

IV. 研究成果の刊行物・別刷

Research Article

Comparative Effects of Acupressure at Local and Distal Acupuncture Points on Pain Conditions and Autonomic Function in Females with Chronic Neck Pain

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Acupressure on local and distal acupuncture points might result in sedation and relaxation, thereby reducing chronic neck pain. The aim was to investigate the effect of acupressure at local (LP) and distal acupuncture points (DP) in females with chronic neck pain. Thirty-three females were assigned to three groups: the control group did not receive any stimuli, the LP group received acupressure at local acupuncture points, GB 21, SI 14 and SI 15, and the DP group received acupressure at distal acupuncture points, LI 4, LI 10 and LI 11. Verbal rating scale (VRS), Neck Disability Index (NDI), State-Trait Anxiety Inventory (STAI), muscle hardness (MH), salivary alpha-amylase (sAA) activity, heart rate (HR), heart rate variability (HRV) values and satisfaction due to acupressure were assessed. VRS, NDI, STAI and MH values decreased after acupressure in the LP and the DP group. HR decreased and the power of high frequency (HF) component of HRV increased after acupressure in only the LP group. Although acupressure on not only the LP but also the DP significantly improved pain conditions, acupressure on only the LP affected the autonomic nervous system while acupuncture points per se have different physical effects according to location.

1. Introduction

Chronic neck pain is a very common symptom especially in females. In general, neck pain is felt as a dull pain, stiffness, or discomfort along the trapezius muscles and the muscles around the scapulae [1]. Common treatment for chronic neck pain consists of medication, trigger point injection, massage, and other physical therapies and patient education [2]. Massage therapy applied on the tender points is popular in patients with chronic neck pain and provides the patients not only with comfort during and immediately after it but also with various side effects such as discomfort/soreness, tiredness/fatigue, and headache afterwards [3]. Recently, alternative therapies such as acupuncture and acupressure have been increasingly sought. Acupressure is a noninvasive

and safe technique, which is manipulated with the fingers instead of needles on the traditional acupuncture points, and has been shown to be effective in pain relief, sedation, and relaxation [4, 5]. Tender points located on the trapezius muscles are consistent with local acupuncture points such as “Jianjing” (GB 21), “Jianwaishu” (SI 14), and “Jianzhongshu” (SI 15) and are applied to massage therapy in patients with chronic neck pain. On the other hand, distal traditional acupuncture points, “Hegu” (LI 4), “Shousanli” (LI 10), and “Quchi” (LI 11), are contained in the Large Intestine Meridian of Hand-Yangming and are suggested to be the points for improving neck-shoulder-arm disorders in the Chinese/Japanese traditional medicine.

Chronic pain influences the autonomic nervous system. For example, sympathetic hyperactivation was shown in

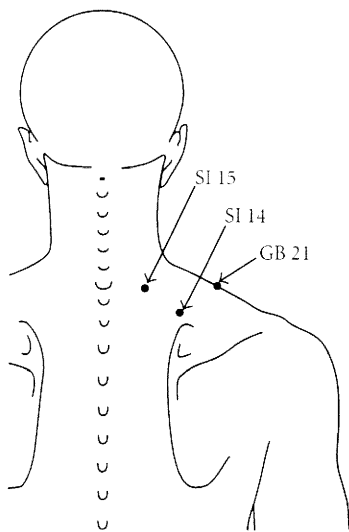


FIGURE 1: Local acupuncture points/tender points. “*Jianjing*” (GB 21) is located at the highest point on the shoulder and at the midpoint of the line which connects the prominent vertebra and the acromion. “*Jianwaishu*” (SI 14) is located directly above the superior angle of scapula, at 5–6 cm lateral from the posterior midline and below the spinous process of the first thoracic vertebra. “*Jianzhongshu*” (SI 15) is located on the back, at 3–4 cm lateral from the posterior midline and below the spinous process of the seventh cervical vertebra.

fibromyalgia (FM) [6], low back pain [7], whiplash associated disorders [8], and migraine [9]. Furthermore, a study showed functional change of the sympathetic nervous system in workers with chronic neck pain [10]. This abnormality in the sympathetic nervous system might generate and sustain chronic pain [11]. Several reports showed that acupuncture and acupressure on the traditional acupuncture points influence the autonomic nervous system [4, 5, 11, 12]. That is, these procedures could modulate the activities of the sympathetic and parasympathetic nerves.

Autonomic nervous function is known to be reflected in heart rate variability. Rhythmic components of HRV can be quantitatively assessed by means of power spectral analysis. HRV is a reliable and noninvasive tool, used to assess autonomic nervous system regulation of the heart [4, 5]. Frequency fluctuations in low frequency of 0.04–0.15 Hz (LF) component of HRV are considered markers of sympathetic and parasympathetic nerve activities, and high frequencies of 0.15–0.4 Hz (HF) component fluctuation of HRV are considered as a marker of parasympathetic nerve activity. Thus, the LF/HF ratio is considered to be an index of sympathetic nerve activity.

We hypothesized that acupressure not only on the tender points/local acupuncture points, “*Jianjing*” (GB 21), “*Jianwaishu*” (SI 14), and “*Jianzhongshu*” (SI 15), but also on the distal acupuncture points, “*Hegu*” (LI 4), “*Shousanli*” (LI 10), and “*Quchi*” (LI 11), could induce sedation, thereby reducing pain, muscle tone, and disability and changing autonomic nervous activity in subjects with chronic neck pain. In the present study, we therefore investigated what

effect pressure applied on the local and distal acupuncture points had on the pain conditions and HRV in females with chronic neck pain.

2. Methods

2.1. Subjects. After obtaining approval from the ethics committee of Nihon Fukushi University and written informed consent, 33 female subjects who complained of chronic neck pain participated in the present study. The subjects were randomly allocated to three groups. The exclusion criteria were menstruation, cardiovascular or neurological disease, or administration of sedatives, analgesic, or other medication.

2.2. Group, Administration, and Measurements. Subjects in the local acupuncture point (LP) group received acupressure at three tender points on the neck/shoulder muscles, which were consistent with local acupuncture points, “*Jianjing*” (GB 21), “*Jianwaishu*” (SI 14), and “*Jianzhongshu*” (SI 15) (Figure 1), subjects in the distal acupuncture point (DP) group received acupressure at three distal acupuncture points, “*Hegu*” (LI 4), “*Shousanli*” (LI 10), and “*Quchi*” (LI 11) (Figure 2), and subjects in the control group did not receive any stimuli.

All measurements were performed during the afternoon hours. Subjects were assessed regarding pain intensity using verbal rating scale (VRS), pain-related disability using Neck Disability Index (NDI), pain-related anxiety using State-Trait Anxiety Inventory-I (STAI-I), muscle hardness (MH) on bilateral trapezius muscles, pain-associated stress using salivary alpha-amylase (sAA) activity, heart rate variability (HRV), and satisfaction using VRS due to acupressure. For the VRS, the intensity of neck pain or stiffness was evaluated on a numerical scale from 0 to 3 (0: no pain, 1: mild pain, 2: moderate pain, and 3: severe pain). NDI, which was published by Vernon in 1991, is the most commonly used and validated scale designed to assess self-rated disability in patients with neck pain and disorder [13]. MH was evaluated using a tissue hardness meter (PEK-1, Imoto Machinery Co. Ltd., Kyoto, Japan) bilaterally on the midpoint between the spinous process of seventh cervical vertebra and the acromion. This point is located on the trapezius muscles, and the tender point of neck pain often lies on this point, which is just the acupuncture point, “*Jianjing*” (GB 21) [1]. sAA was evaluated using a hand-held sAA monitor (CM-2.1, Nipro, Osaka, Japan) [14]. Satisfaction due to acupressure was evaluated on a numerical scale from 0 to 3 (0: no satisfaction, 1: mild satisfaction, 2: moderate satisfaction, and 3: sufficient satisfaction). VRS and STAI-I before, immediately following, and 1 day after receiving the treatment, MH and sAA before and immediately after the treatment, NDI before and 1 day after the treatment, satisfaction immediately following and 1 day after the treatment were sampled.

After the initial assessment, the subjects were allowed to lie comfortably on the bed in a quiet environment for 5 min. Then, the record of the electrocardiogram (ECG) signals for HRV analysis started.

TABLE 1: Age, weight, VRS, NDI, STAI, MH, sAA, HR, and HRV values at pretreatment for each group.

	C group (n = 11)	LP group (n = 11)	DP group (n = 11)	P value
Age (yr)	34.8 (4.0)	35.5 (6.4)	37.2 (7.0)	.637
Weight (kg)	50.4 (6.8)	52.3 (10.1)	52.2 (4.8)	.643
VRS	1.8 (0.6)	2.1 (0.5)	1.7 (0.8)	.413
NDI	7.9 (3.8)	9.4 (4.4)	7.6 (4.6)	.430
STAI	39.2 (9.5)	44.5 (8.0)	43.2 (6.8)	.772
MH (N)	56.9 (5.0)	57.4 (4.5)	56.2 (5.3)	.507
sAA (kU/l)	38.2 (20.1)	20.0 (9.0)	36.8 (27.9)	.079
HR (bpm)	65.4 (8.7)	65.8 (6.7)	62.3 (14.1)	.941
LF (ms ²)	490.7(409.2)	274.2 (253.3)	494.1 (1050.7)	.084
HF (ms ²)	381.8(338.3)	212.8 (186.7)	764.8 (1045.2)	.587
LF/HF	1.7(1.4)	1.4 (0.8)	1.0 (0.6)	.399

Values expressed as mean (SD).VRS: verbal rating scale. NDI: Neck Disability Index. STAI: State-Trait Anxiety Inventory-I. MH: muscle hardness. sAA: salivary alpha-amylase. HR: heart rate. LF: the power of low-frequency (0.04–0.15 Hz, LF) component of heart rate variability (HRV). HF: the power of high-frequency (0.15–0.4 Hz, HF) component of HRV. LF/HF: LF/HF ratio of HRV.

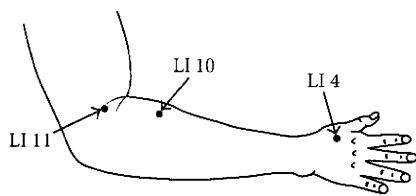


FIGURE 2: Distal acupuncture point. “Hegu” (LI 4) is the most important analgesic point in the body and is intensively stimulated in all painful conditions and is located on the highest point of the adductor pollicis muscle with the thumb and index finger adducted. “Shousanli” (LI 10) is located on the radial side of the dorsal surface of the forearm at about 3 cm below the lateral transverse elbow crease and between the extensor carpi radialis longus and brevis. “Quchi” (LI 11) is located on the end of the lateral transverse elbow crease at the middle of the connection between the biceps tendon and the lateral epicondylus of the humerus.

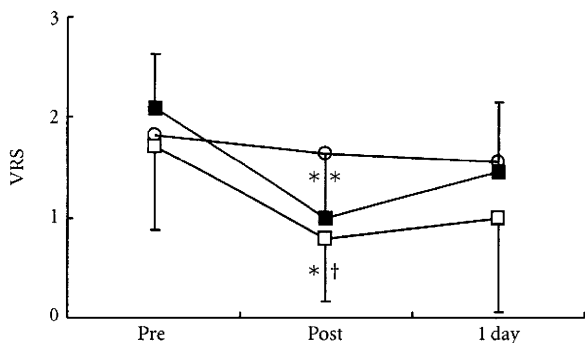


FIGURE 3: Changes in pain intensity (VRS: verbal rating scale). ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups. * significantly different from pre-treatment in the DP group ($P < .05$). ** significantly different from pretreatment in the LP group ($P < .01$). † significantly different from control group in the DP group ($P < .05$).

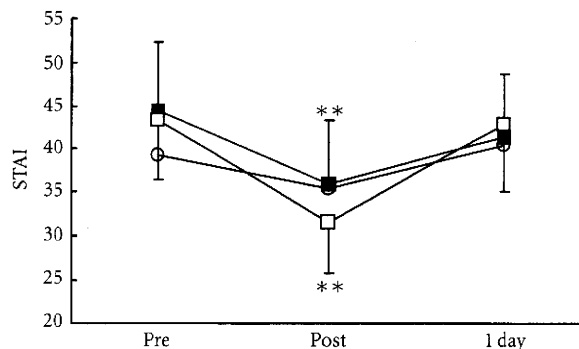


FIGURE 4: Changes in pain-associated anxiety (STAI-I: State-Trait Anxiety Inventory-I). ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups. ** significantly different from pre-treatment in the LP and the DP groups ($P < .01$).

Ten minutes later, three sets of acupressure by the pulp of the right thumb in a rotary fashion at 20–25 cycles per minute for 30 seconds on each point were administered at the right side of GB 21, SI 14, and SI 15 consecutively and afterwards at the left side of these three points in the LP group. On the other hand, three sets of procedures conducted in the same way as shown in the LP group were administered at the right side of LI 4, LI 10, and LI 11 consecutively and afterwards on the left side of these three points in the DP group. These procedures were applied by the same investigator. Following release of acupressure, the subjects were observed for another 10 minutes. The ECG signals were obtained from a portable ECG (AC301A, GMS, Tokyo, Japan) and transferred to a computer loaded with HRV analysis software (TARAWA/WIN; Suwa Trust, Tokyo, Japan). The R-R intervals (RRIs) were obtained every 10 seconds. The two components of power of the RRI (ms.ms), LF (0.04–0.15 Hz) and HF (0.15–0.5 Hz), were calculated.

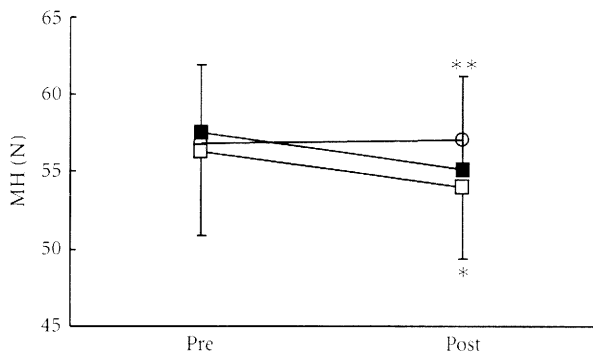


FIGURE 5: Changes in muscle hardness (MH). ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups. * significantly different from pre-treatment in the DP group ($P < .05$). ** significantly different from pre-treatment in the LP group ($P < .01$).

Heart rate (HR) and the LF and the HF values and the LF/HF ratio of HRV were analyzed. The data of HR and HRV values for 30 seconds at 5 minutes before the beginning of the pressure (pre-treatment) and for 30 seconds at 5 minutes after pressure release (post-treatment) were sampled for subsequent analysis.

2.3. Data Analysis. Data was presented as mean (SD). VRS, STAI-I, MH, NDI, HR, and HRV values were analyzed with Kruskal-Wallis test for intergroup comparison followed by Dunn's Multiple Comparison Test. Satisfaction due to acupressure was analyzed with Mann-Whitney's U test for intergroup comparison on the LP and the DP groups. VRS and STAI-I were analyzed using Friedman test for intragroup comparison followed by Dunn's Multiple Comparison Test. Wilcoxon signed-rank test was used to analyze MH, NDI, HR, and HRV values for intragroup comparison. $P < .05$ was considered as statistically significant.

3. Results

Table 1 shows the demographic data of the three groups. There were no significant differences in age, weight, and pre-treatment values regarding pain conditions among the three groups (Table 1).

There were no significant differences in all parameters in the control group. VRS (Figure 3), STAI-I (Figure 4), and MH (Figure 5) values significantly decreased immediately after treatment, and NDI (Figure 6) was lower at 1 day following treatment compared with pre-treatment in the LP and the DP groups. HR (Figure 7) significantly decreased and the HF component of HRV (Figure 9) significantly increased after treatment in the LP group only. There were no differences on the sAA and the LF components (Figure 8) and the LF/HF ratio (Figure 10) of HRV among the three groups. Satisfaction due to acupressure continued to 1 day after the treatment in the LP and the DP groups (Figure 11).

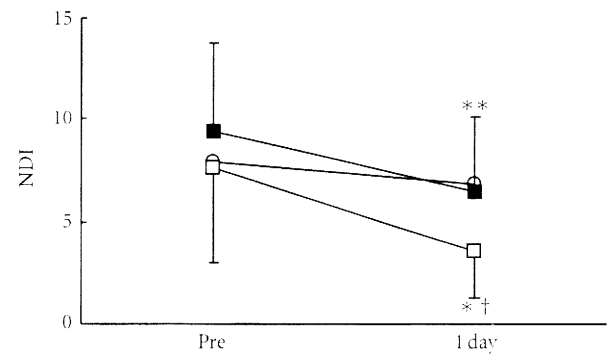


FIGURE 6: Changes in pain-associated disability (NDI: Neck Disability Index). ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups. * significantly different from pre-treatment in the DP group ($P < .05$). ** significantly different from pre-treatment in the LP group ($p < .01$). † significantly different from control group in the DP group ($P < .05$).

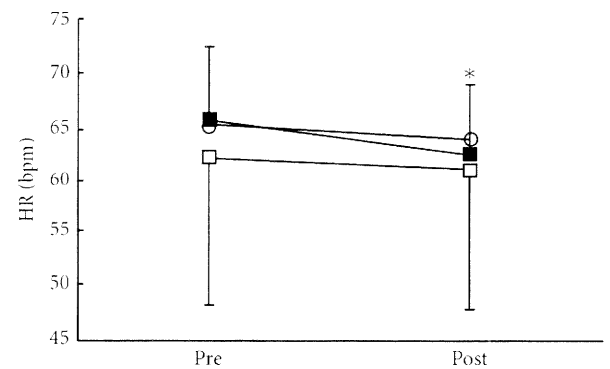


FIGURE 7: Changes in heart rate (HR). ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups. * significantly different from pre-treatment in the LP group ($P < .05$).

4. Discussion

Our results demonstrated that acupressure on the local and the distal acupuncture points significantly reduced various parameters of the pain-associated conditions, that is, VRS, STAI-I, MH, and NDI whereas there were no significant differences in all parameters in the control group. Although acupressure did not change the LF and the LF/HF ratio of HRV, acupressure on the local acupuncture points significantly reduced HR and increased the HF of HRV. Satisfaction due to acupressure continued until 1 day after treatment on the distal points as well as the local points. These results show that acupressure on not only the local points but also the distal acupuncture points improved pain-related condition, and furthermore acupressure could influence the autonomic nervous system.

Mechanical pressure such as massage and acupressure has been known to decrease tissue adhesion, promote relaxation,

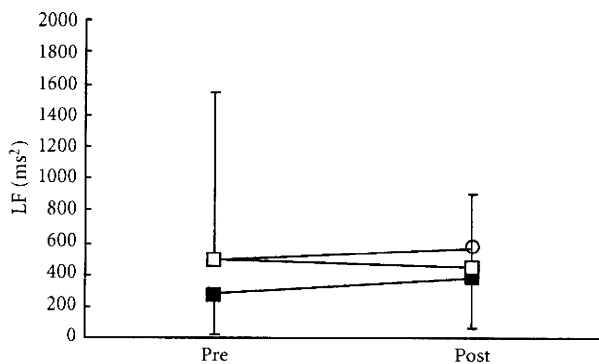


FIGURE 8: Changes in the low-frequency (LF) component of heart rate variability. ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups.

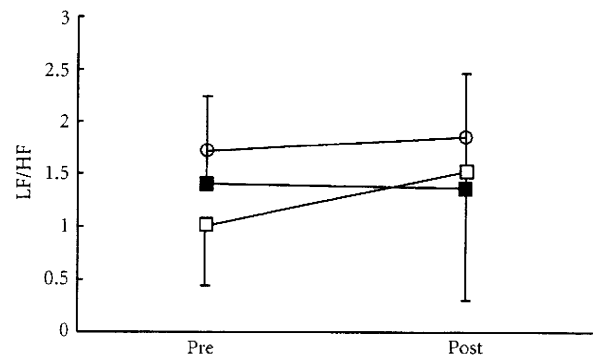


FIGURE 10: Changes in the LF/HF ratio (LF/HF) of heart rate variability. ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups.

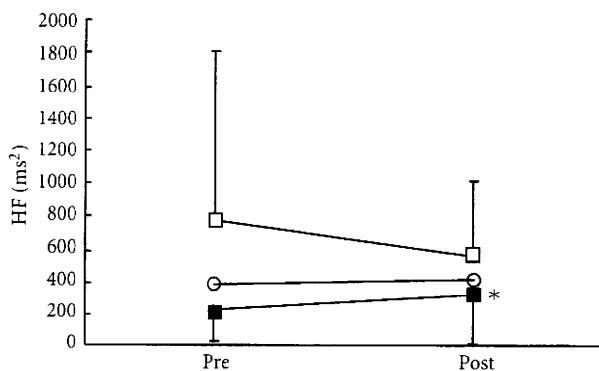


FIGURE 9: Changes in the high-frequency (HF) component of heart rate variability. ○: control group. ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups. * significantly different from pre-treatment in the LP group ($P < .05$).

increase regional blood circulation, increase parasympathetic nervous activity, increase intramuscular temperature, and decrease neuromuscular excitability [15]. Also, many researchers have demonstrated the effect of acupressure and acupuncture for sedation [4, 5, 16, 17].

Acupuncture on the tender points has been commonly used as a treatment for chronic neck pain and appears to alleviate pain and stiffness [1, 18]. The tender points are known to be located at traditional acupuncture points, “*ah si*” point, and also to conform with trigger points and criterion sites for fibromyalgia [1, 18, 19]. Tender points are supposed to be the site where there are nociceptors and polymodal receptors, which have been sensitized by various factors. Thus, stimulation such as acupuncture and acupressure on the tender points may activate sensitized polymodal receptors more powerfully, resulting in stronger effects on pain relief [1]. In traditional acupuncture medicine, tender points eliciting tenderness or pain could be selected when treating chronic neck pain [1].

Acupuncture treatment typically applies to not only the tender points but also the distal acupuncture points for the treatment of chronic pain. Acupuncture at the distal acupuncture points could improve pain conditions in chronic neck pain patients, indicating that nonsegmental antinociceptive systems may play a major role in acupuncture analgesia [2]. Also, electroacupuncture at the acupuncture point “*Hegu*” (LI 4) decreases the activity on anterior cingulate cortex (ACC) and cingulum, thereby inhibiting nociceptive processing in the brain. Acupuncture point stimulation at a rich nerve junction such as “*Hegu*” may reduce pain-induced cingulation processing, thereby resulting in pain relief/analgesia [20]. A study showed that acupuncture improved pain-related disability assessed by NDI [21], as observed in the present study. Furthermore, acupuncture may improve activities at work, the quality of sleep and consequently tiredness, pain-related quality of life, and psychological variables for women with chronic neck pain [22].

Acupuncture has been reported to affect the autonomic nervous system [11, 23]. However, acupuncture/acupressure might have different physiological effects between local and distal acupuncture points, since we showed that acupressure at LI-4, LI-10, and LI-11 did not, but at GB-21, SI-14, and SI-15 significantly influenced autonomic nervous activity.

There are several limitations to the present study. One of them is that we did not perform longer term followup after acupressure. We need further evaluation of the longer effects of acupressure on chronic neck pain and autonomic nervous system. Another limitation is that we showed only the effect of acupressure on either local or distal points. Most acupuncturists and acupressurists use both local and distal points together in clinical practice. Therefore, further study is required in order to assess combinational effects.

In conclusion, acupressure significantly improved pain conditions on not only the local points but also the distal acupuncture points in females with chronic neck pain but affected the autonomic nervous system on only local acupuncture points, as acupuncture points *per se* have different physical effects depending on location.

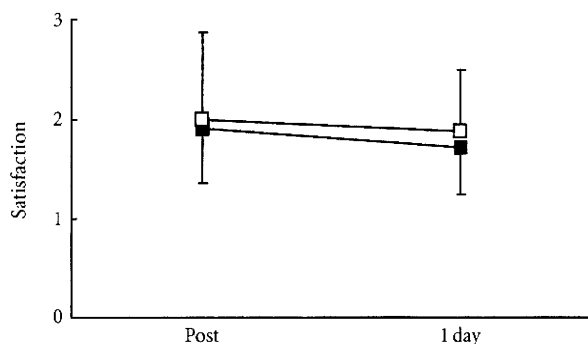


FIGURE 11: Changes in satisfaction due to treatment (VRS: verbal rating scale). ■: local acupuncture point (LP) group. □: distal acupuncture point (DP) group. Values are presented as mean. SD represented with error bars in the LP and the DP groups.

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Relationships among alexithymia and pain intensity, pain interference, and vitality in persons with neuromuscular disease: Considering the effect of negative affectivity

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SF-36

ABSTRACT

Alexithymia, the inability to identify or label emotions, has been shown to be associated with pain in patients with a number of chronic pain conditions. We sought to: (1) replicate this association in samples of persons with chronic pain secondary to neuromuscular disease, (2) extend this finding to other important pain-related measures, and (3) to determine whether relationships among alexithymia and study variables existed after controlling for negative affect. One hundred and twenty-nine individuals with muscular dystrophy and chronic pain were administered measures of alexithymia (Toronto Alexithymia Scale, TAS-20), pain intensity (0–10 NRS), pain interference (Brief Pain Inventory Interference scale), mental health (SF-36 Mental Health scale; as a proxy measure of negative affect) and vitality (SF-36 Vitality scale). Higher TAS scores were associated significantly with higher pain intensity and interference, and less vitality. Although the strengths of these associations were reduced when mental health was used as a control, the associations between the Difficulty Identifying Feelings scale and vitality, and the Externally Oriented Thinking and Total TAS scales and pain intensity remained statistically significant. The findings replicate and extend previous findings concerning the associations between alexithymia and important pain-related variables in a sample of persons with chronic pain and neuromuscular disease. Future research is needed to determine the extent to which the associations are due to (1) a possible causal effect of alexithymia on patient functioning that is mediated via its effects on negative affect or (2) the possibility that alexithymia/outcome relationships reflect response bias caused by general negative affectivity.

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1. Introduction

The concept of alexithymia, a lack of emotional awareness and ability to describe feelings, was originally coined by Sifneos [33] to describe a common characteristic of patients with psychosomatic illness. Some authors have suggested that having alexithymia can contribute to the future development or maintenance of psychosomatic illness, that is, medical disorders thought to be primarily caused or maintained by psychological factors [1,3]. Consistent with this hypothesis, research has supported the notion that patients with psychosomatic illnesses, such as asthma, hypertension, and functional bowel syndromes report higher levels of alexithymia than healthy controls [10]. Moreover, alexithymia has been

shown to prospectively predict the maintenance of somatization over a period of 2 years [3].

Alexithymia has been shown to be associated with pain in patients with chronic myofascial pain [25], temporomandibular disorder [11], rheumatoid arthritis [24], migraine headaches [24], systemic lupus erythematosus [24], low back pain [28], fibromyalgia [15], and cancer pain [30]. Alexithymia has also been shown to predict depression [19,25], anxiety [19], and physical impairment [25] in patients with various chronic pain conditions. The broad spectrum of conditions in which alexithymia predicts pain and functioning suggests that this concept may extend beyond patients with psychosomatic conditions to include populations with clear organic pathology.

Although alexithymia has been shown to be associated with a range of negative outcomes, some debate exists as to the mechanism of these associations, particularly when considering psychological outcomes such as negative affect. For example, it has been

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argued that alexithymia essentially *causes* depression due to the direct effects of an inability to experience emotions leading to dysregulation of behavioral and biological systems, and to poor mood states (e.g., Ref. [34]). Others have proposed that the trait of negative affectivity (or neuroticism) creates a response bias that contributes to both a self-report of alexithymia and self-report of a negative outcome (pain interference, poor quality of life, etc.) [20,22].

The most common measure of alexithymia in the research literature is the Toronto Alexithymia Scale (TAS-20) [4,5], which assesses three distinct components of alexithymia: (1) difficulty identifying feelings, (2) difficulty describing feelings, and (3) externally oriented thinking. Research in pain populations has identified the Difficulty Identifying Feelings scale as the most consistent predictor of pain and pain-related dysfunction [15,24,27,30,32]. In this study, we sought to determine if the associations among measures of alexithymia, pain and functioning (pain interference, mental health, and vitality) replicate in samples of persons with chronic pain and neuromuscular disease (NMD). We also sought to evaluate the extent to which any significant associations between alexithymia and various criterion measures change after controlling for psychological functioning, given the possibility that negative affectivity may influence at least some of these relationships [15,25]. Based on research that has been published to date, we hypothesized positive associations between the TAS-20 subscales, especially the Difficulty Identifying Feelings scale, and the measures of pain and dysfunction.

2. Methods

2.1. Participants

The participants in this study came from a population of 270 individuals who had responded to a previous survey on the nature and scope of pain in persons with neuromuscular disease, and who had agreed to participate in additional studies [17]. Of the 270 surveys mailed, 32 were returned due to incorrect addresses, three individuals were deceased and one individual declined to participate. In total, 193 surveys were returned, for a response rate of 71%. Three of these were excluded due to participant ineligibility (unable to verify physician diagnosis), yielding 190 completed and viable surveys. Of these, 144 individuals reported experiencing pain in the past 3 months and were included in this study.

The vast majority of these 144 participants reported diagnoses of Facioscapulohumeral Muscular Dystrophy (FSHD; 54.1%) or Myotonic Muscular Dystrophy (MMD; 36.1%). Both conditions are genetic disorders that lead to progressive weakness and dystrophic changes in muscle. Although pain is a common secondary condition to these conditions, not all people with FSHD or MMD develop chronic pain [17]. For consistency with ongoing work in our group we limited the analyses to those participants with these two diagnoses, leaving a final sample size was 129 persons with FSHD or MMD and chronic pain. Nearly all respondents' diagnoses were made by a neurologist (92.4%) and were confirmed with DNA (59.0%), muscle biopsy (50.0%) and/or EMG (76.4%).

Individuals in this study ($n = 129$) were primarily middle aged (age in years $M = 52.0$, $SD = 12.4$, range = 22–85). Seventy-two were female (56%) and 57 (44%) were male. The sample was predominantly Caucasian (98%) and married (67%). All but one participant reported a high school degree or GED (99%), with 33% reporting that they were college graduates. The most frequent pain sites for both diagnostic groups were the lower back (70.5% FSHD, 65.4% MMD), and legs (70.5% FSHD, 71.2% MMD).

2.2. Measures

2.2.1. Demographic information

Participants provided information regarding their age, gender, level of education, current employment status, ethnicity/race, and marital status. Clinical variables included NMD diagnosis, the specialization of the diagnosing physician and nature of diagnosis confirmation (e.g., DNA testing, EMG testing).

2.2.2. Alexithymia

Alexithymia was assessed using the 20-Item Toronto Alexithymia Scale (TAS-20) [4,5,29]. The TAS-20 is a shortened version of the original Toronto Alexithymia Scale (TAS-26) [35]. As indicated above, the TAS-20 assesses three domains hypothesized to represent the primary alexithymia domains: (1) difficulty identifying feelings (example item, "I have feelings that I can't quite identify"), (2) difficulty describing feelings (example item, "I find it hard to describe how I feel about people"), and (3) externally oriented thinking (example item, "I prefer to analyze problems rather than just describe them"). The TAS-20 has demonstrated strong psychometric properties including good test–retest reliability and external validity [4] and has been used in a variety of medical populations [4,8,13,23,26]. Possible responses to the TAS-20 items range from 1 ("Strongly disagree") to 5 ("Strongly agree"). In the current sample, the TAS-20 demonstrated adequate internal consistency as a total score (Cronbach's $\alpha = .70$). Subscale reliability ranged from quite good (Difficulty Identifying Feelings scale, Cronbach's $\alpha = .80$; Difficulty Describing Feelings scale, Cronbach's $\alpha = .76$) to marginal (Externally Oriented Thinking scale, Cronbach's $\alpha = .59$). The relatively low internal consistency of the Externally Oriented Thinking scale is typical and has been found in other studies [28].

2.2.3. Pain intensity

Participants were asked to rate the average intensity of their pain in the past week on a 0–10 Numerical Rating Scale (NRS). Anchors were "no pain" (0) and "pain as bad as it could be" (10).

2.2.4. Pain interference

The Brief Pain Inventory (BPI) [7,9] was used to assess the extent to which pain interfered with normal daily activities during the past week. The original seven item version of this scale asked participants to rate the degree to which pain interfered with general activity, mood, walking ability, normal work, relations with other people, sleep, and enjoyment of life in the past week. Analogous to previous studies using the BPI to assess pain interference in populations with disabilities, several modifications were made to the scale to accommodate the population [9,37]. In the first of these, the "Walking ability" was modified to assess pain's interference with "Mobility, that is, your ability to get around" so that participants who do not walk due to their disability could respond to the item. Next, three questions pertaining to pain interference with self-care, recreational activities, and social activities were added, thus increasing the measure to 10 questions. Scale anchors to the BPI Interference items range from "Does not interfere" (0) to "Completely interferes" (10). The BPI score is calculated by computing the arithmetic mean of all, such that higher scores indicate greater pain interference. Like the original BPI scale, the modified 10-item version BPI has displayed excellent internal consistency (Cronbach's $\alpha = .89$ –.95) and validity in samples of persons with disabilities [12,37]. In the current sample, internal consistency was also excellent (Cronbach's $\alpha = .95$).

2.2.5. Mental health and vitality

Mental health and vitality were assessed using the Mental Health and Vitality subscales from the SF-36 [38], respectively.

The Mental Health Scale is a 5-item scale commonly used as a measure of psychological functioning and has established internal consistency (Cronbach's alphas = .81–.95) and test–retest reliability ($r_s = .75$ – $.80$) (example items: “How much of the time during the past four weeks... have you felt downhearted and blue?”; “... have you been a happy person?”) [38]. The 4-item Vitality subscale assesses perceived energy versus general fatigue (example items: “How much of the time during the past four weeks... Did you feel full of pep?”; “...Did you have a lot of energy?”). Consistent with standard scoring for the SF-36, both subscales were transformed to a 0–100 scale, with higher scores indicating better functioning (that is, better psychological functioning and lower fatigue). Both scales demonstrated excellent internal consistency in the present sample (Mental Health: Cronbach's alpha = .86; Vitality: Cronbach's alpha = .80).

2.3. Procedures

All of the potential participants in the current sample had participated in a previous survey completed 2 years earlier, and had indicated that they would be interested in being contacted for further research opportunities. They were sent a second return by mail survey assessing clinical, demographic, and adjustment variables related to NMD and NMD-associated pain, including the measures described above. The surveys took approximately 1 h to complete, and participants were compensated \$25 on survey return. In the case of missing or incomplete responses, research assistants followed up with survey respondents over the phone to obtain the most complete data set possible. The University of Washington Human Subjects Review committee approved all study procedures.

2.4. Data analyses

Outcome variables of interest were average pain intensity, SF-36 Vitality and Mental Health scales, and the BPI mean score. Before analysis, the predictor and criterion measures were examined for outliers and for normality. These variables met requirements for analysis and no transformation was necessary. Zero-order relationships among TAS-20 scale scores and the criterion measures was established via Pearson correlation. We then computed partial correlations between the TAS-20 scale scores and all of the criterion variables, except the SF-36 MH scale, controlling for the SF-36 MH scale. SPSS 14.0 was used for all analyses.

3. Results

3.1. Study variable averages

Average scores for SF-36 Mental Health and Vitality outcomes were 63.29 (SD = 15.7) and 44.84 (SD = 16.6), respectively. These

scores are consistent with scores taken from other populations with neuromuscular disease [2]. Average pain intensity over the past week was 4.6 (SD = 2.4) on a 0–10 scale, which is slightly lower than pain intensity averages reported in similar samples (e.g., 5.3–6.1 in [36]). Average pain interference (from the BPI) was 2.9 (SD = 2.2).

3.2. Correlation analyses

The results of the correlation analyses are presented in Table 1. As can be seen, all three TAS-20 scales, as well as the total score, were significantly and moderately associated with pain intensity and pain interference. The total TAS-20 score and two of the scales (Difficulty Identifying Feelings and Difficulty Describing Feelings scales) were also significantly and moderately associated with vitality and mental health. The weakest associations were between the Externally Oriented Thinking scale and both vitality and mental health, although the significance of the differences between the coefficients was not tested.

In a series of partial correlations controlling for mental health, virtually all correlations among TAS-20 subscale scores and outcome variables dropped to non-significance, with only a few exceptions in which fairly weak associations remained [Difficulty Identifying Feelings remained significantly associated with Vitality ($r = -.20$, $p < .05$) and Externally Oriented Thinking remained significantly associated with pain intensity ($r = .21$, $p < .05$)]. Consistent with these associations, the TAS-20 total score remained significantly correlated only with pain intensity ($r = .21$, $p < .05$) after including mental health as a control.

4. Discussion

The current findings replicate and extend previous results concerning the associations between alexithymia and important pain-related variables in a sample of patients with chronic pain who have not yet been studied with respect to alexithymia (persons with neuromuscular disease). The results have implications for understanding the importance of the alexithymia construct across numerous illness conditions and the relationship between alexithymia and functioning in persons with chronic pain.

Consistent with the study hypothesis, higher TAS total and scales scores were significantly associated with higher pain intensity ratings, higher pain interference ratings, poorer psychological functioning and less vitality. All of the TAS-20 scales scores evidenced significant zero-order associations with pain intensity and pain interference, and the Difficulty Identifying Feelings (DIF), Difficulty Describing Feelings (DDF), and Total TAS-20 scores were also significantly associated with the measures of vitality and mental health. However, the Difficulty Identifying Feelings Scale tended to show the most consistent associations across outcomes.

Table 1

Zero-order and partial correlation matrix of the TAS-20 total score and subscales and the study dependent variables.

TAS-20 scale	Pain intensity (0–10 NRS)		Vitality (SF-36 Vitality)		Pain interference (BPI Interference)		Mental health (SF-36 Mental Health)
	Zero-order	Partial ^a	Zero-order	Partial ^a	Zero-order	Partial ^a	Zero-order
DIF	.28**	.14	-.41***	-.20*	.33***	.11	-.48***
DDF	.26**	.13	-.20**	.06	.25**	.04	-.42***
EOT	.25**	.21*	-.09	-.01	.18*	.13	-.15
Total score	.34***	.21*	-.32***	-.08	.33***	.13	-.46***

Notes: (1) SF-36 Vitality and Mental Health composite scores are scored such that higher scores indicate more vitality and less negative affect, respectively. (2) NRS = Numerical Rating Scale; BPI = Brief Pain Inventory; DIF = Toronto Alexithymia Scale Difficulty Identifying Feelings scale; DDF = Toronto Alexithymia Scale Difficulty Describing Feelings scale; EOT = Toronto Alexithymia Scale Externally Oriented Thinking.

^a Controlling for SF-36 Mental Health.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

This is consistent with findings from other researchers [18,24,30,32], although the reasons for this finding are not entirely evident. Perhaps difficulty identifying feelings, even more than difficulty describing feelings, is most indicative of dissociation between awareness and psychological functioning. In this way, the difficulty identifying feelings domain may be the most important component of alexithymia – at least with respect to pain and pain-related outcomes. It should also be noted that this particular subscale does contain some items with wording that directly addresses somatic symptoms (for example “I have physical sensations that even doctors don’t understand” and “I am often puzzled by sensations in my body”) and that this may in part explain the stronger associations of the DIF subscale with study outcomes.

Data from this study also indicate that the associations between alexithymia and pain intensity, pain interference, and vitality are greatly diminished when controlling for baseline mental health (which was used in this study as a proxy measure of negative affect). Of eight significant correlations among TAS-20 subscales and outcomes, only two remained significant after controlling for the effect of mental health (the relationships between Externally Oriented Thinking [EOT] and pain intensity and between DIF and Vitality) and even these were substantially reduced. This is consistent with some previous work on alexithymia in patients with chronic pain [19]. Like other existing research in this area, and given the cross-sectional nature of our data, the findings are consistent with two competing hypotheses: (1) that alexithymia impacts psychological functioning (negative affect), which then contributes to higher levels of pain and dysfunction and (2) that negative affect produces a response bias that impacts both reports of alexithymia and dysfunction, and therefore accounts for the associations between these variables. In either case, however, it is important to note that although these relationships were weakened considerably after controlling for mental health, a significant (albeit weak) association did remain between the total TAS-20 score and pain intensity ($r = .21, p < .05$), suggesting that negative affect may not be “the whole story” in terms of explaining the impact of alexithymia on chronic pain. Further longitudinal work is needed to parse out these effects in chronic pain samples.

Early descriptions of the concept of alexithymia focused on its potential role in the somatization disorder, with the hypothesis that people who were unable to identify or express their feelings directly were likely to express those feelings indirectly by experiencing and communication about somatic symptoms. In fact, however, research findings tend to show weaker associations between measures of alexithymia and the sensory components of pain than between alexithymia and psychological functioning as well as the affective components of pain [19,25]. Our findings are generally consistent with this view. Although we found a significant association between the TAS-20 total scores and pain intensity (even after controlling for mental health), we found even stronger associations between the TAS-20 scores and the SF-36 Mental Health scale. However, the SF-36 Mental Health Scale is not a direct measure of pain affect; confirmation of alexithymia’s greater impact on pain’s affective components versus sensory components will need to be determined in future research. Also consistent with this view, a research study examining cortical activation in persons with high levels of alexithymia indicate higher levels of processing in limbic cortical structures compared with sensory structures [18]. These investigators examined cortical responses to pain induced by colonic distension in patients with irritable bowel syndrome (IBS). They found that the IBS patients with higher total TAS-20 score (>61) showed more activation in the pregenual anterior cingulate cortex, right insula, midbrain and dorsolateral prefrontal cortex than those with lower TAS-20 total scores. These are brain sites that are implicated in the affective or unpleasantness component

of pain [16]. Thus, it is possible that disruption and dysregulation in limbic system structures could potentially explain the effects that alexithymia has on pain and pain-related outcomes.

One important clinical implication of the findings concerns the potential treatment of alexithymia in persons with chronic pain. Although there is some question regarding whether alexithymia is a stable trait or a state that can change with treatment, one 5-year longitudinal study showed that alexithymia (as measured by the TAS-20) is about as stable as depression (with test-retest stability coefficients being .46 for the TAS-20 and .43 for the Beck Depression Inventory; BDI), and that both TAS-20 and BDI scores changed significantly over time [31]. Thus, both measures appear to be only moderately stable; like depression, alexithymia may respond to treatment. If so, then one potentially useful line of investigation would be to (1) develop and test an alexithymia intervention and then (2) examine the effects of this intervention on pain intensity and important pain-related variables such as pain interference.

What would a treatment for alexithymia look like? One possible intervention has been described, and it includes treatment sessions that focus on developing specific skills and knowledge (e.g., increasing the understanding of alexithymia, developing a vocabulary for emotions, learning to read the emotions of others, and practicing emotional self-awareness) that could result in a reduction in alexithymia [21]. If proven effective, such an intervention might increase the patient’s ability to increase his or her emotional awareness and ability to describe this experience, and as a result, become better to cope with and experience a decreased affective response to pain. This study suggests that a research program to test the possible benefits of such an intervention among patients with chronic pain is warranted. Moreover, if measures of negative affect and alexithymia (including both self-report and behavioral measures of alexithymia and pain) were included in a clinical trial, it would be possible to directly test hypotheses regarding the (possible) direct effect of alexithymia on pain and functioning using process analyses [6].

The limitations of this study include the exclusive use of self-report measures as well as a limited representativeness of the sample. Using self-report measures alone may increase significant associations among variables due to shared method variance, producing over-estimates of true relationships. However, the fact that the TAS-20 scale scores were differentially predictive of the criterion variables (as opposed to universally predictive) argue against shared method variance as the primary explanation of the findings. Future research may wish to consider using one of the observer-rated measures of alexithymia that have been developed [14] to determine if the present findings replicate when such a measure is used. In addition, although we assessed global mental health as a proxy for negative affect, we did not measure negative affect directly in this study. Inclusion of validated measures of negative affect would have made these results more compelling.

Concerning generalizability, the current sample included only patients with neuromuscular disorders, and the sample was primarily Caucasian. Previous research suggests possible differences between Caucasians and African-Americans in levels of alexithymia, as well as the associations between alexithymia and key outcome variables [24]. Thus, we cannot conclude that the current findings necessarily generalize to other patient groups or groups that include other ethnicities. Additional research is needed to determine the reliability of the results.

Moreover, the cross-sectional nature of the analyses precludes direct interpretations of causality; it would be statistically possible to change the direction of influence or order of the variables in this model and still obtain significant results. Future researchers should consider using longitudinal designs to help understand causal relationships and to test competing hypotheses regarding mechanisms

of effects (e.g., if alexithymia has a direct negative impact on pain and functioning versus the possibility that alexithymia and functioning are both influenced by a third confounding variable such as negative affect).

Despite the study's limitations, the findings confirm the importance of alexithymia as being associated with pain and other important pain-related variables a sample of persons with chronic pain and neuromuscular disease, thereby replicating and extending previous findings. Moreover, the results highlight the importance of negative affectivity on these relationships, although it is unclear from these data whether negative affect represents a mediating mechanism or is simply a cause of response bias. Results are also consistent with previous research suggesting (1) a greater importance of the difficulty identifying feelings component of alexithymia (in particular, as opposed to the externally oriented thinking component) and (2) the possibility of a greater role of alexithymia for the affective components of pain and psychological functioning than for the sensory components of pain. Future research is needed to confirm these findings and determine the causal nature of these associations, and if modification of alexithymia has a beneficial impact on pain and its negative effects.

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慢性疼痛の心身医療における Narrative Based Medicine — 実存的苦悩に焦点を当てた積極的傾聴 —

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要 旨

慢性疼痛の臨床では、特に身体的アプローチに抵抗性の症例で、患者や家族の語りである narrative を傾聴し、語り治しを援助するという narrative based medicine の考え方が有用である。疼痛行動の報酬を考える際に、生体内のドーパミンを神経伝達物質とした報酬系と呼ばれる脳内回路による多幸感が、社会的報酬によって得られていると理解すると、narrative のアートとサイエンスが統合できる。Narrative の傾聴から準備因子、発症因子、持続増悪因子を考え、分析的に理解することもできる。慢性疼痛臨床の narrative から得られたプロトタイプを理解し、患者や家族の実存的な苦悩に対して積極的に傾聴し、言語的・非言語的に自然な共感を示すことは有用である。

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はじめに

Narrative based medicine (NBM) とは、1980年代後半、家族療法の内部から生まれた narrative therapy を基礎として発展した医学のことを指す¹⁾。その narrative therapy とは、以下のような考え方に基づいているとされている。

- i) ヒトはできごとを解釈し意味づけ、それに基づいて行為をすることにより、自らの体験世界を構築する。
- ii) それはすでに重要な他者との相互作用(会話)や社会的言説からの影響を含んだものでもある。
- iii) 語りはその人の望むものとは必ずしも一致しないものとなる可能性がある。

iv) Narrative therapy の治療者は独自の会話法を用いて、その人が語り直せるように援助する。

この NBM は、近年盛んになっている客観的で科学的根拠に基づく evidence based medicine (EBM) の対立概念として、ヒトの問題体験を narrative (語り) という言語様式の持つ特徴を通じて理解しようとする。EBM と NBM は、ともに現代における医療の質をいかに保証するかという点で共通の目標を持っているが、EBM が個々の疾病と治療の関係をより厳密に確定しようとする特徴があるのに対して、NBM は EBM によって不問に付されがちな患者固有の疾病体験に、語りを通じて焦点を当てようとするところに特徴があるとされている¹⁾。

本稿では、慢性疼痛の心身医療を実践するな

〈Special Article〉 Practice and prospects of psychotherapeutic approach for patients with chronic pain
Narrative based medicine in the clinical practice of psychosomatic medicine for chronic pain : Active listening focusing on the existential suffering

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かで筆者が出会った多くの患者との会話において発見した narrative に共通するパターンを紹介し、現代日本における物語のプロトタイプについての考察を行い、動物実験では研究しえない「この時代の日本におけるヒトの苦しみ」と医療者が付き合うための視点を模索したい。

1. 慢性疼痛の NBM

慢性疼痛難治例の特徴として、医療不信とそれに基づくドクターショッピングがある。慢性の痛みを主訴として九州大学病院心療内科を初診する患者は平均約5年の疼痛持続があり、その間に多数の医療機関を受診し、その後心療内科に紹介されている。そういった経過を経た慢性疼痛を持つ個々の症例の narrative を丁寧に傾聴すると、医療側の narrative ともいえる生物医学的な因果関係論に基づく病態仮説では包含しきれない患者や家族の narrative の存在に気づかされ、それが医療不信やドクターショッピングを引き起こしていることに気づかされる。

また、痛みの遷延化につれて、痛みが質的に変化することがあることを発見する。ここで、痛みは脳神経系の中で、感覚系の一つでもあるが、認知系、情動系、自律神経系と密接なつながりがあることが EBM の情報として重要である²⁾。身体的な症状を訴えると、器質的な病態に対しての対処が優先され、機能的な病態が残存することがある。さらに、痛みの持続に伴う不安・抑うつに伴う破局的な思いから、苦痛・苦悩を周囲に伝えようとする行動である疼痛行動（痛みの存在を周囲に伝えるために、患部をかばったり、医療処置を求めたりする行動）が起こる。疼痛行動に対する周囲の反応性が、たまたま本人の心理社会的背景にある実存的な苦悩を少しでも緩和することができた場合には、たとえ一見痛みの持続が本人の QOL を損なうような病態に突き進むようでも、疼痛行動が持

続している場合が多い。

医療側が慢性疼痛に関する EBM で理解できない病態に遭遇した場合でも、患者や家族の語る narrative を理解しようとするにより、治療の突破口が開けることがある。特に患者の語る医療不信や患者の示す疼痛行動に対する周囲の反応である報酬（患者が痛みの持続により痛み以外で少しだけでも楽になっていること）を考えることで、患者の本当の苦悩が理解しやすくなることがある。時に、ヒトにとっては痛みと交換にでも獲得したい周囲の愛情や擁護的な環境があるようである。

2. EBM の視点からみる NBM —疼痛行動と報酬系—

EBM の観点による現代医療の現場に、NBM をどう融合させるかが、この稿の重要な視点である。それは、つまり NBM の narrative をどう EBM で理解するかがポイントである。その際の鍵となるのが、疼痛行動のオペラント学習という考え方である³⁾。図1に侵害刺激とそれに伴う生体反応、その外顕的行動としての疼痛行動に対する周囲の反応が報酬となり、疼痛行動を強化するという流れを示した。強化される際には生体内で快感を引き起こす報酬系が作用していると考えられ、動機づけの神経システムが形成されると考えられる。動機づけが形成されると、侵害刺激でなくとも弁別刺激と呼ばれる報酬が期待できそうな刺激により疼痛行動が起こるようになり、以前得られた報酬を期待する予期が起こると考えられる。

図2に、神経伝達物質として主にドパミンが関与しているといわれている報酬系について示した。報酬系とは、欲求が満たされた時、あるいは満たされると期待される時に活性化し、個体が快感を覚えることに関与している神経系のことである。ここでの欲求とは視床下部が関与するような食欲・性欲・体温調節の欲求など、

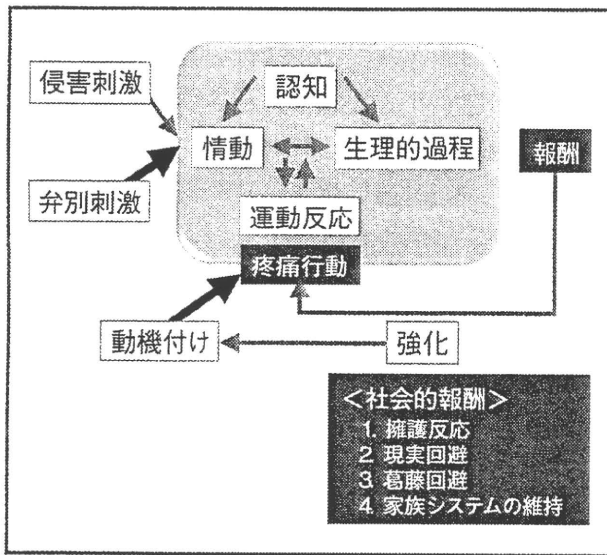


図1 疼痛行動と報酬系

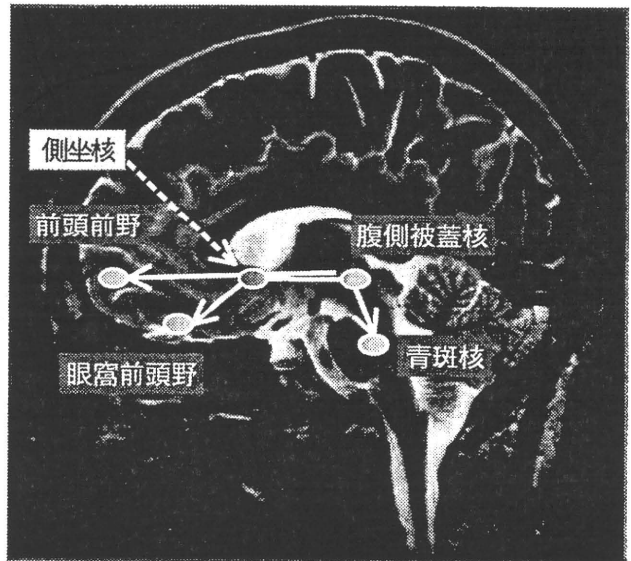


図2 ドパミン関与の報酬系

生物学的で短期的なもの他に、認知行動心理学的には他者に誉められたり愛されたりすることなど、より高次で社会的・長期的なものまで含まれる。報酬系は、中脳の腹側被蓋野から側坐核を介して前頭前野や眼窩前頭野に投射するドパミン神経系（図2）が担っているとされている。つまり、動物は側坐核や関連する部位のドパミン放出を刺激する行動をとるよう動機づけられている。この報酬系が、快感・精神的なエネルギー・衝動を惹起するといわれており、覚醒剤やコカインなどの依存性の薬物もドパミン賦活作用を持つことで、快感神経による報酬体験が起こっていると考えられている。ここで、覚醒剤依存による行動異常を考えると理解されるように、報酬体験があると、最終的には破局的になるという合理的理解ができる場合でも、抗えないよう動機づけが形成される。

ところで、痛みの情動成分を構成する経路として、内側脊髄視床路が知られている。末梢の痛覚線維のうち、無髄のC線維が脊髄、視床を介して前部帯状回や島皮質といった大脳皮質に情報を送り、痛み感覚に伴う漠然とした不快感を生成すると考えられている。情動に関与する大脳辺縁系に属する前部帯状回は運動系辺縁

野と以前より呼ばれているように、前部帯状回が動機づけに関与することが示唆されている⁴⁾。図3に、報酬に対する期待の大きさの情報処理に関する経路を図示した。この経路は、情動や動機づけに関連した刺激に反応して運動を起こすときに重要であるといわれている。

前述した認知行動学的概念の疼痛行動のオペラント学習の報酬が、いわゆる生物学的な快感神経からなる報酬系によって説明される快感体験として生物学的に対応していると考えられることができる。その際に、報酬が痛み刺激に対して医学的に投与された麻薬あるいは麻薬類似作用を有する薬物により生物学的に多幸福感をもたらし、疼痛行動が持続するという経路以外にも、認知行動学的に観察されている社会的報酬という状態でも、快感神経からなる報酬系が作用していると想定される。

この観点から、疼痛行動の社会的報酬がどのようなことであるかを理解することは、EBMの観点からも了解しやすい。つまり、各症例にとっての報酬系を活性化する社会的報酬がどのようなものであるかを理解することが重要であり、個々の患者の脳に記憶された脳内回路が生育歴の中で獲得した情動記憶が関与した個別性

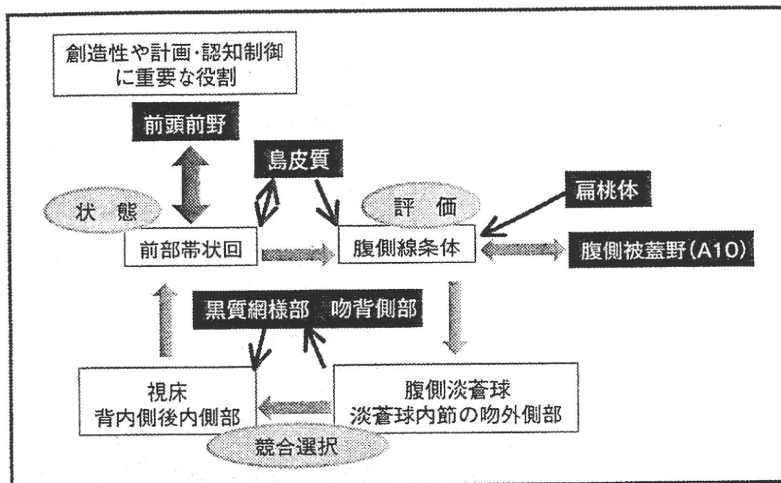


図3 報酬に対する期待の大きさの情報処理経路

を備えていることを考える（過去の経験の narrative を通して脳内で形成された回路を理解する）と、患者の認知行動パターンを理解するためにも患者の narrative に傾聴する必然性が出てくるのである。

3. Narrative のアートとサイエンス —社会的報酬の分類—

Narrative を傾聴する際に、医学的に重要なポイントは、narrative をそのまま受け取るという NBM の姿勢と同時に、narrative の中で理解される患者の認知行動特性を EBM の観点で分析するという両方の対応が医療側に可能であるということである。つまり、患者が自分の narrative を医療スタッフがそのまま受容してくれたと実感できる傾聴のアートとともに、narrative の表現スタイルを認知行動学的に分析し、サイエンスとして解し表現する姿勢である。痛み医療では、医療スタッフの痛みへの共感やいたわりというアートとともに、器質的疾患を基礎にした症例への医学生物学的理解と narrative の認知行動学的理解というサイエンスの両方の姿勢が求められているといえよう。

さて、その疼痛行動の報酬ともいえるものとして、以下の4つの種類が臨床的に観察される⁹⁾。

- i) 重要な人物からの注目、関心、擁護的な関わり（擁護反応）
- ii) 家庭または社会生活への再適応の回避（現実回避）
- iii) 痛み注目することでの、怒り・不満・恨み・ねたみ・罪悪感といった心理的葛藤の無意識的な抑圧（葛藤回避）
- iv) 他の家族成員間の葛藤の回避（家族システムの維持）

これらの narrative を理解する中で重要であるのは、表面的に訴える身体的苦痛とともに、その背景に心理的苦悩が存在するという二重構造があることを理解することである。身体的苦痛は実際存在するが、慢性の安定した器質的な疼痛や多くは、心理的苦悩に伴う機能的疼痛（交感神経系の過緊張やそれに伴う末梢循環障害）、環境ストレスに伴う陰性感情の生起による不快情動体験であることから、narrative の傾聴の中で、心理的苦悩を受容していく過程で二次的に改善していくことがある。したがって、患者-医療スタッフの交流の中で、当初は表面的な身体的訴えを傾聴する必要はあるが、徐々に背景の実存的苦悩に注目し、医療スタッフがより熱心に心理的苦悩を傾聴しようとする姿勢により、治療的対話を許容する治療関係が形成されてくる。

社会的報酬の一つの「葛藤回避」に関して、対象となる葛藤感情の一つである「ねたみ」に関しては、近年の脳科学的研究で背側前部帯状回が活性化している時に、自己と他者の社会的比較により認識された陰性感情が「ねたみ」として実感されていることが報告されている。背側前部帯状回は、前述した痛みの情動回路に関わる内側脊髄視床路が情報を送る脳部位の一つであり、認知と関係し、侵害刺激に反応した脳活性が報告されている部位である。「ねたみ」が痛み体験を増悪する臨床的観察と呼応している「Social Pain」という概念の背景となる EBM として興味深い。

4. 現代日本における慢性疼痛の Narrative

心療内科の臨床で遭遇する症例は多彩であり、症例の年齢、性別、環境により様々な narrative が存在する。しかし、現代の日本において、多く観察される narrative のプロトタイプがあり、narrative を傾聴する際にいくつかのパターンを認識して限られた診療時間内に重点を置いた共感を示すことは治療対効果の観点で有用である。

心療内科の臨床で日常的に遭遇する痛みに関連した narrative と観察される認知行動スタイルのプロトタイプとしては、以下のようなものがある。

1) 疾患の種類によるプロトタイプ

① 難治の過敏性腸症候群や原因不明とされてきた腰痛や背部痛

手掌あるいは躯幹部の過度の発汗やそれに伴う冷感など、全身の交感神経系の過度の亢進が認められ、他覚的にも腹部や背部の強い筋緊張や圧刺激の過敏性が認められる症例群がある。腹部全般で腹膜近くまで圧迫すると筋性防御様の反応が観察されることもある。そういった症

例の narrative としては、生育歴における重症のトラウマ（身体的・心理的・性的虐待など）が語られることがある。トラウマを語ることは本人にとっては、「パンドラの箱」を開けるような苦悩が強いこともあり、医療スタッフが興味本位で聴取しようとすることは治療的ではない。医療スタッフとの治療関係が安定化してくるなかで、患者側に「心の苦しみを心から理解してくれる相手に話してみたい」という思いが高まることもあり、その段階で聴取するという流れが望ましい。

② 線維筋痛症

難治の腰痛や背部痛を伴うプロトタイプと交感神経系の過度の亢進やそれに伴う脳の過覚醒の身体的状態や心理社会的背景が似ている場合も多いが、難治症例ではトラウマによる人間不信や自己制御不能な過活動・完璧主義・強迫的認知行動パターンが観察されることが多い。心理行動特性に伴う身体的休息の欠如により、最終的には身体的な疲弊が起り、結果的に付加される破局化が本人の苦悩を深めている。

安静にすることにより、抑圧している陰性感情が噴出し、痛みが増強することがある。それを防ぐための本人なりの建設的な努力として、さらに過活動を続けることにより悪循環に入り込むことが持続増悪因子となっていることがある。

③ 舌痛症

40歳以降の女性に多く認められるが、身体的要因以外に患者の苦悩を深めている narrative としては、嫁姑葛藤や本人および夫の親族との葛藤、子育てが終了した後のいわゆる「空の巣症候群」に合併することがある。夫に対する陰性感情を適切に発散できない状態が潜在化していることが多い。離婚すら考えていても、主婦であるために経済的問題を感じて実行できないという葛藤を語られることもある。

2) 年代・性別によるプロトタイプ

① 主人在宅ストレス症候群

60歳前後あるいはそれ以降の主婦の慢性疼痛症例に多く観察される背景として、仕事一筋で無趣味だった夫が定年退職などで長時間自宅に滞在することで、妻の心身の状態が悪化し、身体化することが臨床的に観察される。心療内科医の黒川により「主人在宅ストレス症候群」と概念化され、広く知られてきている⁶⁾。当院心療内科にも多くの症例が受診されているが、仕事一筋だった夫の行動は基本的に几帳面で強迫的であることにより、妻は行動を監視され、またTVあるいは新聞の報道による社会に関する情報に対して批判的な夫の言動を身近で長時間聞くことにより、「自分が怒られている」ような気分になり、夫に対して嫌悪感を強めることがある。強迫的な夫の言動について、夫側の narrative に耳を傾けると、夫自体が生育歴で愛情を受けていないことがあり、擁護的な妻に依存しようとするが、不器用な言動により、妻が嫌悪感を強めている。しかし、生育歴が恵まれていないことを妻自身が承知していることから、妻の中で共感と嫌悪感の葛藤状況に陥っていることがあり、その「心のもやもや」を言語化できない場合に内的緊張が増して、様々な痛みの増悪因子となっている。この世代に独特な男尊女卑的、封建主義的役割分担が夫の退職後も持続していると、妻のストレスが増大しているようである。

② 主人在宅ナイト化症候群

前述の「主人在宅ストレス症候群」の亜型として、今回筆者が命名した名称である。「ナイト化」とは、仕事一筋だった夫が騎士道精神に則った女性の保護者としての Knight のような役割行動に目覚め、それに生きがいを見い出していることを指し、患者である妻に対する夫の行動パターンの観察が必要になってくる。主人在宅ストレス症候群との違いは、主人在宅ストレス症候群の場合、妻のパーソナリティ特性は

抑圧的で基本的に成熟度が高いが、主人在宅ナイト化症候群では、妻自身が生育歴で甘えを満たされていなかったことに由来する元来の依存性の高さが背景にあり、妻のパーソナリティ特性としては未成熟な部分が観察される。妻が長年心理的苦悩を語っても反応しなかった夫が、妻が身体症状を出した時にのみ擁護的に関わり(ナイト化)、依存性を強化し悪循環に陥っている。それによって、妻の潜在的なヒステリー特性が顕在化し、身体症状が持続するというプロトタイプである。受療行動の違いとしては、主人在宅ストレス症候群の場合は、患者である妻が一人で自立的に受診するが、主人在宅ナイト化症候群では強い疼痛行動を示す妻にかいがいしく付き添う夫の姿が特徴的である。

罹患した疾患が重症の器質的な疾患であれば、一般的には夫の献身的な介護が美談となる事態になるが、妻の罹患した疾患が幸いにして器質的な疾患でない機能的な病態あるいはヒステリカルな発作であれば、オペラント型の疼痛行動の強化が起こることになる。多くは夫が強迫的な認知行動特性を持つことから、インターネットなどで情報を強迫的に調べ、各種の医療機関をドクターショッピングし、「神の手症候群」となっていくことにより、医療不信を悪化させ難治化していることがある。興味深い特徴として、そういった症例に対して、様々な苦勞の末、一旦、妻の症状が緩和し発症前のように自立的になったとしても、夫はあまり嬉しそうに見えないことがある。社会の中で強い役割意識を持って強迫的に頑張ってきた夫は趣味活動を楽しむという行動特性を持たず、妻の介護という役割行動に意欲を燃やしているという夫側の病態が潜在化しているとも考えることもできる。さらに、妻に対して嫁姑葛藤や夫側の親戚との葛藤、子どもの問題への対応、金銭的な問題など、過去に負い目を感じるような事態を直面化せず持ち越してきたことから、内面では妻への罪悪感を抑圧していることがある。ナイ

ト化することで贖罪的行動として、情緒的に安定化しているという症例もあるようである。

こういった妻側、夫側の双方の背景が絡んだ病態であることから、夫婦双方あるいは子どもに対する家族療法を行うことで、事態が安定化する可能性がある。その際には、夫婦双方あるいは子どもの複雑な思いを言語化させ、互いの苦勞をねぎらうような場を設定する。さらに、妻の疼痛行動と夫の介護行動という不適応的な対処行動ではない、健康的で適応的な共同作業（例：料理、カラオケでのデュエット、釣り、卓球など各症例に応じて実際に受け入れられる手法）を模索していき、家族間に一体感を作っていくことが重要である。

③ 昭和燃えつき症候群

主人在宅ストレス症候群の主婦のカウンターパートとして生活している夫側に見られることがある慢性疼痛やうつ病の症候群として、筆者が2008年に命名した名称である。団塊の世代といわれる世代（1947年から1949年あるいは1955年までの生まれ）より前に出生し、現在70～80歳の年代にある男性にみられる。戦後日本の上昇期に生育し、企業や官庁などの職場でワーカホリックな生活の中で活躍し、昭和の時代背景の下、男社会の中で社会生活に高揚した思い出がある男性が、社会生活から引退後に腰部の整形外科疾患あるいは全身各所の悪性疾患などに罹患し、器質的治療を十分に受けた後も痛みが残存しているパターンの慢性疼痛がある。

妻との関係も、本人が思っているほどには妻は夫に対する愛情を感じていないことがあり、子どものために離婚しないでやってきたという場合もあり、熟年離婚の危機を抱えているケースもある。子どもの養育期には貞淑な妻が家庭を守り、「家のことは一切妻にまかせている」状態であったことから、子どもの問題など家庭内の問題からは目を背けてきた流れがある。社会的には評価が高かった男性でも、自分が家長

である自宅では存在感が薄く、子ども達から疎まれる結果になっていることがある。そのため、自宅での居心地が悪く、金銭を与えることでかろうじて関係を保っている場合もある。女性と同じ目線で話しをするという行動に親和性がないために、介護を依頼する妻・娘や、娘と同年配の看護師との交流が苦手な場合があり、入院中には看護側が困惑することもある。男性社会で活躍してきたことから、兄、弟、職場の同僚などとの心理的距離が強く、その対象になる人物の死去や悪性疾患罹患により、抑うつ的になり、身体化あるいは破局化することがある。

妻や子ども達と心理的な苦悩をお互い語れる関係性が育っていないために、身体的な訴えに対してのみかろうじて家族成員が擁護的に反応すると、オペラント型の疼痛行動の強化が起こり、孤独の回避という社会的報酬が随伴し、疼痛行動が持続し、身体的アプローチで改善しないタイプの難治化した慢性疼痛の病態が形成されている。

子ども達との交流不全があるために、子ども達との交流の唯一の中継センターであった妻が悪性疾患などで先立たれると、悲嘆にくれ、痛みの破局化が強くなる。妻をないがしろにしてきた半生についての罪悪感を抑圧していることがあり、罪悪感の葛藤回避型の疼痛行動の強化が起こっていることがある。

④ 女丈夫症候群

30歳台以降の女性で、線維筋痛症などの症例に認められるプロトタイプで、今回筆者が命名した。男性優位の社会背景の下、養育の過程で女性であることでの忍耐を強いられ、過保護に対応される周囲の男性を献身的に支持するという自己犠牲的行動特性で周囲から信頼され頼られてきた（丈夫）タイプの女性患者のプロトタイプを指す。元来は健康で、強迫的認知行動特性の下、到達度の高い仕事を数々達成してきた。かなりの負荷をかけてもどうにか乗り切れてきたことから、休養を入れることが不得

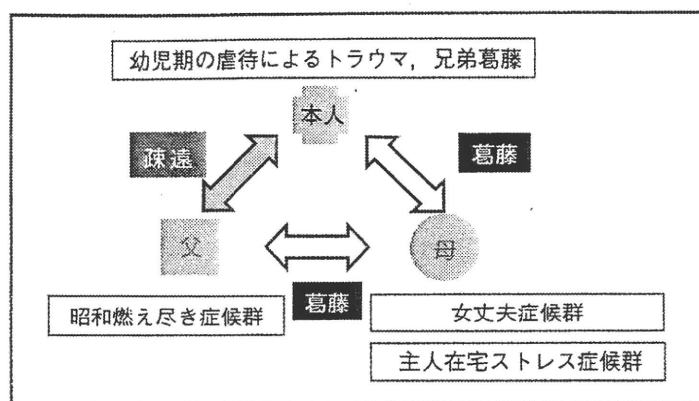


図4 症例：30歳台，女性：難治性腰痛

手で、完璧主義に徹する傾向があり、何らかの問題が起こった際に自分にとって不利益になるような決着のつけ方をとることが多い。

相手に奉仕するという行動が過度で、自分の痛みがひどい状況でも、自分よりも負荷の少ないストレスで悩んでいる知人などにも必要以上のサポートをしたり、その後裏切られたと感じたりすることがあり、陰性感情を感じていることがある。多くは強い兄弟葛藤があり、大切にされた兄姉あるいは弟妹に対する「妬み」や甘えさせてくれなかった母への「恨み」、冷たい言動を受けた父への「怒り」などの強い陰性感情を抑圧している。家庭内では過度の貢献をしてようやく自分は認証してもらえが、過保護にされている兄、姉、弟、妹は「何をやってもかわいがられる」事態になっていることから、自己犠牲的行動を止められないというジレンマがある。

未婚のまま、家族の問題を解決する役割を続け、「女性としての家庭的幸福」を得られないまま、自己犠牲的な行動を続けている場合と、既婚して、浮気・借金などの問題を繰り返す問題の多い夫への怒りを抑圧しながら子育てに生き甲斐を求めて行動し、過労状態から心身の疲弊に陥っている場合がある。夫の行動特性が未熟のため、離婚に至っている場合もある。

未婚型の場合では、50歳前後になり、改めて「自分の女性としての幸せ」を犠牲にしたと

いう後悔の念が強くなり、「何とかしたい」という欲求が強まっているが、家庭の中で自己犠牲を強いられるような状況が起こり、欲求不満状況に陥っていることがある。

既婚型の場合は、子育ての中でも夫から得られない愛情を息子に求め、過保護に対応し、娘には自ら受けた対応と同じような自己犠牲を強いていることがある。娘との間に強い葛藤を抱えている。娘に対して、自分の母から得たかった自分への擁護反応を期待していることがあるために、娘に対して母性的な対応ができずに、娘との葛藤が痛みの増悪因子になっていることがある。

離婚型は未婚型と既婚型の両方の葛藤を併せ持っていることがあり、心身の疲弊も著しいことが多い。

5. 慢性疼痛の家族にみられる各々の Narrative

現代日本における慢性疼痛の narrative を傾聴する中で得られたプロトタイプは、慢性疼痛の患者だけでなく、心身症として発症していないが患者をとりまく家族の苦悩として潜在化することがある。

具体例を図4に示した。この症例では、「女丈夫症候群」の母親が夫の浮気・借金などの度重なる問題行動に苦しみ、息子を過保護に養育