construct a health intervention. Reid et al.[29] reported how researchers collected family member narratives from parents or carers of children with chronic pain, and these interviews were translated into an e-book by a creative writer. The evaluation concluded that parents preferred the image and narrative–based e-book to understand their child's pain condition rather than standard health information. Purposely blurring the research process and outcome, Tarr et al.[31] designed an intervention series of four workshops facilitated by professional artists to reframe patients' perceptions of pain as an isolated individual

Table 2. Rationales for arts-based research in chronic pain.

Types of rationale	Authors	Arts-based modality	Rationale for art-based modality	Findings and recommendations related to use of arts-based research
To explore and better understand the lived experience of patients with chronic pain ($n = 7$)	Antunovich et al.[19]	Drawing	Drawing can provide new and insightful knowledge about people's perceptions of pain Aspects of drawing are associated with clinical health markers Drawings allow people to provide creative and expressive responses and can be analyzed qualitatively	Improved understanding of psychosocial issues in complex pain Recommended future research using other approaches to interpret the drawing and verbal data, which could reveal a deeper understanding of how people experience CRPS
	Henare et al.[22]	Mixed-media artwork (drawing, sketching, painting)	Art allows people to go beneath the verbal layer of communication, externalize their difficulties, and address the psychosocial impact of chronic physical illnesses Art as a research method can elicit knowledge and experience in a way that is not possible with other methods, supporting the use of art as a data-gathering strategy	Achieved deep insights into identity and experiential aspects of chronic pain. Art brought images of pain vividly to life The research process supported the use of art as an expressive medium in occupational therapy Recommended visual arts therapy for occupational therapists
	Hughes et al.[23]	Photos (photoelicitation)	Art, such as drawing and photography, can facilitate deeper explanations of the sensory, psychological, and social impacts of chronic pain Taking photographs is less dependent on artistic ability than hand-drawn images while still allowing participants to describe their experiences and articulate their personal meanings and sense-making	Identified complicated ways in which pain impacts lives Photoelicitation enabled an exploration of the factors that contribute to QoL for participants, and how these factors are understood in relation to day-to-day experience and reduce or facilitate QoL Recommended future research use video conferencing to facilitate rapport-building when conducting photoelicitation interviews Recommended photoelicitation methods to improve health care communication to facilitate trust and reduce stress caused by complex pain management regimes
	Kattari and Beltrán[24]	Photos (photovoice) modified with other forms of artwork and a public exhibit	Photovoice can foster participant engagement and ensures that participants' voices and experiences are centered in an authentic way Modified photovoice to allow participants to share their thoughts and experiences in a creative way, in addition to hearing from other chronically ill individuals and those with chronic pain	Developed in-depth descriptions of individuals' experience and feeling states and created a community support space Activities such as (modified) photovoice and other arts-based methodologies are potentially helpful tools or interventions to connect with others who hold a shared identity and to create community and support systems Recommended use of modified photovoice and other arts-based methods as intervention tools for practitioners to use with patients with chronic pain Recommended future research use modified photovoice and multiple modalities (i.e., journaling, creative and/or visual arts) to meet the unique needs of community members
	Kirkham et al.[25]	Drawing and painting	Process of pictorial representation can help participants give expression and form to experience and feelings	Developed deep understanding of patients' internal sensory worlds and experience of pain as impacting self-identity The combination of image and account from participants produced a vivid, dynamic gestalt, enabling a closer approximation to experiences of pain Acknowledged convergence with art therapy and usefulness in that regard Recommended future research that examines how pictorial representations change over time and with interventions

(*Continued*)

Table 2. (Continued).

Types of rationale	Authors	Arts-based modality	Rationale for art-based modality	Findings and recommendations related to use of arts-based research
	Skop[30]	Body mapping	Body mapping can enable gaining access to people's perceptions of their bodies, provide a nonverbal model for expressing complex emotional and physical states, stimulate insights that may not arise using traditional qualitative methods, promote liberation through storytelling, and transform individuals' stories into societal narratives Author exhibits body maps in galleries as educational tool	Achieved detailed understanding of patient experiences of social and structural factors in health care experience. Empowered marginalized patient group Patients reported therapeutic value of body mapping and social connection it provided living with pain Body mapping can be used as an education tool for the health care community
	Wallace et al.[32]	Photos (photovoice)	Photovoice method combines photography and narrative to explore perspectives of individuals that may not otherwise be appreciated	Photovoice methods provided rich insights into perceptions and experiences of patients with chronic pain and these findings can inform future interventions A combination of qualitative methods, including photovoice, may enable and empower those with varying communication preferences to more effectively relay their experiences
To construct an intervention (*n* = 3)	Lou et al.[26]	Art observation, visual art, and pain diary	Art is a potential medium for understanding pain experiences and providing an alternative form of communication that occupational therapists can incorporate into their practice	Art-making activities and pain diary enabled patients to express their experience, better manage pain, and promote self-development Recommended use of art as a medium for better communication with patients in occupational therapy settings
	Reid et al.[29]	Art and narrative–based e-book	An art and narrative–based e-book can facilitate knowledge translation for parents whose children live with chronic pain and provide a novel way to deliver information to parents Art and narrative–based forms can communicate with, engage with, and influence individuals	Parents' knowledge of pain improved and they preferred the narrative arts-based e-book rather than standard health information Results suggest art and narrative-based knowledge translation interventions may be useful in transferring complex health information to parents
	Tarr et al.[31]	Arts workshops on visual arts, body mapping, music therapy, and spatial mapping of pain based in a performative approach	Group art workshops can reframe patients' experiences with chronic pain through discussing, sharing, and reflecting in a collective and performative space	Arts-based research methods can constitute a process and a product. Created communal form of pain communication Performative approaches to arts-based research require rethinking about what constitutes data; to acknowledge method as a process and as product, both part of the data assemblage. Liveness and its unrepeatability are central to the workshops and the productive and the communal space they produced
To investigate or validate a clinical tool for patients with pain (*n* = 4)	Abichandani et al.[20]	Pain drawings	Pain drawings can be a clinical tool for patients with chronic neck pain	Findings support the use of pain drawings as a clinical tool to represent the pain experience of patients
	Barnes et al.[21]	Photos (photovoice)	Photographs can add more detailed and precise information than what is generated by word-only interviews, allowing insight into difficult, emotional, or otherwise sensitive issues and experiences	Coconstructed narratives suggest that self-compassion may be one of many effective tools to assist with the management of the affective-emotional dimension of chronic pain

(*Continued*)

experience. The performative focus of the arts-based study created a collective space that challenged both the participants' views on pain and the researchers' views on qualitative methods.[31]

Four articles described utilizing visual methods to determine the validity of a clinical tool or approach, three of which confirmed the usefulness of pain drawings in clinical settings.[20,27,28] Interestingly, the three articles that utilized "pain drawings" all did so in quite different ways. Abichandani et al.[20] referred to pain drawings as the product created when the patient shades or marks painful areas on an illustration of the human body. In research conducted by Phillips et al.,[28] participants were instructed to visualize their pain as vividly as possible and draw this image in a blank space provided. Work by Nizza et al.[27] followed a single participant, a female living with chronic pain, through three separate interviews. At each interview, the participant was asked to draw an image of her current pain, and the drawings were used to discuss the changing impact pain was having on her life. Alternatively, Barnes et al.[21] used photovoice methods to validate the use of self-compassion to manage the emotional aspect of living with chronic pain that is not associated with a diagnosed health condition.

Therapeutic Effects of Arts-Based Research Methods

Nine articles, or two-thirds of the total included articles, discussed the presence of therapeutic outcomes due to the arts-based research used.[21,22,24–28,30,31] In some articles, therapeutic effects were noted by study or project participants themselves, whereas in other articles, these effects were observed and based on researcher interpretations. See Table 3 for details.

Therapeutic effects appeared to occur across various mediums utilized by researchers, including photovoice, modified photovoice, mixed-media artwork, drawing, painting, and body mapping. Authors noted that the process of participation in making visual art assisted participants in managing the affective-emotional component of chronic pain[21] and provided a novel means of managing chronic pain, including the psychological aspects of a changed identity that occurs over time with pain conditions.[22,25–27] Three articles concluded that their arts-based research design was therapeutic because it constructed a collective space for participants to connect and share their experiences with others.[24,30,31] For many participants, these research workshops provided a new frame for perceiving and communicating about their pain, and in many instances, the group process was the first time their pain had been experienced as more than a solitary phenomenon to endure alone.

Table 2. (Continued).

Types of rationale	Authors	Arts-based modality	Rationale for art-based modality	Findings and recommendations related to use of arts-based research
	Nizza et al.[27]	Drawing	Drawings can give insight into the imagery of chronic pain, enhance reflexivity and sense-making, allow participants to think differently about their disease, and act as a safe way to express painful feelings Case study as a proof of concept for using IPA longitudinally, combining visual and interview data, and sets the precedent for the method to be extended to a wider sample	Achieved in-depth understanding of meanings associated with pain drawings Arts-based method provided knowledge about changes in patient's pain journey and improvement over time The use of creating drawings was therapeutic for patient and this effect was amplified by longitudinal design Recommended future research apply the methodology with people with different cultural backgrounds
	Phillips et al.[28]	Drawing	Patients with pain experience imagery related to their pain that can be pictorially represented using drawing. Drawings can serve as a communication tool with health care providers and enable people to reflect upon and make sense of their pain	Patients could make a pain drawing that conveyed information beyond verbal descriptions Pain drawings may be helpful in assessment and treatment of chronic pain Recommended future research larger in scale that explores the representativeness of study findings and enables an assessment of differences in imagery among diverse participants. Research that evaluates the usefulness of using imagery as a communication tool recommended

CRPS = complex regional pain syndrome; IPA = interpretive phenomenological analysis; QoL = quality of life.

Table 3. Therapeutic effects of arts-based research.

Authors	Arts-based modality	Therapeutic effects reported
Barnes et al.[21]	Photos (photovoice)	Participation in the research process created feelings of connectedness with others in focus groups, generated self-compassion, and assisted with managing the emotional dimension of chronic pain
Henare et al.[22]	Mixed media artwork (drawing, sketching, painting)	Participants commented on therapeutic benefits of drawing/painting for managing pain and self-identity issues Authors suggested their research process supports art as an expressive medium in occupational therapy
Kattari and Beltrán[24]	Photos (photovoice) modified with other forms of artwork and a public reception of artwork	Participants stated feeling "validated" and "uplifted" by research process, because it allowed them to connect with others with similar experiences Authors recommended that photography and other artwork is an effective intervention for those living with chronic pain and disability as a means to connect with others and create sense of community
Kirkham et al.[25]	Drawing and painting	Authors noted the "convergence" of their research process with art therapy protocols and recommended art therapy as a management tool for pain
Lou et al.[26]	Art observation, visual art, and pain diary	Participants found therapeutic value in using art to express, distract from, and/or manage pain Authors concluded the visual art creation combined with a pain diary can support occupational therapists to work with patients with chronic pain more effectively
Nizza et al.[27]	Drawing	Authors reported the clinical use of creating drawings was therapeutic for patient and this effect was amplified by longitudinal design
Phillips et al.[28]	Drawing	Authors recommended drawing for patients with chronic pain may be a useful process for assessment and treatment of chronic pain
Skop[30]	Body mapping	Participants reported the use of body mapping increased their social connection; research process was first time pain was not perceived as only a solitary experience
Tarr et al.[31]	Arts workshops on visual arts, body mapping, music therapy, and spatial mapping of pain based in performative approach	Authors stated that the research process and output inseparable. Participants appreciated therapeutic benefits of the communal space constructed by the research design

Several authors who observed therapeutic effects suggested arts-based methods as tools for specific practitioner groups. For instance, Lou et al.[26] concluded that visual art creation and pain diaries can be effective tools for occupational therapists working with patients with chronic pain. Similarly, Henare et al.[22] suggested the use of art therapy as an expressive medium for occupational therapists to incorporate into their practice. Skop[30] pointed to the value and importance of innovative methods such as body mapping for social work research. Interestingly, the design of Skop's[30] study was borrowed and adapted from art therapy. The author noted that participants became calmer as they worked on their body maps, despite the significant time commitment in the study and its focus on barriers to health care access.

The considerable reportage in this scoping review on therapeutic outcomes for participants in arts-based research indicates the complexity and perhaps futility of attempting to separate the research process from the research product. Tarr et al.[31] highlighted this conceptual issue, stating that arts-based research can challenge what constitutes data for researchers and that such a method itself is not simply a condition for data collection but is inseparable from the data itself.

Recommendations and Future Directions in Arts-Based Research on Chronic Pain

Researchers in this emergent field of inquiry and approach to studying chronic pain unanimously commended the use of arts-based research to better understand and communicate with patients. Several articles noted, as did Kirkham et al.,[25] that arts-based research demonstrates a "convergence" with art therapy.(p23) Art therapy was described as an emergent treatment for pain conditions and recommended as a potential avenue for future collaborative investigations into pain management.[25] Researchers from disciplines such as social work, psychology, and occupational therapy were more prone to make such connections. Articles from physician researchers were few in this field,[19,20,32] perhaps indicative that qualitative research methods remain on the margins of pain research in medicine. Medical treatments for chronic pain tend to use pain rating scales; however, participants in arts-based research have indicated a dislike for such numerical representations of their experience, preferring the use of visual diaries, for example.[26]

The social aspects of chronic and complex pain, especially how pain changes self-identity, produces the creation of a new "self," and disrupts social connections, were identified as important areas for future research.[19,23,26] Hughes et al.[23] argued that the neglect or misunderstanding of the social aspects of chronic pain might become a barrier to communication with providers and ultimately limit pain management itself. Arts-based research was positioned as a means of assisting patients with strategies to redefine themselves and their life,[22] with means of doing this including identifying effective activities to teach self-compassion for emotional well-being[21] or building supportive interpersonal relationships.[23] These were suggested as potential areas for future research and interdisciplinary collaboration. The finding that making and discussing art in a group setting may provide some individuals with chronic pain a sense of community, which in turn provides a social form of pain management, points to the potential for future research and interventions to incorporate the power of group connection in their designs.[22,24,26,31]

To produce rich, detailed findings that captured the experience of persons with chronic pain, most articles in this review utilized multiple forms of data, designed multiphased protocols, or modified well-established qualitative methods to suit participants better. To develop the field of arts-based research in chronic pain, future research will likely demand creative multiphased studies that employ collaboration across disciplines. For instance, Kattari and Beltrán[24] recommended a modified photovoice method to enhance participation for individuals with disabilities who are unable to move around; however, they combined this method with other art modalities, reflective journaling, and a public reception, challenging researchers who might seek to attribute the positive outcomes to isolated or specific aspects of the method. It is likely that this creative or layered approach to research in chronic pain will continue to build on these innovative methods.

Pain drawings were employed in many of the included articles, and future research with pain images holds promise for clinical interventions that use rescripting instructions to assist patients in generating and rehearsing more positive ways of coping with pain beyond negative representations of the self.[28] Though articles provided evidence of the usefulness of pain drawings to capture inner experience, future pain image interventions may move beyond patient assessment to interventions for controlling pain.[28] Research that examines a person's trajectory over time and how they come to manage their pain and develop a degree of agency and control in their life was also recommended.[27] Similarly, knowledge translation research that makes use of digital art and narrative–based tools, which participants prefer over traditional text and verbal–based health information, was highlighted in reviewed articles.[29]

Discussion

Researchers employing arts-based research to study chronic pain unanimously commended these methods to better understand and communicate with patients. Articles ranged in sample size from 1 to 54 but favored small sample sizes and rich, in-depth data collection over larger samples that constrained methods of data collection. Various arts-based modalities were employed to better understand the lived experiences of individuals with chronic pain, including drawing, painting, body mapping, photovoice, and some combined with traditional qualitative methods of interviews and focus groups. Across articles, authors used these arts-based modalities to capture and convey subtleties and layers of the patient experience that they claimed traditional methods alone were unable to capture. Several of the articles suggest that arts-based research may be used as a tool to help patients express the full breadth of their pain experience outside of a clinical setting. Bagnoli[33] previously suggests that applying arts-based methods in the context of an interview can open participants up to different interpretations of the research question and allow for creative interviewing techniques that are more in line with the participant's subjective meaning of the research question. Thus, combining art with traditional methods of data collection may open up a whole new world of possibility. However, no article directly compared the data collected from arts-based methods with the data collected through traditional methods; they were instead used as complementary approaches. Despite the wide variation in sample and methods across these articles, all authors identified arts-based research as suitable for exploring and understanding chronic pain from the perspective of the patient, aligning with findings in the use of arts-based research in other disease contexts.[10]

We noted that eight articles treated art itself as data that were analyzed by the researchers. In most cases, artwork appeared to be treated akin to textual data that were interpreted often in conjunction with participants' interviews, journals, or reflexive accounts. For example, Kirkham et al.[25] grounded the analysis of images in participants' accounts of their pictures out of recognition that images could be open to multiple interpretations, in what they called a triple hermeneutic, whereby the researcher made sense of the participant's interpretation of their visual representation. Noting the dearth of direction for visual analysis, Skop[30] developed a multilayered coding scheme for analyzing body maps that used an inductive approach to developing and applying a coding scheme based on similarities and differences in the use of color, themes and discourses, types of representation, size, repetition, and location. Across articles, there seemed to be a lack of established methods for analyzing and interpreting art when it was treated as data. Although researcher interpretation is fundamental in qualitative studies and appears integral to arts-based research, systematic methods for analyzing artwork and facilitating interpretation seem to be in their early stages. Further development is necessary for the field to progress.

Authors of nine articles reported that the arts-based research methods they employed produced therapeutic benefits for participants, as reported in other conditions.[10] Some papers described benefits for the individual in how they conceptualized their own pain experience,[22,25–27] whereas others concluded that their arts-based research design constructed a collective space for participants to connect and share their experience with others.[24,30,31] These conclusions were derived from both study or project participants' remarks and researchers' observations and interpretations. Further investigation is necessary to gather explicit evidence exploring the varying effects of engagement in arts-based research. Though certain individuals may experience positive outcomes, this may not be universally applicable to everyone. Moreover, exploration of the overlap, including similarities and differences, between art therapy and arts-based research could provide insight into the therapeutic mechanisms that appear to be triggered through this type of research.

Research participation is typically conveyed as an activity that will benefit others without consideration for the benefit to the participant themselves. Yet, the psychological benefits of research participation have included increased self-esteem,[34] self-awareness, sense of purpose, empowerment, healing, and providing a voice to those who would otherwise be silenced.[35] Specifically, qualitative research interviews have been increasingly recognized as having potentially therapeutic benefits,[36–42] blurring the boundaries with therapy or counseling.[37] As recommended when conducting qualitative interviews, those using arts-based research methods should be aware of the possibility of blurring the researcher–therapist boundaries and develop research protocols accordingly. Warr et al.[43] cautioned against the use of arts-based research methods, stating that they can create "fuzzy boundaries" between the researchers and the participants if emotional connections are formed over long periods of time. There may also be a tendency toward selection bias, where people who may be more likely to benefit from arts-based research may also be more likely to participate in arts-based research projects. However, this might not always be the case. If arts-based research has the potential to bring difficult memories and emotions to the fore, researchers are obligated to make potential participants aware of this risk. Moreover, identification of the therapeutic elements of arts-based methods that use a group format warrants future investigation, as does the development of strategies to ensure that study participants are supported in a safe and ethical manner. Ensuring that researchers have processes in place for referring participants to counselors or therapists seems like an important aspect to conducting arts-based research.

Ethically, many considerations need to be made when pursuing an arts-based research project that may differ from considerations in traditional methods. For instance, consent may need to be sought at multiple time points throughout the study to ensure ongoing consent as the product unfolds, in particular, where visual methods are used that may threaten the confidentiality of participants or others portrayed in the images.[44] Unlike interviews, focus groups, or surveys, arts-based research complicates questions of authorship and ownership of the work.[43,45–47] Sustaining respectful relationships with participants may mean that ownership of the product remains with the research participant rather than the traditional approach of researcher ownership over the data.[43,45–47]

Conceptualizations of chronic pain point to the multidimensional nature of, and interactions among, biological, psychological, and social factors.[6] The findings of reviewed articles overwhelmingly underscored and illustrated the interconnected and reciprocal relationships between physical pain, psychological consequences and contributors to pain, and the significant role played by interpersonal relationships, community engagement, and social structures. Additionally, functional factors were highlighted, such as how pain shapes and is shaped by daily living and participation in everyday life. Recently, machine learning and predictive modeling have suggested the crucial contribution of emotion, particularly emotional experience felt in the body, in comprehending chronic pain.[48] Across articles, a marked impact of chronic pain on self-identity and self-awareness was also observed. The research further highlighted the biographical work undertaken by participants over time to redefine themselves and self in relation to others. Moreover, the dynamic nature of chronic pain emerged as a central theme, with descriptions portraying it as a journey, a transition, evolving over time, and involving aspects of self-management, resistance, and resilience. These findings suggest potential shortcomings of clinical care that fail to account for and sufficiently address the psychosocial, functional, cognitive, and dynamic aspects of chronic pain experiences.

Arts-based research challenges the largely sole dependence on measures to understand painful experiences. On their own, visual analogue scales may be insufficient because they rely on constricting concepts that convey pain as only a simple rate of severity or intensity rather than a fluid and complex construct.[26] The reviewed articles proposed that further research should focus on the complexity of chronic pain conveyed through arts-based understandings and consider pain to be a complex social construct. Excessive reliance on biomedical mechanisms to explain pain overlooks the important understanding of pain as embedded within a social world shaped by relationships, perceptions, communities, and culture. It could be possible that various art modalities are differently suited to exploring pain embedded in social life, shaped by context in multiple ways. There is a need for future arts-based research to investigate how art modalities variously open up the complexity of understanding.

The implications of using arts-based modalities clinically warrant further study, given several authors' recommendations for using artistic modalities to improve patient–provider communication. Reviewed articles indicated that these modalities facilitate a deeper understanding of patients' experiences, particularly concerning social and structural factors within health care contexts.[30] This nuanced comprehension of chronic pain experiences holds potential for improving pain management, fostering stronger patient–provider relationships, and guiding the development of future interventions aimed at enhancing patient care.[24,30,32] Notably, several articles highlighted the power of arts-based modalities in crafting interventions.[4,26,31] For instance, Lou et al.[26] found that engaging in art-making activities and maintaining a pain diary empowered patients to articulate their experience, better manage pain, and foster self-growth. Consequently, there is a need for clinical research to delve into the impact of art-making activities on pain coping and management and patient–provider dynamics. Additionally, authors suggested that arts-based research methods offer promise in refining or validating clinical tools for individuals with chronic pain.[20,21,27,28] Pain drawings were highlighted as a valuable tool for conveying information beyond verbal descriptions, showing promise as a clinical aid.[20,27,28] Further, these methods offer insights into changes in patients' pain trajectories and clinical progress over time,[27] highlighting their utility in monitoring and understanding the patient experience.

Finally, the articles reviewed proposed multimodal, cross-disciplinary approaches to data collection to be incorporated into future arts-based research to gain better information on the complexity of the pain experience. The combination of traditional qualitative and quantitative data collection in research has been well evaluated for its benefits and challenges. Arts-based research as a legitimate form of research inquiry has had less attention but holds promise as a methodology, particularly in the field of chronic pain.

Strengths and Limitations

This scoping review adds to the evidence base, providing an overview of literature available on arts-based research on chronic non-cancer pain. A strength of our review was the application of a specific definition of chronic non-cancer pain. By using a broad, yet consistent definition we were able to bring together work on fibromyalgia, complex chronic pain cases, neck pain, paraplegia-related pain, chronic pain in individuals with comorbid disabilities, and pediatric chronic pain. This enabled us to explore the use of arts-based research across different health conditions and populations. The international spectrum of articles included was both a strength and limitation of this review. Though including articles from Canada, the UK, New Zealand, the United States enabled us to observe the diversity of the field, cultural differences in pain, disability, and health care systems were not assessed. This was further compounded by limiting our search results to English-language publications, which restricted our results to mainly English-speaking countries. For this review, publication database searches were limited to peer-reviewed sources. By excluding gray literature, discussion papers, other reviews, chronic cancer pain–related articles, and articles investigating art as therapy or arts-based treatments for chronic pain, we perhaps missed meaningful work that could be used to further understand and explore the role of arts-based research in chronic pain. Though our interest in arts-based research as a process and product stems from our close collaboration with patient partners, patient partners were not review team members owing to the lack of funding to provide adequate honoraria. Similarly, we did not conduct the optional final consultation phase of a scoping review because we did not have funding to organize and conduct robust engagement with patient, clinician, and researcher stakeholders or to collect and analyze stakeholder input regarding preliminary review findings.

Future Research Directions

Findings from this scoping review suggest that the arts may have an important role in comprehensive approaches to understanding and helping people live with chronic pain. However, additional research and funding to support that research are needed to address gaps in the evidence. Interestingly, articles from physician researchers were few in this field, with the majority of the articles reporting on work being done in the fields of social work, psychology, and occupational therapy. Future research could explore how to bridge this gap between clinical medicine and arts-based research. It was unexpected to find that no articles explicitly mentioned individuals with chronic pain as co-researchers or research team members. Given the growing recognition of the value of engaging with patient partners throughout research, the development of guidance and support for patient partners and researchers, and mechanisms to reimburse and formally acknowledge patient partners as key research team members, there is a tremendous opportunity to reconceptualize arts-based research in collaboration with individuals experiencing chronic pain. By prioritizing patient-oriented approaches in future arts-based research, there is potential to inspire methodological innovation and uncover insights that directly address patients' priorities. Interestingly, no articles indicated the use of digital storytelling, a technology-assisted form of arts-based research used to gather deeply personal stories. Future research should consider the use of digital storytelling and its feasibility as a new medium for arts-based research. While conducting this scoping review, we noted that articles predominantly recruited women more than other more diverse gender groups; therefore, it is unknown how gender might influence, for example, the types of visuals or the effectiveness of journaling or pain diaries in research designs. Future research may consider a sex- and gender-based analysis of arts-based chronic pain research.

Conclusion

This scoping review explored the extent of arts-based media in chronic pain research and sought to understand the rationale behind the use of arts-based research methods. Despite the wide variation in sample and methods across these articles, researchers in this emergent field of inquiry and approach to studying chronic pain unanimously supported the use of arts-based research to better understand and communicate with patients.

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