Short communication

A research coding method to evaluate medical clinicians conduct of behavioral health care in patients with unexplained symptoms

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ABSTRACT

Objective: Develop a reliable coding method of a Behavioral Health Treatment Model for patients with Medically Unexplained Symptoms (BHTM-MUS).
Methods: Two undergraduates trained for 30 h coded videotaped interviews from 161 resident-simulated patient (SP) interactions. Trained on 45 videotapes, coders coded 33 (20%) of 161 study set tapes for the BHTM-MUS. Guetzkow's U, Cohen's Kappa, and percent of agreement were used to measure coders' reliability in unitizing and coding residents' skills for eliciting: education and informing (4 yes/no items), motivating (2), treatment statements (5), commitment and goals (2), negotiates plan (8), non-emotion patient-centered skills (4), and patient-centered emotional skills (8).
Results: 60 items were dichotomized a priori from analysis of the BHTM-MUS and were reduced to 33 during training. Guetzkow's U ranged from .00 to .082. Kappa ranged from 0.76 to 0.97 for the 7 variables and 33 individual items. The overall kappa was 0.87, and percent of agreement was 95.7%. Percent of agreement by item ranged from 85 to 100%.
Conclusions: A highly reliable coding method is recommended to evaluate medical clinicians' behavioral care skills in patients with unexplained symptoms.
Practice implications: A way to rate behavioral care in patients with unexplained symptoms

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1. Introduction

Treatment of behavioral health disorders, defined as mental and/or substance use disorders, falls largely to medical clinicians [1,2] but few have been trained [3–7]. From two RCTs, our group identified a Behavioral Health Treatment Model for Patients with Medically Unexplained Symptoms (BHTM-MUS) [8,9]; see Table 1. The model is designed to guide medical clinicians in managing patients with chronic, disabling MUS and comorbid depression and/or prescription opioid misuse [8–11]. This patient group represents the majority of patients with behavioral disorders in medical settings, often presenting with chronic pain [12]; it does not include the significant minority of patients presenting solely with psychological symptoms or those with organic diseases and comorbid depression or another behavioral disorder.

In 2014, we published our plan to evaluate a curriculum for training residents in the BHTM-MUS using a quasi-experimental design with pre-post measures [13]. We report here a coding system using yes/no items to evaluate residents' skills with the BHTM-MUS. Based on previous success using dichotomized items to evaluate skills-defined patient-centered interviewing [14], our goal was to maximize reliability and know which specific skills in the BHTM-MUS were or were not learned.

2. Methods

2.1. Design, setting, and participants

Residents were evaluated once in a modern Simulation Center where they were videotaped interviewing standardized patients (SP). Residents (n = 161) were primarily male (n = 93, 58%) and international graduates (n = 89/161, 55%). Resident ethnicity was Asian (n = 71, 44%), Caucasian (n = 57, 35%), Black (n = 5, 3%), Hispanic/Latino (n = 1, <1%), and another race or ethnicity (n = 22, 14%). Resident's level of training ranged from 0 to 3 years at the time of data collection. Twelve simulated patients (SP) ranged in age from 38 to 58 and were primarily Caucasian (n = 11) and female (n = 8). The larger study, of which the present report is a part, comprised three interviews, only the BHTM-MUS interview is reported here. The other two interviews involved patient-centered interviewing [14] and informing and motivating. SPs initially

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Table 1
The Behavioral Health Treatment Model for Medically Unexplained Symptoms (BHTM-MUS).

Education

1. *ASK* – "What's Your Understanding"

    a. Their problem/diagnosis, why they have it, its outcome

    b. What they want done

2. *TELL* --

- "I Have Good News"

    a. Ominous conditions not found

    b. More testing/consultation not necessary

        i. You will follow-up for any change

    c. You know diagnosis – name/explain it

- "You Need Better Treatment

    d. Depression makes pain worse → needs medication

        i. Problem is 'real' or 'not in head' (not a 'psych case')

    e. Narcotics make pain & depression worse → need to slowly

        taper and discontinue

    f. Improvement likely (cure unlikely)

3. *ASK* – "Please summarize what you've heard"

Commitment

1. ASK – "Are you committed to treatment"

2. TELL – "You need to be active, I can't do by myself "

3. ASK – "Please summarize your commitment"

Goals

1. Obtain *long-term goals* → achieve via Plan (next)

Negotiate Plan

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1. *ALL plans occur as scheduled* = non-prn

2. *Antidepressant* – start &/or adjust

3. *Addicting medications* (narcotic; benzodiazepine; amphetamine)

    a. Determine present dose

    b. Regularize dose schedule

    c. Start taper @ one pill/day each week

    d. Ask them to think about which pill to stop in one week

4. *Symptomatic medication* -- scheduled

5. *Exercise* program – determine present level → prescribe small increase -- scheduled

6. *Social activity* – determine present level → prescribe small increase -- scheduled

7. *Regular follow-up visits*

8. Have *patient summarize* treatment plan

9. *Praise* patient for commitment

10. *Other aspects of treatment* plan (relaxation, diet, PT, OMT) – later, after first 2-3 visits

11. Do not advise more tests or consultation (other than PT or OMT)

PT = physical therapy; OMT = osteopathic manipulative treatment; At each of the 4 ECGN steps, use NURS at least once; NURS = Name the emotion, Understand the emotion, Respect the emotion; Support the emotion – the NURS skills are used to establish the relationship [18].

trained for 20 h, and received approximately 6.5 h of training/year to ensure fidelity. Instructions, scenarios, and scripts received by SPs are available from the authors. The university Institutional Review Board approved this project

2.2. Procedure

SPs enacted a scenario to test skills with the BHTM-MUS: chronic pain patient with major depression, and prescription narcotic misuse. Residents (n = 161) were videotaped interacting with a SP. Each interview was allotted 15 min and occurred in a modern Simulation Center. SPs never interviewed more than 6 residents in one day to minimize participant fatigue.

Two undergraduate students, independent of the study, were trained by the authors to rate resident-SP interactions. We met for a total of 30 h. Coders were trained on a small selection of pilot videotapes which were reviewed in person, and discrepancies in coders' identification of the content and ratings were discussed until coding agreements could be reached and there was clarity on definitions. Trained coders required approximately 30 min per tape which were approximately 12 min in duration (range 6–15 min). Coders first reviewed the tape in its entirety and then reviewed the tape a second time. The overall unit of analysis was the entire

interview. The location of each item within the interview was identified as well.

2.3. Instrumentation

Our coding procedure is based on the BHTM-MUS (Table 1) [11] and on an evidence-based patient-centered interview [14]; available from the authors. Believing they are of equal importance, the authors sought to approximately equally balance patient-centered skills with the BHTM-MUS skills. We also sought to have approximately one-third of the BHTM-MUS skills represent Planning because this dimension often is not well represented [15]. After several iterations and removal of confusing and redundant items, we identified 60 yes/no items. Then, during rater training, we progressively excluded 27 additional items, retaining the 33 items where coders consistently agreed with each other and with our conceptual and operational definitions; the final balance was 12 patient-centered items and 21 BHTM-MUS items of which there were 8 Planning items; see Table 2 for the coding sheet.

Deriving from motivational interviewing [16,17], the 7 BHTM-MUS variables in Table 3 were: 1) Educating and Informing (4 items); 2) Motivating (2 items); 3) Treatment Statements (5 items);

Table 2
The Behavioral Health Treatment Model for Medically Unexplained Symptoms (BHTM-MUS) Coding Sheet (33 items).

Educating/Informing/Motivating

1. Determines patient's

   a. understanding/knowledge/ideas of problem or its cause **(0 = No, 1 = Yes)**

   b. any mention of expectation of outcome or what should be done **(0 = No, 1 = Yes)**

2. Informs: [ITEMS IN #2 COUNT ONLY IF PRECEDED BY EITHER ITEM IN #1]

   c. tests are negative or non-contributory or don't provide explanation for problem, no ominous or life-threatening conditions found ("nothing wrong" does not count) **(0 = No, 1 = Yes)**

   d. further testing or consultation or surgery not needed **(0 = No, 1 = Yes)**

3. Motivates

   e. problem is 'real' or 'not in head' or not a 'psych case' **(0 = No, 1 = Yes)**

   f. gives name to what patient has *or* medical explanation of diagnosis **(0 = No, 1 = Yes)**

4. Treatment statements

   a. have better treatment (physician specifically says that this is the best treatment, or is better than what patient was doing before) **(0 = No, 1 = Yes)**

   b. depression is part of problem and needs to be treated (list of SSRI, SNRI, and other antidepressants provided) **(0 = No, 1 = Yes)**

   c. narcotics make pain worse or otherwise don't work (see drugs below) **(0 = No, 1 = Yes)**

   d. narcotics need to be tapered or discontinued **(0 = No, 1 = Yes)**

5. Asks patient to summarize understanding **(0 = No, 1 = Yes)**

Commitment, Goals, Motivation

6. Seeks patient's opinion/input/choice/commitment re. treatment   **(0 = No, 1 = Yes)**

7. Indicates patient needs to be active participant and/or emphasizes capacity for change **(0 = No, 1 = Yes)**

Negotiate Plan

8. Asks present narcotic dose (good day v. bad day; actual nos. pills) and/or regularizes narcotic dose schedule (fixed schedule; contract) **(0 = No, 1 = Yes)**

9. Determines baseline physical activity/exercise **(0 = No, 1 = Yes)**

10. Mentions exercise program (e.g. walking, exercise, water aerobics) **(0 = No, 1 = Yes)**

11. Indicates importance of social life and/or mentions program of social activity **(0 = No, 1 = Yes)**

12. Mentions other aspects of treatment plan (meditation, relaxation, spouse visit, counseling, physical therapy, Osteopathic Manipulative Treatment (OMT))   **(0 = No, 1 = Yes)**

13. Does not advise inappropriate medications, or consultations (other than physical therapy or OMT) **(0 = No, 1 = Yes)**

     a. Examples of inappropriate tests: x-ray, MRI, blood count

     b. Examples of inappropriate referrals: Pain Clinic, Orthopedics, Neurosurgery, Physical Medicine, Sports Medicine.

     c. Examples of inappropriate medications: benzodiazepines, muscle relaxants; does not increase dose of present narcotic or add a new narcotic – examples of drugs provided

14. Arranges explicit follow-up contact (within 1-3 weeks)   **(0 = No, 1 = Yes)**

15. Summarizes treatment plan   **(0 = No, 1 = Yes)**

Patient-centered Skills (at start, middle, end)

16. Sets agenda in first 5 minutes, such as asking if "anything else" or "other concerns"

    (0 = No, 1 = Yes)

17. Uses indirect skills

    a. "impact on self" statement **(0 = No, 1 = Yes)**

    b. "impact on others" statement **(0 = No, 1 = Yes)**

    c. "self-disclosure" statement of resident about medical or other issues they might

       have had   **(0 = No, 1 = Yes)**

18. Asks about an emotion/concern/mood/stress; e.g., making you down, sounds like stress,

    see frustration in your face, you look concerned, what about the mood aspect, how deal

    with this, how coping – NOT what you think **(0 = No, 1 = Yes)**

19. Asks about an emotion/concern/mood/stress **(0 = No, 1 = Yes)** – inquiry about emotion

    is scored twice when asked twice

20. NURS related to emotion – There needs to be an element of inquiry for NURS to count

    (i.e. if 19 or 20 is yes, then can rate all of the following).

    a. Names an emotional reaction **(0 = No, 1 = Yes)**

    b. Expresses understanding of any aspect of an emotion **(0 = No, 1 = Yes)**

    c. Acknowledges plight or difficulty re. an emotional issue of any type **(0 = No, 1

       = Yes)**

    d. Praises anything re. their response to emotion **(0 = No, 1 = Yes)**

    e. Expresses personal support in response to emotion **(0 = No, 1 = Yes)**

    f. Notes others' support in response to emotion **(0 = No, 1 = Yes)**

SSRI = selective serotonin uptake inhibitor; SNRI = selective norepinephrine reuptake inhibitor; OMT = osteopathic manipulative treatment; NURS = naming, understanding, respecting, supporting; MRI = magnetic resonance imaging.

4) Commitment and Goals (2 items); 5) Negotiates Plan (8 items); 6) Non-Emotion Patient-Centered Skills (4 items); and 7) Patient-Centered Emotional Skills (8 items). *Educating/Informing* begins with the critical inquiry about the patient's explanatory model, then applying cognitive reorientation principles to correct misunderstanding. *Motivating* identifies somewhat similar informing statements but with a motivating component. *Treatment Statements* provide key information about an important treatment that includes antidepressants and tapering narcotics. *Commitment and Goals* identifies statements seeking patients' commitment to treatment as an active participant. *Negotiates Plan* addresses multiple elements of a negotiated treatment plan; this variable captures the most extensive representation of skills required for behavioral management. *Non-Emotion Patient-Centered Skills* identifies non-emotion-based patient centered skills such as agenda setting and patient-centered inquiry. *Patient-Centered Emotional Skills* identifies the key emotional skills needed to establish a relationship, highlighted by inquiry about emotion and responding empathically to it using NURS: Naming, Understanding, Respecting, and Supporting [18]. A highly detailed codebook was developed and is available from the authors.

2.4. Statistical analysis

Guetzkow's U is a statistic used to measure the reliability of the number and location of units as determined by two independent coders; this statistic is used to estimate the unitizing reliability by observing the frequency of disagreements among coders [19]. Cohen's Kappa measures inter-rater reliability, and is a reliability coefficient that takes chance agreement into account [20]. Newly trained coders independently rated 33 (20%) randomly selected videotapes from the study set of 161 total tapes to establish inter-rater reliability; the first author's Dept. of Communication reports that a 20% sample is the standard used for reliability determinations in their and many other departments. Once inter-rater reliability was established, coders discussed all disagreements and recoded. Percent of agreement was calculated for each item, variable, and overall.

3. Results

Guetzkow's U ranged from a very satisfactory .00 to .082. Cohen's kappa for all items on 33 videotapes was 0.87. Kappas for each variable were: *Educating and Informing* = 0.76; *Motivating* =

Table 3
Statistical Results for all Behavioral Health Treatment Variables and Items.

No.	Item	Percent of Agreement	Guetzkow's U
Educating and Informing (Kappa = .76)			
1	Determines patient's understand of problems or cause	96.9	.015
2	Any mention of expectation of outcome of what should be done	100	.000
3	Informs tests are negative or don't provide explanation of problem	96.9	.015
4	Informs further testing/consultation not needed	93.9	.031
Motivating (Kappa = .84)			
5	Problem is real and "not patient's head"	93.9	.031
6	Gives a name to what patient has or medical explanation of diagnosis	90.9	.048
Treatment Statements (Kappa = .86)			
7	Explains that there is a better treatment	93.9	.031
8	Explains that depression is part of the problem and needs treated	100	.000
9	Explains that narcotics make pain worse/do not work	84.8	.082
10	Explains narcotics need to be tapered/discontinued	93.9	.031
11	Asks patient to summarize their understanding	100	.0000.000
Commitment and Goals (Kappa = .83)			
12	Seeks patient's opinion/input/commitment to treatment	87.9	.065
13	Indicates patient needs to be an active participant	96.9	.015
Negotiates Plan (Kappa = .83)			
14	Asks present narcotics dose and regularizes schedule	90.0	.048
15	Determines baseline physical activities/exercise	96.9	.015
16	Mentions an exercise program	84.8	.082
17	Indicates importance of social life/mentions social activity program	93.9	.031
18	Mentions other aspect of treatment plan	96.9	.015
19	Does NOT advice inappropriate medications/consultations	84.8	.082
20	Arranges explicit contact within 1–3 weeks	90.9	.048
21	Summarizes treatment plan	93.9	.031
Non-Emotion Patient-Centered Skills (Kappa = .97)			
22	Sets agenda in first 5 min	100	.000
23	Uses "impact on personal dimension of self" statement	96.9	.015
24	Uses "impact on others" statement	100	0.000
25	Uses "self-disclosure" statement of resident about medical/other issues they have had	100	0.000
Patient-Centered Emotional Skills (Kappa = .90)			
26	Asks about emotion/concern/mood/stress	93.9	.031
27	Asks about emotion/concern/mood/stress	93.9	.031
28	Names an emotional reaction	90.9	.048
29	Expresses understanding of any aspect of an emotion	96.9	.015
30	Acknowledges plight or difficulty regarding an emotional issues	96.9	.015
31	Praises anything regarding their response to emotion	100	.000
32	Expresses personal support in response to emotion	96.9	.015
33	Notes others' support in response to emotion	100	.000

0.84; *Treatment Statements* = 0.86; *Commitment and Goals* = 0.83; *Negotiates Plan* = 0.83; *Patient-Centered Skills* = 0.97; and *Patient-Centered Emotional Skills* = 0.90 (see Table 3). The overall percent of agreement for all items was 95.7%, and percent of agreement for each item ranged from 85 to 100%.

4. Discussion, conclusion, and practice implications

4.1. Discussion

This brief report describes a highly reliable method for coding how well medical clinicians deploy a Behavioral Health Treatment Model for Patients with Medically Unexplained Symptoms (BHTM-MUS). Because this is a behaviorally-defined (skills-based) model, we were able to use dichotomous coding of the actual behaviors (skills) used rather than the more subjective Likert scales. This allowed us to achieve higher reliability even though yes/no coding retains some subjectivity. Another attribute of a yes/no coding is that we were able to use less costly undergraduate students without any prior training in medicine or science. Finally, to guide teaching, we can identify which skills are not learned. To reduce

the potential loss of information that can occur with dichotomizing items, we weighted the numbers of items for each variable to reflect their relative importance to the BHTM-MUS. We reviewed several well-investigated measures, but they did not fit the needs of this study because of uneven reliabilities [21–26] and not fully capturing the patient-centered component of the BHTM-MUS and, especially, not adequately representing its planning dimensions [15].

The coding method has a strong conceptual base, anchored in an evidence-based patient-centered interviewing method as well as the evidence-based BHTM-MUS [8,9,11,18,27]. We are aware of no other coding methods or Likert-type rating methods of behavioral treatment models for medical clinicians. As it becomes more and more apparent that medical clinicians provide most behavioral health care, training will need to be greatly increased. The coding procedure described is designed to evaluate major parts of behavioral training.

Limitations of this study are the unavailability of other coding methods for comparison and not comparing our coding method to other measures of effective behavioral treatment, such as patient satisfaction or learner self-efficacy. The larger study of which this

report is a part will provide data on both as well as pre/post learning of the BHTM-MUS using a quasi-experimental design. Thus, solid validity data will soon be available as described previously in our study design [13]. Finally, only residents were studied so that coding on students and practitioners will be needed in the future.

4.2. Conclusion

This study reports a highly reliable coding method that is representative of the skills required by medical clinicians to conduct behavioral health care in patients with unexplained symptoms. It is recommended as the initial criterion standard for the new field of preparing medical clinicians to conduct behavioral health care.

4.3. Practice implications

This study provides a way to evaluate clinicians' conduct of behavioral care in patients with unexplained symptoms.

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Conflict of interest

The authors have no actual or potential conflict of interest, including any financial, personal, or other relationships, with other people or organizations within three years of beginning the submitted work that could inappropriately influence or be perceived to influence this work.

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References

[1] P. Wang, O. Demler, M. Olfson, H.A. Pincus, K.B. Wells, R. Kessler, Changing profiles of service sectors used for mental health care in the United States, Am. J. Psychiatry. 163 (2006) 1187–1198.

[2] S. Melek, D. Norris, Chronic Conditions and Comorbid Psychological Disorders. Millman Research Report, Millman, Seattle, WA, 2008, pp. 19.

[3] AAMC, Basic Science, Foundational Knowledge, and Pre-Clerkship Content ? Average Number of Hours for Instruction/Assessment of Curriculum Subjects, American Association of Medical Colleges, 2012.

[4] H.P. Chin, G. Guillermo, S. Prakken, S. Eisendrath, Psychiatric training in primary care medicine residency programs. A national survey, Psychosomatics 41 (5) (2000) 412–417.

[5] H. Leigh, D. Stewart, R. Mallios, Mental health and psychiatry training in primary care residency programs Part I. Who teaches, where, when and how satisfied? Gen. Hosp. Psychiatry 28 (3) (2006) 189–194.

[6] R.C. Smith, Educating trainees about common mental health problems in primary care: a (Not so) modest proposal, Acad. (Med. 86 (2011) e16.

[7] R. Smith, A.H. Fortin, F. Dwamena VI, R. Frankel, An evidence-based patient-centered method makes the biopsychosocial model scientific, Patient Educ. Couns. 90 (2013) 265–270.

[8] R. Smith, J. Gardiner, Z. Luo, S. Schooley, L. Lamerato, Primary care physicians treat somatization, J. Gen. Int. Med. 24 (2009) 829–832.

[9] R.C. Smith, J.S. Lyles, J.C. Gardiner, C. Sirbu, A. Hodges, C. Collins, et al., Primary care clinicians treat patients with medically unexplained symptoms – a randomized controlled trial, J. Gen. Intern. Med. 21 (2006) 671–677 (PMCID: PMC1924714).

[10] J.S. Lyles, A. Hodges, C. Collins, C. Lein, C.W. Given, B. Given, et al., Using nurse practitioners to implement an intervention in primary care for high utilizing patients with medically unexplained symptoms, Gen. Hosp. Psychiatry. 25 (2003) 63–73 (PMCID: PMC1892768).

[11] R.C. Smith, C. Lein, C. Collins, J.S. Lyles, B. Given, F.C. Dwamena, et al., Treating patients with medically unexplained symptoms in primary care, J. Gen. Intern. Med. 18 (2003) 478–489 (PMCID: PMC1494880).

[12] K. Kroenke, The interface between physical and psychological symptoms, Primary Care Companion J. Clin. Psychiatry 5 (Suppl. 7) (2003) 11–18.

[13] R. Smith, H. Laird-Fick, D. D'Mello, F. Dwamena, A. Romain, J. Olson, et al., Addressing mental health issues in primary care: an initial curriculum for medical residents, Patient Educ. Couns. 94 (2014) 33–42.

[14] K. Grayson-Sneed, S. Smith, R. Smith, A research coding method for the basic patient-centered interview, Patient Educ. Couns. 100 (2016) 518–525.

[15] L. Copeland, R. McNamara, M. Kelson, S. Simpson, The development of a coding system to code planning talk within motivational interviewing, Patient Educ. Couns. 100 (2) (2017) 313–319.

[16] D.T. Lai, K. Cahill, Y. Qin, J.L. Tang, Motivational interviewing for smoking cessation, Cochrane Database Syst. Rev. (1) (2010)CD006936.

[17] J.C. Spencer, S.B. Wheeler, A systematic review of Motivational Interviewing interventions in cancer patients and survivors, Patient Educ. Couns. 99 (7) (2016) 1099–1105.

[18] A.H. Fortin VI, F. Dwamena, R. Frankel, R.C. Smith, Smith's Patient-Centered Interviewing: An Evidence-Based Method, 3rd ed., McGraw-Hill, New York, 2012.

[19] H. Guetzkow, Unitizing and categorizing problems in coding qualitative data, J. Clin. Psychol. 6 (1950) 47–48.

[20] J. Cohen, A coefficient of agreement for nominal scales, Educ. Psychol. Meas. 20 (1960) 37–46.

[21] L. Forsberg, A. Berman, H. Kallmen, U. Hermansson, A. Helgason, A test of the validity of the motivational interviewing treatment integrity code, Cogn. Behav. Ther. 37 (2008) 183–191.

[22] M.B. Madson, T.C. Campbell, Measures of fidelity in motivational enhancement: a systematic review, J. Subst. Abuse Treat. 31 (1) (2006) 67–73.

[23] T.B. Moyers, L.N. Rowell, J.K. Manuel, D. Ernst, J.M. Houck, The motivational interviewing treatment integrity code (MITI 4): rationale, preliminary reliability and validity, J. Subst. Abuse Treat. 65 (2016) 36–42.

[24] H.M. Pierson, S.C. Hayes, E.V. Gifford, N. Roget, M. Padilla, R. Bissett, et al., An examination of the motivational interviewing treatment integrity code, J. Subst. Abuse Treat. 32 (1) (2007) 11–17.

[25] K.I. Pollak, S.C. Alexander, J.A. Tulsky, P. Lyna, C.J. Coffman, R.J. Dolor, et al., Physician empathy and listening: associations with patient satisfaction and autonomy, J. Am. Board Fam. Med. 24 (6) (2011) 665–672.

[26] D. Tappin, C. McKay, D. McIntyre, W. Gilmour, S. Cowan, F. Crawford, et al., A practical instrument to document the process of motivational interviewing, Behav. Cognit. Psychotherapy 28 (2000) 17–32.

[27] R.C. Smith, J.S. Lyles, J. Mettler, B.E. Stoffelmayr, L.F. Van Egeren, A.M. Marshall, et al., The effectiveness of intensive training for residents in interviewing A randomized, controlled study, Ann. Intern. Med. 128 (1998) 118–126.