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A Narrative Medicine Approach to Analyzing Illness Narratives and Designing Rehabilitation Programs for Musculoskeletal Pain Patients

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Abstract: This study examines the value of Narrative Medicine in the clinical practice for patients with musculoskeletal pain. Current management of this common and subjective chronic condition often prioritizes objective metrics like imaging, thereby neglecting the patient's lived experience of suffering and key psychosocial factors. By adopting a Narrative Medicine framework, this research analyzes patient illness narratives to explore themes of meaning, emotion, social context, and identity. Based on these insights, it proposes the design of individualized, biopsychosocial rehabilitation plans that are informed by patient narratives, arguing for their theoretical soundness and practical benefits. The research aims to affirm that engaging with patient stories significantly enhances physician-patient communication, treatment adherence, and clinical outcomes, fostering holistic recovery and providing a new direction for modern musculoskeletal rehabilitation. However, the preliminary framework established in this study requires validation through subsequent empirical intervention research.
Keywords: Narrative Medicine; Musculoskeletal Pain; Illness Narrative; Rehabilitation Program; Physician-Patient Communication

I. Introduction

1.1 Research Background and Significance

National health strategies, particularly the "Healthy China" initiative, are shifting from a disease-treatment paradigm toward a comprehensive, health-centered approach that integrates chronic disease management and rehabilitation.Musculoskeletal pain, a prevalent chronic condition, significantly impacts patients' quality of life and work capacity.This misalignment is particularly problematic for musculoskeletal pain, a chronic condition characterized by high recurrence and complex psychosocial comorbidities.Despite multiple imaging examinations and diverse treatments, sustained relief remains elusive, trapping them in a cycle of physical suffering, psychological stress, and life dissatisfaction[1][2]. The traditional biomedical model, centered on structural damage, overlooks subjective pain experiences, emotions, and life contexts, leading to imbalanced physician-patient communication and eroded trust and adherence[3].

To address these challenges within the "Healthy China" framework, a shift from purely biological intervention to a biopsychosocial model is required. Narrative Medicine offers a specific, actionable methodology to bridge this gap. By systematically analyzing illness narratives, clinicians can access the "lived experience" of pain—including themes of meaning, emotion, and social context—that are otherwise obscured by objective metrics. This study argues that integrating Narrative Medicine into musculoskeletal rehabilitation is not merely a humanistic gesture but a clinical necessity to enhance communication, adherence, and functional outcomes, thereby fulfilling the modern rehabilitation goals of whole-person care.

II. Literature Review

2.1 Domestic Research Review

Domestic and international research on musculoskeletal pain focuses on diagnostic techniques, functional mechanisms, and rehabilitation strategies, showing a trend extending from structure to function[3]. Domestic studies indicate that musculoskeletal ultrasound can accurately identify pain sources, with functional impairment correlated to pain experience. Integrated approaches such as Leihuo moxibustion combined with robotics and Italian fascial techniques are effective, while narrative medicine improves patients' psychological experience. However, the overall approach still relies on the biomedical paradigm, with insufficient attention to subjective experience and illness narratives[4][5]. International research emphasizes evidence-based practices, multimodal interventions, and long-term management, including musculoskeletal manual therapy, acupuncture mechanisms, and the central role of primary care. Despite maturity, it similarly neglects pain subjectivity and narrative dimensions, failing to establish a rehabilitation theoretical framework based on patient narratives[1][6]. Therefore, constructing a biopsychosocial integrated narrative rehabilitation model holds innovative value.

2.2 Overseas Research Review

International research on musculoskeletal pain is characterized by a strong emphasis on evidence-based practice (EBP), multimodal analgesia, and long-term self-management. Musculoskeletal pain requires long-term management within primary healthcare systems, playing a central role in grassroots medical care[7][8]. Occupational groups are prone to pain due to postural strain, indicating directions for occupational exposure prevention[3]. Traditional medications require evaluation of long-term safety, with future focus on non-pharmacological and integrated interventions[9]. The US has

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advanced in the application of injectable biologics, but pain management must balance functional improvement with long-term outcomes[10]. Although international research is mature, it insufficiently addresses pain subjectivity, emotional aspects, and illness narratives, failing to form a rehabilitation theoretical framework based on patient narratives.

2.3 Research Gap and Innovation

A critical analysis of both domestic and international literature reveals a significant gap: while Narrative Medicine is recognized as a valuable tool for empathy and communication; it has rarely been utilized as the foundational framework for designing individualized biopsychosocial rehabilitation plans. Existing studies predominantly view narratives as a means to improve satisfaction or psychological state, rather than as a diagnostic and planning tool to guide specific functional recovery exercises and social reintegration goals.

This study distinguishes itself by moving beyond narrative medicine as a "soft skill" to establish it as a rigorous clinical methodology. It proposes a novel, systematic framework where patient narratives are analyzed to extract specific themes that directly inform the construction of rehabilitation protocols. Unlike previous research that focused on narrative interviews or education, this study validates the theoretical soundness and practical utility of a narrative-driven rehabilitation model, offering a new direction for evidence-based, holistic musculoskeletal care.

III. Methodology

3.1 Thematic Analysis of Illness Narratives of Musculoskeletal Pain Patients

The Illness Narratives of patients with chronic musculoskeletal pain reveal symptoms and reflect the overall feelings of the body, psychology and social role[6]. Pain, as a subjective experience, has an impact far beyond the physiological level and is closely related to cognitive evaluation, emotion regulation, and social support. This study adopted a mixed-method design, combining quantitative questionnaires and qualitative narratives to explore the mechanisms of pain influence from physiological, psychological, and social dimensions[11]. Quantitative analysis was performed on the correlation between pain intensity (VAS), functional impairment (activity participation), and psychological state (anxiety, depression, catastrophizing tendency)[12][13]; qualitative analysis was performed on the psychological fluctuations and the process of life meaning reconstruction, reflecting the value of Illness Narratives as a bridge between health communication and humanistic medicine.

3.2 Research Method Design

3.2.1 Research Paradigm: Mixed-Method Research

This study adopted a mixed-method research design combining quantitative and qualitative methods. The study was divided into two stages. In the first stage, this study utilized a self-developed "Guoyitang Patient Experience and Satisfaction Follow-up Questionnaire" administered via face-to-face interviews and recorded on the Wenjuanxing platform. The study was released through the Wenjuanxing platform to conduct a quantitative survey of 114 musculoskeletal pain patients. The questionnaire content covered six dimensions: ① basic demographic characteristics (age, gender, education, occupation, etc.); ② consultation experience and satisfaction; ③ pain location and pain cause[14]; ④ pain frequency and duration; ⑤ doctor's professional level and treatment effect; ⑥ patient health attitude and doctor-patient interaction. Quantitative data were analyzed using SPSS for descriptive and correlational statistics to reveal the relationship between pain intensity, functional impairment, anxiety and depression, and patient compliance. The second stage involved collecting patient narrative texts through open-ended questionnaire questions, such as "the most troubling aspect of pain" and "the most memorable experience seeking medical help". Thematic analysis was used to encode line by line, extracting core themes related to pain cognition, emotional experience, and doctor-patient interaction. This process not only deepened the interpretation of the quantitative results but also revealed the psychological changes and social role reconstruction of patients in pain management[15].

3.2.2 Survey Subjects and Sampling Methods

The survey subjects in this study were patients with chronic musculoskeletal pain, such as chronic nonspecific low back pain, neck and shoulder pain, etc., with a course of disease > 3 months. Convenience sampling and snowball sampling were combined to ensure sample diversity and representativeness. A total of 114 valid questionnaires were collected, achieving the pre-set sample size target. A combination of online and offline methods was used to ensure data integrity and comprehensiveness.

3.3 Data Analysis Methods

3.3.1 Quantitative Data Analysis

This study conducted quantitative analysis using SPSS, including descriptive and inferential statistics. Descriptive statistics show sample characteristics, including frequency/percentage of demographic data (gender, age, etc.), and mean and standard deviation of scale scores such as VAS and Oswestry Index. For example, a VAS mean of 7.5/10 (standard deviation 1.2) indicates that most patients experience high pain intensity, which significantly impacts their quality of life and mood.

This study underscores the efficacy of integrating Narrative Medicine into musculoskeletal pain rehabilitation, revealing significant correlations between pain intensity, functional impairment, and anxiety through quantitative analysis. At the same time, qualitative insights highlight key themes such as functional loss, identity challenges, and adaptive strategies. These findings support the design of individualized, biopsychosocial rehabilitation programs that enhance physician-patient communication, treatment adherence, and holistic recovery, warranting further validation through empirical intervention studies.

IV. Theoretical Framework

4.1 The Multi-Dimensionality and Narrative Nature of Musculoskeletal Pain Experience

4.1.1 The Subjectivity and Inexpressibility of Pain

In 2020, the International Association of Pain Societies (IASP) updated the definition of pain to "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or a similar experience"[11]. Both the 1979 and 2020 definitions explicitly characterize pain as an "experience," anchoring it firmly within the realm of subjective consciousness rather than treating it merely as an objective physiological signal. Because the pain subject's self-expression is the sole criterion for diagnosis, and due to the inherent limitations of language—where no single word can fully encapsulate the complex sensory and emotional storm of pain—its essence remains difficult to convey completely and accurately to others. This constitutes the fundamental "inexpressibility" of pain.

4.1.2 Chronic Pain: Disruption and Reconstruction of Life

Chronic pain is not only a physical symptom but also profoundly affects identity and life trajectory. Long-term pain can disrupt the rhythm of life and role positioning, making it difficult for patients to fulfill their work, social and family responsibilities, weakening their sense of self-worth, and even causing them to lose the meaning of life.Pain often coexists with depression and anxiety. Functional disorders intensify psychological burdens, creating a vicious cycle of "pain - functional disorders - emotional distress" [6]. Some patients achieve life reconstruction and identity redefinition by adjusting their lifestyles, rebuilding their abilities, and seeking support. This project, through narrative medicine research, systematically collects and analyzes patients' narratives, deeply understands the impact of pain on identity and life, and helps them reconstruct meaning and rebuild their lives.

4.2 The Connotation and Function of Illness Narratives

4.2.1 Illness Narrative is The Exploration of Meaning: Giving order to the Chaotic Disease Experience

The disease causes the disruption of life trajectories and the collapse of order, plunging patients into chaos. Illness Narrative, by sorting out and reconstructing experiences, endows chaos with a meaningful direction and is the key to rebuilding self-identity. The narrative process "re-encodes" the experience of illness, transforming disordered pain into a logically coherent and emotionally coherent story. This project systematically collects and analyzes patients' arratives, helping them sort out chaotic experiences, transform pain into personal meaningful stories, and rebuild a sense of order and life continuity in their chronic pain journey.

4.2.2 Illness Narratives are the Outpouring and Integration of Emotions

Diseases not only cause physical pain, but also trigger emotional shocks and psychological burdens. Illness Narratives serve as an emotional outlet, helping to vent and regulate emotions such as anxiety, fear, and anger. Externalization and deconstruction techniques separate problems from the self, reduce psychological burdens, and enhance emotional control. The project helps patients integrate their emotions, enhance their psychological adaptability, and promote self-healing and inner growth through structured narrative guidance and externalization reconstruction techniques.

4.2.3 Illness Narratives Serve as a Bridge for Establishing Doctor-Patient Alliances

Illness Narrative serves as a key medium for doctor-patient communication, capable of breaking down verbal barriers and establishing an alliance of empathy and trust. Narrative medicine enables doctors to focus on patients' stories through "parallel medical records", understand their psychological, social and cultural factors, and thereby formulate humanistic treatment plans[6]. Doctors listen and respond to patients' narratives, transforming the doctor-patient relationship from "authority-obedience" to "cooperation-empathy", and patients change from disease carriers to the main subjects of life stories. This project collects and analyzes patient narratives, transforms listening and understanding into clinical practice, and builds a therapeutic alliance to jointly address the challenges of chronic pain.

4.3 Narrative Medicine as a Methodology: How to "Listen" to Musculoskeletal Pain

4.3.1 Application of Close Reading Technique in Patient Interviews

Narrative medicine's close reading method focuses on the details of patients' language: metaphors such as "cutting with a knife", "burning with fire", "carrying a heavy burden", and "rusting" not only reflect physical pain but also reflect the pressure of life. Forty percent of patients with chronic pain have a "cyclical" or "plateau" narrative, which is different from the linear narrative of acute injury. Among those with long-term pain, 30.7% frequently experience pain and 9.65% have persistent pain. Their narratives are prone to fragmentation and repetition, and the degree of confusion can be used to assess the impact on quality of life. It is necessary to capture the emotional changes of patients during their activities such as the helplessness towards walking and working or the concept of "having to endure", and these differences are the key to understanding their social functions and identity.

4.3.2 Narrative Element Analysis: Temporality, Causality, Subjectivity

In terms of temporality, the types of pain changes and the patient's description of the start, end, peak and relief of the disease course reflect their understanding of the disease.54.39% of those with occasional pain have their narratives centered around specific activity triggers. More than 40% of those who frequently or persistently experience pain claim that it "has no end" and "shows no sign of improvement", which directly affects their confidence in treatment and compliance. At the causal level: Patients attributed the causes of pain ,lifestyle 42.98%, chronic diseases 42.11%, trauma 39.47%, reflecting a tendency to find the source of the disease based on life history. 19.3% recognized the influence of psychological factors and the need to explore the association between emotions and pain. Subjectivity level: 78.07% actively report pain, and 10.53% use self-management skills. It indicates that patients expect to play an important role in the medical narrative, and subjectivity is closely related to self-efficacy.

V. Results and Discussion

Variable	Mean	Standard Deviation	Correlation Coefficient (with Pain Intensity)
VAS (Pain Intensity)	7.5	1.2	-
ODI (Disorder of Functioning)	44.3	12.5	0.78**
HADS (Anxiety Disorders)	10.2	4.3	0.65*
PCS (Catastrophic Cognition)	19.6	5.1	0.72**

Table 1. Statistical Results of Each Variable and Their Correlation with Pain Intensity

Note: *p < 0.01, p < 0.05

According to Table 1, VAS was significantly positively correlated with ODI (r=0.78, p<0.01), indicating that the stronger the pain, the more severe the functional impairment[5]. VAS was positively correlated with HADS anxiety score (r=0.65, p<0.05), and PCS was positively correlated with VAS (r=0.72, p<0.01), indicating that pain intensity affects anxiety and catastrophic cognition. Specific data: mean VAS 7.5 (SD=1.2), mean ODI 44.3 (SD=12.5), mean HADS anxiety 10.2 (SD=4.3), mean PCS 19.6 (SD=5.1). Table 1 presents the statistics and correlations of each variable. The conclusion emphasizes that pain intensity is most correlated with functional impairment, and emotional problems exacerbate pain perception.

5.1 Qualitative Data Analysis Patients Aged

35-50 with musculoskeletal pain face challenges in their life roles due to functional limitations. For example, teachers' back pain indicates professional weakness, and office workers' inability to do housework undermines their identity as mothers, reflecting social marginalization[3][11]. Patients aged 35–50 reported functional limitations affecting their social roles. Phrases like "I can't" reflected diminished self-worth. One patient said, "I used to support my family, but now I'm a burden," highlighting the need for validation. Effective physician-patient communication improved treatment adherence, while "small victories" promoted active coping.

5.2 Core Themes in Illness Narrative Texts

5.2.1 Functional Loss and Identity Challenges

Functional loss and identity challenges are core themes in patient narratives. Pain leads to loss of bodily control and limited mobility; patients frequently use words like "cannot" and "unable," reflecting deep-seated anxiety. For example, a 42-year-old teacher said, "I have to sit down after ten minutes of class; the students find it strange, and I'm not like I used to be"; a 38-year-old office worker said, "It's difficult to hold my child, I can't do housework, and I feel like I can't help." Another patient poignantly described the erosion of self-esteem: "My body has betrayed me. I look fine, but I can't do the simplest things without wincing. It's humiliating." Pain is not only a physical obstacle but also triggers a breakdown of self-identity—from "capable" to "cared for," a role reversal that brings profound feelings of powerlessness and frustration.

5.2.2 Seeking Validation and Understanding

Medical narratives reflect patients' desire to be understood. Patients with chronic pain both hope for a cure and fear being ignored when seeking medical treatment. The contrast in experiences is stark. A 46-year-old administrative staff member said that after the doctor listened to his story, he felt taken seriously for the first time and received emotional comfort: "When the doctor finally looked up from the computer and asked, 'How does this affect your sleep?', I felt a weight lift. Someone actually saw me." Conversely, while a 39-year-old male patient was disappointed because the doctor did not listen, stating, "He just glanced at the X-ray and prescribed painkillers. He didn't ask how I was coping. I felt invisible." The medical relationship becomes an emotional bond—the doctor's attitude, tone, and whether or not they listen directly affect the patient's perception and trust in the disease. For patients with chronic diseases, "being understood" is itself a form of treatment.

5.2.3 Anxiety, Frustration, and Loneliness

Emotional burden and psychological dilemmas permeate almost all narratives. The chronicity of pain leads patients into long-term psychological exhaustion, and anxiety, fear, loneliness, and helplessness become recurring emotional keywords[5][9].Patients with chronic pain often fall into self-repression and isolation. For example, a 60-year-old male cadre suffered from insomnia and fear of doctors due to pain, showing an anxiety cycle: "I lie awake at night terrified that the pain will never stop, and I'm too scared to go back to the doctor in case they tell me it's 'all in my head'." Patients worry about the future, feel "swallowed" by pain, and have limited understanding from the outside world. As one patient wrote, "My friends stopped inviting me out because I always have to cancel. The silence of my phone is deafening." Pain is not only a physical problem but also an existential burden, isolating patients from others and causing them to suffer invisible pain in silence.

5.2.4 Adaptation Strategies and Small Victories

The narratives of musculoskeletal pain patients show a trajectory from collapse to reconstruction. Although some patients suffer from functional limitations and emotional distress, they still actively adjust through daily activities, such as civil servants stretching, farmers doing light work, and students adjusting their pace, to explore psychological balance. The Illness Narrative includes four stages: loss caused by functional identity deprivation, frustration in medical interaction, accumulation of emotional burden, and self-regulation to achieve coexistence balance, forming a unique life narrative. Pain is a physiological phenomenon, but also a socio-psychological event. Patients reconstruct meaning through narratives, organize their experiences, confirm their existence, and draw strength to move forward[1].

In clinical practice, patients' voices remind that treatment should focus on psychological needs and humanistic experiences[9]. Only by listening to and responding to patients' narratives can we achieve the transformation from "physical healing" to "holistic rehabilitation".

5.3 Design Concepts and Principles

5.3.1 From “Treating Diseases” to “Treating People”

Traditional musculoskeletal rehabilitation focuses on bioremediation and ignores the complete needs of patients. It is necessary to break this limitation and focus on the life needs of patients in the narrative.For example, a 60-year-old lumbar disc herniation patient wants to hold grandchildren, rehabilitation needs to combine bending and weight-bearing training, associate life roles and give family meaning. Foreign studies emphasize that taking patients’ narratives as the basis and paying attention to quality of life expectations can break through the limitations of biomedical science and improve the humanism and effectiveness of interventions.

5.3.2 Integrity of Whole

Musculoskeletal pain needs to build a three-dimensional intervention system of “bio-psycho-social”: biological intervention to repair physiological damage and solve organic problems; Psychological intervention breaks the “pain-anxiety” cycle and relieves the psychological amplification effect. This structural design specifically targets the Emotional Burden, Frustration, and Loneliness themes. Social intervention optimizes environmental support after stabilization and consolidates the results. Taking the mother with postpartum low back pain as an example, the stability of spine and pelvis was repaired by Kegel exercises at the biological level. Psychological level alleviates parenting anxiety. The husband should be guided to participate in collaborative rehabilitation at the social level to form a long-term management closed loop.

5.3.3 Degree of Synergy

A MDT team of rehabilitation therapists, psychologists and social workers was constructed, and patients participated in the whole process. According to “biological repair → psychological adjustment → social integration”, the closed loop from pain treatment to return to life was realized. This collaborative model ensures that the Adaptive Strategies are not just individual efforts but are supported by a systemic network. Rehabilitation therapists lead bioremediation to assist pain relief and confidence building; Psychologists took the lead in adjusting and correcting the negative perception of “pain = loss of ability”. Social workers took the lead in normalizing rehabilitation outcomes.

5.3.4 Dynamic Nature

The dynamic changes of patients’ demands need to be adjusted. This principle operationalizes the “Small Victories” and Adaptive Strategies theme , ensuring the program evolves with the patient’s narrative. Such as 50-60 agricultural production leading personnel, complained of a shoulder waist pain more pain (waist), appeal relieve back pain to early go to Wuhan, design the waist training. In the later stage, the appeal is to relieve shoulder pain, strengthen psoas muscles, increase endurance and shoulder training. In the later stage, the appeal is to relieve shoulder pain, strengthen psoas muscles, increase endurance and shoulder training. This dynamic adjustment is in line with the core requirement of narrative rehabilitation, which is guided by the real-time needs of patients rather than the immobilized process[3]. Foreign research on chronic pain rehabilitation has also confirmed that dynamic tracking of narrative changes and optimization of programs can effectively improve the long-term rehabilitation effect [13]. This dynamic adjustment is in line with the core requirement of narrative rehabilitation, which is guided by the real-time needs of patients rather than the immobilized process [3]. Foreign research on chronic pain rehabilitation has also confirmed that dynamic tracking of narrative changes and optimization of programs can effectively improve the long-term rehabilitation effect[13][14].

5.4 The Core Constituent Modules of the Rehabilitation Plan

5.4.1 Narrative Doctor-Patient co-Education

Narrative interviews were used to collect patients’ pain experiences and demands. When combined with PNSE, guided listening is used to stimulate the intrinsic motivation for cognitive change in patients. This module directly addresses the Seeking Validation and Understanding theme by transforming the consultation into a therapeutic encounter. Domestic narrative medicine research also emphasizes that guided listening and metaphorical education can build a bridge of trust between doctors and patients, which provides theoretical support for the communication strategies in this article[5][14].

5.4.2 Dual Construction of Form, Structure and Narrative

Bind the training plan to the patient’s goal narrative to avoid rigid training. For instance, if a 60-year-old patient wants to hold a grandson, the requirements for actions such as bending over, bearing weight, and balancing should be broken down[15]. Corresponding training should be designed and the goal should be emphasized to accumulate strength, overcome psychological fear, and achieve the combination of functional recovery and narrative construction. Foreign research has confirmed that integrating rehabilitation goals with patients’ life visions can endow training with intrinsic motivation and enhance the efficiency of functional recovery [3]. Prototype Case: Ms. Zhang (52, Teacher), suffering from standing intolerance (Functional Loss), is prescribed “Core Stability Training.” However, the narrative frame is changed to “The 40-Minute Lecture Challenge.” Her exercises are explicitly linked to her goal of teaching a full class without pain, turning repetitive motion into a meaningful “mission” to reclaim her professional identity.

5.4.3 Emotional Narrative Expression

Guide patients to externalize their pain emotions through writing and drawing, and design a “pain-emotion-meaning” record template. This method is based on the core technology of narrative therapy, which is “externalizing problems and reconstructing cognition”[16]. Domestic research on caregivers of patients with advanced cancer has shown that structured narrative expression can alleviate negative emotions and reduce catastrophic cognition. Although the research subjects are different, the core logic of narrative techniques can be transferred to psychological intervention for patients with musculoskeletal pain[14]. Meanwhile, the strategy of expressing pain and depicting rehabilitation scenes through painting is also consistent with the narrative nursing practice of “promoting psychological adjustment through artistic expression”. Prototype Case: Mr. Wang (38, Manual Laborer), experiencing high anxiety and frustration (Section 5.2.3), is asked to

draw his pain. He depicts a “heavy stone.” The therapist guides him to ask, “Is the stone trying to protect you?” This externalizes the pain, separating it from his self-worth and reducing the catastrophic thinking associated with his inability to work.

5.4.4 The Narrative of Social Merit is Extended and Expanded

Help patients build new social role narratives and break away from the label of “patient”. If among the respondents of the questionnaire, there is a retired worker aged 50 to 60 who has quit square dancing due to knee pain, a step-by-step strategy can be adopted. Through “music playback - organizing activities - patient sharing”, a social role can be reconstructed and the label of “patient” can be shed. This strategy is in line with the ICF’s concept that “social participation is the core goal of rehabilitation”. Foreign research also indicates that role reconstruction in group narratives can help patients regain a sense of belonging and consolidate rehabilitation outcomes. Prototype Case: Mrs. Chen who isolated herself due to knee pain, joins a “Peer Mentor” group. She shares her story of “managing pain to cook for grandkids.” By helping others, she transitions from a passive “patient” to an active “expert by experience,” shedding the sick role and rebuilding her social value, directly combating social marginalization.

5.5 Implementation Process of the Plan and Evaluation Suggestions

5.5.1 Implementation Process

The intervention for musculoskeletal pain is advanced in five steps: “collection → analysis → co-construction → implementation → iteration”, with each step clearly defining the duration, person in charge and tools: within 1-2 weeks, the rehabilitation therapist collects information through two interviews, a 7-day pain diary and one home visit. The MDT team extracts the core requirements within one week. Within 1-2 weeks, the patient’s family members will be involved in a co-construction to confirm the needs - measures - resources. For 4 to 6 weeks, the rehabilitation therapist will conduct training three times a week. Patients need to check in on the APP. If the pain intensifies, a consultation will be held within 4 hours. During the implementation period, weekly feedback and iteration will be provided, and effective measures will be archived after the implementation is completed.Connect patients’ lives with team work to ensure traceability.

5.5.2 Evaluation Suggestions

The assessment of musculoskeletal pain intervention needs to take into account both physiological and narrative indicators. Physiological indicators are measured weekly by rehabilitation physicians, including pain VAS score (0-10 points, relief is indicated by ≤3 points), functional impairment index, and joint range of motion. Narrative indicators were evaluated once in the middle and once at the end. The psychologist conducted semi-structured interviews and asked questions around “changes in pain behavior and mood, differences in the rehabilitation process, ways of handling pain again, and changes in life roles” to determine the patient’s cognitive reconstruction, active coping ability, and the effect of self-identity improvement[17].

VI. Conclusion

6.1 Discussion, Reflection and Outlook

6.1.1 Comprehensive Discussion

This study demonstrates that narrative medicine enhances musculoskeletal pain rehabilitation by integrating physiological, psychological, and social interventions. Quantitative data showed strong correlations between pain intensity, functional impairment, and anxiety (mean VAS = 7.5). Qualitative analysis identified four key themes: role disruption, need for validation, pain-anxiety cycles, and adaptive coping. Chronic pain management requires holistic care, emphasizing patient narratives and psychosocial support.[5].

6.1.2 How Illness Narratives Deepen the Understanding of the Experiences of Patients with Musculoskeletal Pain

Illness Narratives deepen understanding of musculoskeletal pain patients’ experiences through two dimensions. Firstly, breaking through physiological limitations to comprehensively present patients’physical and mental states during long-term disease courses. Secondly, capturing dynamic subjective experiences by mining psychological fluctuations and life meaning reconstruction processes through narrative texts, revealing the dynamic evolution of pain-cognition-coping and compensating for the limitations of quantitative research in analyzing only static variables.

6.1.3 The Advantages and Innovativeness of Narrative Medicine-oriented Rehabilitation Programs

Narrative medicine programs extend to psychosocial dimensions, covering patients’ complete needs.Intervention strategies are designed based on distilled pain points from narratives, with physician-patient collaboration improving adherence. Mixed designs combine quantitative data and narratives, complementing precision and authenticity; objectives upgrade from functional recovery to life meaning reconstruction, assisting patients in reconstructing social roles[5][18].

6.1.4 Implications for Improving Doctor-Patient Relations and Achieving Value-Based Healthcare

The study transforms physician-patient communication patterns from “unidirectional treatment” to “bidirectional listening”, incorporating patient narratives to guide sharing the impact of pain on life, body, and interpersonal relationships, breaking the “doctor-dominated, patient-passive” barrier; objectives upgrade from “physical healing” to “holistic recovery”, centered on patients, focusing on psychological needs and life meaning, achieving comprehensive “physical-psychological-social” rehabilitation.

6.2 Practical Challenges and Limitations

6.2.1 The Practical Constraints of Time Cost and Medical Resources

Subsequent manual collation of patient narratives, conducted without tool assistance, consumes excessive time and resources. This inefficiency often leads to valuable narrative information being shelved, ultimately hindering its conversion into actionable insights for designing targeted clinical or psychosocial interventions. Consequently, the potential of narrative medicine to inform practice remains underutilized[18].

6.2.2 The Demand for Cultivating and Training the Narrative Ability of Medical Staff

The core goal of cultivating healthcare professionals' narrative competence is to enable them to extract hidden information from patient narratives, identify correlations between "physiological pain-psychological state-social role", rather than merely staying on surface content.Training content requirements. It is necessary to explain the "clinical value of musculoskeletal pain patients' narratives", combined with cases, to help healthcare professionals understand that narratives are not "additional burdens" and avoid occupying excessive diagnostic time[9].

6.2.3 The Limitations of Theoretical Construction

The most significant limitation of this study is the absence of empirical intervention testing for the proposed "narrative-integrated rehabilitation program." Consequently, the current work must be understood as remaining at the stage of "protocol design and preliminary validation" rather than a fully validated clinical intervention. While the rehabilitation modules were logically derived from mixed-method data, the study design was inherently observational, limiting the ability to establish causality. Specifically, the research only completed "phenomenon description and correlation analysis" through "quantitative surveys + qualitative narrative analysis," without tracking or verifying whether the theoretical program actually improves patients' pain experiences, functional recovery, or long-term rehabilitation outcomes.Furthermore, the theoretical universality is constrained by insufficient sample representativeness and weak variable control.Due to the cross-sectional nature of the survey and the lack of strict control over confounding variables , the correlations observed between narrative themes and pain intensity require cautious interpretation. Future research must transition from theoretical construction to rigorous empirical testing—such as pilot randomized controlled trials—to validate the efficacy and practical utility of the proposed rehabilitation framework.

6.3 Prospects for Future Research

Future research should clarify core assessment dimensions of tools, cover full-scenario needs, set quantifiable and easily judged dimensions, and avoid subjective interpretation biases by healthcare professionals. And conduct multi-center validation to form a "nationally unified narrative assessment scale for musculoskeletal pain patients", avoiding standard chaos caused by independent development by various institutions.

On the patient side, low-threshold and normalized narrative recording should be implemented, reducing recording difficulties and providing scenario-based guidance templates. Action of digital healthcare in narrative medicine to address "difficulties in recording and tracking." On the healthcare provider side, intelligent and efficient narrative processing should be enhanced, using AI technology to improve narrative processing efficiency, enabling apps to automatically extract keywords and classify themes from patient narratives[5].

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