

Favorable effects of motivational interviewing and support in a patient with schizophrenia and alcohol abuse

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Abstract

A 42-year-old man with schizophrenia was referred to our hospital after 2 weeks of worsening fatigue. His hemoglobin level was 2.8 g/dL owing to folic acid deficiency stemming from alcohol abuse and consumption of unbalanced meals. We induced behavioral changes in the patient by motivational interviewing. We had direct methodical conversations with medical staff involved with the patient as well as his family, and established new social support for him as well as public assistance. These have resulted in the patient maintaining a favorable lifestyle ever since.

KEYWORDS

alcohol abuse, anemia, motivational interviewing, schizophrenia

1 | INTRODUCTION

Excessive alcohol consumption and abuse are common among patients with psychotic disorders.¹⁻³ However, few clinical trials have focused on investigating excessive alcohol consumption among individuals with psychosis, and there are very few reports of efficient approaches to treat alcohol abuse in patients with schizophrenia.⁴ Herein, we report a case of a 42-year-old man with schizophrenia and severe folic acid deficiency anemia due to alcohol abuse. He achieved complete remission of his anemia and ceased alcohol abuse after our methodical motivational approach aimed at raising his awareness of his own problems, aided by public and social support.

2 | CASE REPORT

A 42-year-old man with schizophrenia experiencing worsening fatigue over 2 weeks was referred to our hospital. He had been drinking approximately 4 liters of distilled spirits per week for a year. The patient

lived alone, and consumed only various types of junk food instead of balanced meals or vegetables.

Physical examination revealed facial pallor and leg edema bilaterally. His body temperature was 37.2°C, pulse rate was 102 beats/min, blood pressure was 101/64 mm Hg, and respiratory rate was 16 breaths/min. Laboratory tests revealed that his hemoglobin level was 2.8 g/dL; he had macrocytic anemia with hemolysis and pancytopenia (Table 1). A peripheral smear revealed that the anemia was megaloblastic. After admission, additional tests showed that his vitamin B12 level was within normal range but that his folic acid level was below the lower limit of normal. Other findings were otherwise normal. He was diagnosed as having folic acid deficiency anemia due to excessive alcohol consumption, and his hemoglobin level improved by administration of folic acid and cessation of alcohol.

We inquired why the patient never finished his vegetables during his meals. He responded that he had not felt the need to eat vegetables, although this did not mean that he disliked them. We discussed folic acid deficiency anemia due to excessive alcohol consumption with him, along with the cause of his symptoms, worsening fatigue, and admission. We also listened attentively to his narrative and

TABLE 1 Laboratory findings for the patient upon admission and 8 days postadmission

Laboratory tests	On Admission	On the 8th day
White blood cell count (per μL)	3500 \downarrow	4700
Neutrophils (%)	72 \uparrow	72 \downarrow
Lymphocytes (%)	21.6 \downarrow	15 \downarrow
Red blood cell count (per μL)	$58 \times 10^4 \downarrow$	$183 \times 10^4 \downarrow$
Hemoglobin (g/dL)	2.6 \downarrow	6.6 \downarrow
Mean corpuscular volume (fl)	128 \uparrow	115 \uparrow
Platelet count (per μL)	$3.5 \times 10^4 \downarrow$	$15 \times 10^4 \downarrow$
Reticulocyte (/ μL) ^a	32480 \downarrow	102480 \uparrow
Total protein (g/dL)	4.6 \downarrow	
Albumin (g/dL)	3.2 \downarrow	
Total bilirubin (mg/dL)	2 \uparrow	0.9
Direct bilirubin (mg/dL)	1.3 \uparrow	0.6 \uparrow
Aspartate aminotransferase (IU/L)	50 \uparrow	19
Alanine aminotransferase (IU/L)	113 \uparrow	29
Alkaline phosphatase (IU/L)	214	202
γ -glutamyltranspeptidase (IU/L)	35	40
Lactate dehydrogenase (IU/L)	636 \uparrow	291
Blood urea nitrogen (mg/dL)	18	10
Serum creatinine level (mg/dL)	0.81	0.69
Haptoglobin (mg/dL)	<5.0 \downarrow	
Iron ($\mu\text{g}/\text{dL}$)	286 \uparrow	
Total iron binding capacity ($\mu\text{g}/\text{dL}$)	300	
Ferritin (ng/mL)	539.9 \uparrow	
Brain natriuretic peptide (pg/mL)	475.6 \uparrow	
Folic acid (ng/mL) ^b	<0.4 \downarrow	20.1 \uparrow
Vitamin B12 (pg/mL) ^c	320	
Blood gas (while the patient was breathing ambient air)		
pH	7.46 \uparrow	
Partial pressure of carbon dioxide (Torr)	38.6	
Partial pressure of oxygen (Torr)	68 \downarrow	
Bicarbonate (mEq/L)	27.1 \uparrow	
Base excess (mEq/L)	3.4 \uparrow	

Reference Range, Adults: ^a21 000-95 000/ μL ; ^b3.6-12.9 ng/mL; ^c233-914 pg/mL

expressed understanding toward his thoughts. Afterward, he realized that ceasing alcohol consumption and eating vegetables as part of a balanced meal were indispensable for preventing recurrence of folic acid anemia and staying in good health.

Although the patient had been drinking approximately 4 liters of distilled spirits per week, he was not a constant consumer of alcohol and did not show any signs or symptoms of withdrawal after admission to our hospital and cessation of alcohol use. We diagnosed the condition of the patient as pre-alcoholism, a recently proposed disorder. We subsequently discussed the patient's condition with his father,

whereupon we discovered that the patient's alcohol abuse was partially caused by his father's purchasing of bottles of distilled spirits for the patient. Furthermore, his father was divorced and had been living with a woman out of wedlock at her house, leaving the patient alone at home. We communicated directly with his primary care doctor regarding public and social support and assistance. We found that the patient had never applied for social support for which he was eligible under the Basic Act for Persons with Disabilities. We advised the patient on how to obtain support from his primary care doctor and other mechanisms. The patient currently continues to eat vegetables and balanced meals, and has avoided alcoholic beverages completely since the two years after his discharge from our hospital.

3 | DISCUSSION

Beneficial effects of motivational interviewing have recently been reported in patients with schizophrenia and alcoholism.⁵ In our case, we listened to our patient's narrative and opinions with support and understanding. Moreover, we provided the information he requested or required, and asked for his understanding while respecting his autonomy. These events led the patient to realize what was necessary for him to do to avoid recurrence of folic acid deficiency anemia and stay in good health; they also summoned his hope and confidence. This finally prompted behavioral changes including his complete abstention from alcoholic beverages, and from going from eating only junk food to consuming vegetables and balanced meals (Figures 1 and 2).

Alcohol use has been demonstrated to be associated with lack of psychosocial support in schizophrenia.⁷ As stated above, our patient had never applied for public and social support, nor had his family or primary care doctor. Therefore, we fostered direct, close communication between his family, primary care doctors, and care supporters. Such communication improved the patient's daily living conditions and led all of us involved with him to provide the help and support he required.

Several previous studies have described that medical professionals who encounter patients with psychotic disorders or alcoholism are prone to have negative feelings and attitude toward the patients.⁸⁻¹¹ Pre-alcoholism has recently been proposed as a gray zone of alcoholism, and involves alcohol-related problems despite no continuous alcoholic consumption or withdrawal signs and symptoms.^{12,13} The presentation of the patient in our case fulfilled these criteria, hence the pre-alcoholism diagnosis. In addition, the patient's schizophrenic symptoms were well controlled with medical treatment. Coupled with our own efforts to preclude negative feelings or attitude toward the patient, the successful medical treatment might have assisted with the elimination of negative feelings and with the effective motivational interviewing that resulted in changes to the patient's behavior. However, to the best of our knowledge, no previous reports have indicated an association between the severity of alcoholism or schizophrenia and the results of motivational interviewing.

Previous reports have demonstrated the effectiveness of motivational interviewing for patients with a variety of conditions, such as attention deficit/hyperactivity disorder, obesity, medication adherence,

FIGURE 1 Core skills for motivational interviewing⁶

1) Open Questions

Open questions invite conversation on a topic, focusing attention in a particular direction and allowing the client to consider and explore.

2) Affirming

Affirming recognizes and acknowledges that which is good, including the individual's inherent worth as a human being, and supports and encourages the client's strengths and efforts.

3) Reflective Listening

Reflective listening requires an estimation of what the client means. Through reflective listening, you form a reasonable guess as to the original meaning and give voice to that guess in the form of a statement. The reflective statement is likely to encourage continued exploration.

4) Summarizing

Summarizing pulls together several items that a client has told you. It also helps a client to hold and reflect on the various experiences the client has expressed. It can also be affirming because it implies that you remember what the client tells you and that you want to understand how what the client tells you fits together.

FIGURE 2 Motivational interviewing process with the present patient⁶

1) Listening with support and encouragement to the patient's narrative and opinions (Open Questions, Affirming, and Reflective Listening)

2) Providing the information the patient requested or required

3) Asking for his understanding of the information we provided and summarizing what the patient told us (Summarizing)

4) Repeating 1), 2), and 3)



These steps automatically allowed the patient to realize what was necessary to stay in good health and finally prompted the patient's behavioral changes.

human immunodeficiency virus, and alcohol misuse.¹⁴⁻¹⁹ First, it is crucial to understand the underlying spirit or mindset of motivational interviewing and to master the core skills, as shown in Figure 1, through by repeated simulation trainings and audio or video recordings with feedback learning. Second, it is important to adequately practice motivational interviewing with patients with various diseases and in various clinical settings. Discussion and evaluation of the effectiveness of interviewing skills among practitioners are important components of mastering motivational interviewing skills. Mastery of these skills will enhance the versatile use of motivational interviewing in practice and research.

4 | CONCLUSION

We described a schizophrenic patient with folic acid deficiency anemia due to alcohol abuse and consumption of unbalanced meals. Affecting changes in the patient's behavior by motivational interviewing and direct, methodical communication between him, his family, and his medical caregivers has led him to maintain a favorable daily lifestyle.

CONFLICT OF INTEREST

The authors have stated explicitly that there are no conflicts of interest in connection with this article.

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