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 psychiatric 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
Laboratory tests | On Admission | On the 8th day
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White blood cell count (per μL) | 3500↓ | 4700
Neutrophils (%) | 72↑ | 72↓
Lymphocytes (%) | 21.6↓ | 15↓
Red blood cell count (per μL) | 58×10^12↑ | 183×10^12↓
Hemoglobin (g/dL) | 2.6↓ | 6.6↓
Mean corpuscular volume (fl) | 128↑ | 115↑
Platelet count (per μL) | 3.5×10^4↓ | 15×10^4↓
Reticulocyte (μL)^a | 32480↓ | 102480↑
Total protein (g/dL) | 4.6↓ |
Albumin (g/dL) | 3.2↓ | 0.9
Direct bilirubin (mg/dL) | 1.3↑ | 0.6↑
Aspartate aminotransferase (IU/L) | 30↑ | 19
Alanine aminotransferase (IU/L) | 113↑ | 29
Alkaline phosphatase (IU/L) | 214 | 202
γ-glutamyltranspeptidase (IU/L) | 35 | 40
Lactate dehydrogenase (IU/L) | 636↑ | 291
Blood urea nitrogen (mg/dL) | 18 | 10
Serum creatinine level (mg/dL) | 0.81 | 0.69
Haptoglobin (mg/dL) | <5.0 ↓ |
Iron (μg/dL) | 286↑ |
Total iron binding capacity (μg/dL) | 300 |
Ferritin (ng/mL) | 539.9↑ |
Brain natriuretic peptide (pg/mL) | 475.6↑ |
Folic acid (ng/mL)^b | <0.4↓ | 20.1↑
Vitamin B12 (pg/mL)^c | 320 |
Blood gas (while the patient was breathing ambient air) | | 
PH | 7.46↑ |
Partial pressure of carbon dioxide (Torr) | 38.6 |
Partial pressure of oxygen (Torr) | 68↓ |
Bicarbonate (mEq/L) | 27.1↑ |
Base excess (mEq/L) | 3.4↑ |

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

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. 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. 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. 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. 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,
human immunodeficiency virus, and alcohol misuse. 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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