A Method for Developing a Biopsychosocial Formulation

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A biopsychosocial formulation is one of the most important and challenging tasks that we face as clinicians. Perhaps because it is very challenging, it is usually not done at all. And when it is done, often it is not done well. The most common problem may be summarizing the case, instead of synthesizing the case.

As an aid to clinicians, I present below a simple method for developing a formulation. It is based on what others have taught me, what I have read about the issue and my own thoughts about it.

DEFINITION OF FORMULATION

Defined technically, the biopsychosocial formulation is a creative synthesis of a clinical case, drawing on elements from the levels of biology, psychology and sociology, and expressed chronologically. Expressed more poetically, it has been said that every person's life is a novel, and the formulation tells the story. It should be concise, or else it will lose usefulness. Therefore, it involves selecting the highlights of a person's life: the important people or events that shaped the person into a unique individual. It is not a summary of a case, although it includes summarized aspects of the case.

DEVELOPING A FORMULATION

A formulation is developed after doing a clinical assessment. It is based on the assessment, and it springs forth from the assessment. The easiest way to

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develop a formulation is to construct theoretically a framework in two dimensions (see Figure 1). Represented on the horizontal axis is time, that is, the chronological order of the person's life. Represented on the vertical axis are the biological, psychological and social levels. This gives us 9 blocks. With respect to the biopsychosocial axis, remember that general systems theory tells us that a change on one level can cause changes on the levels above or below it.

Then take the following steps: (1) Select the information from the evaluation which is most important for understanding the patient. (2) Enter this information into one of the 9 blocks, where it would be appropriate (see Figure 2). (3) Take a moment and think about the case, trying to understand how the important aspects of the case might be related to each other. Create hypothetical constructs to support these ideas or relationships. Like scientific hypotheses, these constructs are developed creatively, based on your knowledge, experience and insight. They should provide a deeper understanding of the case, and perhaps most importantly, they provide a framework for predicting what will happen in the future, with or without treatment. (4) Express these ideas verbally in a clear and concise way, and—above all—tell the story.

I hope this simple method will make it easier for you to develop formulations on your patients. Admittedly, even if you use this method, it is a task which challenges our greatest abilities as clinicians. If a team of clinicians is available, it may be optimal to develop the formulation as a team. The reasons for this are because each team member will have a slightly different perspective (psychiatrist, psychologist, social worker, etc.), different information available to contribute and
Fig. 2. Example of using the framework for constructing a formulation.

different ideas. Then a single person from the team could write a draft, which could be reviewed by the other members.

EXAMPLE OF A PSYCHIATRIC EVALUATION AND BIOPSYCHOSOCIAL FORMULATION

I will now give you an example of a psychiatric evaluation and a biopsychosocial formulation. The psychiatric evaluation is much briefer and simpler than usually occurs in clinical practice. It may seem overly simplistic to you, but I intentionally wrote it that way so that we would be able to better focus on the formulation, without being weighed down by a complicated case. Admittedly, most clinical cases and their formulations will be more complex than this. Also, I will give you two formulations: a poor one and a good one. The poor one contains the type of problem I mentioned above, namely, summarizing rather than synthesizing.

Psychiatric Assessment

History of Present Illness

Mr. J. is a 34 yr. old man who presents as an outpatient with the chief complaint of depressed mood. He has been depressed since his wife left him 2 months ago.
He also has had anhedonia and insomnia over this period of time. The depression and anhedonia have lasted most of the day, every day over this period of time.

*Past Psychiatric History*

There is no history of other psychiatric problems. Specifically, there is no history of mania or psychosis. There is no history of drug or alcohol abuse or dependence.

*Past Medical History*

His only medical problem is hypothyroidism for the past two years. He is treated with l-thyroxine 100 mcg/d. His last thyroid function tests were done 4 months ago and were normal. He has no other medical problems.

*Family History*

His older sister has a history of major depression, which responded well to treatment with fluoxetine. There is no other family history of psychiatric disorder.

*Social History*

He said that his childhood was happy. His father worked as an insurance salesman. His mother stayed at home with him and his older sister. While the children were living at home, the mother did most of the domestic duties herself, delegating little to the children.

He lives alone since his wife moved out 2 months ago. They have been married 3 years. Their marital problems have been getting steadily worse since their first year of marriage. The pattern is that he would fail to meet his responsibilities, e.g. doing chores at home, and she would be critical of him for this. They would frequently have bad arguments, and finally she left him, saying that she loved him but couldn’t stand to live with him.

He works as a manager at a grocery store and seems to be reasonably successful and satisfied at work. His wife works as a graphic designer. He has a supportive network of friends and family.

*Physical Examination*

Normal, including normal neurological examination.
Diagnoses

Axis I: Major depression.
Axis II: Rule out dependent or passive-aggressive traits.
Axis III: Hypothyroidism.
Axis IV: Recent separation from wife.
Axis V: GAF = 60.

Example of a Poor Formulation

Mr. J. is a 34 year old man who is seeking treatment for major depression. He has had depressed mood, anhedonia and insomnia for two months. So, he satisfies DSM criteria for a major depressive episode. These occurred after his wife left him. They argue a lot, because he won't do things around the house, and she is very critical of him. He also has hypothyroidism which is treated with l-thyroxine. He probably is euthyroid, because his thyroid function was tested only 4 months ago, but it would be a good idea to check his thyroid status at this point. His sister has a history of major depression, suggesting that maybe it runs in the family. As a child, he grew up in a supportive environment, but his mother did all of the housework, so he probably is used to that. His prognosis is pretty good, because usually major depression responds well to treatment with antidepressants and psychotherapy.

Example of a Good Formulation

Mr. J. is a 34 year old man who presents for treatment of depression. He may have a familial, and possibly genetic, predisposition to depression, given his positive family history. He grew up in a supportive environment, but he may have been somewhat spoiled by a mother who did most of the domestic duties herself, without delegating them to the children. In his marriage, he may have had an unconscious desire for his wife to behave like his mother, and take care of his domestic and emotional needs and desires. However, his wife may have had the expectation that he would be more independent and responsible for fulfilling his own needs, and therefore she would criticize him for not doing so. He may have become disappointed with her and angry at her, and he may have expressed these feelings passively-aggressively by attending less and less to his domestic responsibilities. This led to a vicious cycle of him doing less, causing her to criticize more, causing him to do less, etc., until finally it resulted in the separation. His wife leaving him was very distressful for him, resulting in feelings of being rejected by her and anger at her, which soon turned into depression. Unconsciously, he may have been angry at himself for expecting too much of her and too little of himself. He may have introjected the anger, which, in combination with the feelings of
rejection, resulted in the depressed mood. It may have been the combination of the separation, the resulting depressed mood, and the possible genetic predisposition which precipitated the major depressive episode.

He also has been treated for two years for hypothyroidism. Although he seems to have been mostly adequately treated, there may have been some contribution of the thyroid dysfunction to the eventual depression. The thyroid function should be tested again at this point and treated if appropriate.

Overall, the prognosis for this patient is generally good. If he is euthyroid, antidepressant medication should be used. Antidepressant medication has a very good chance of significantly improving his symptoms of major depression. However, the major focus of treatment and predictors of prognosis will be on the psychological and social levels. A key question is whether he and his wife want to try and reconcile. If so, the next question would be whether they will be able to develop the skills necessary to have a successful marriage. Marital counselling and individual psychotherapy (insight-oriented or cognitive) may be very helpful for achieving this goal. If he and his wife do not choose to try to reconcile, or if they try and fail, then individual psychotherapy would still be recommended. In that case, the prognosis would depend on whether he would gain insight and accept this experience as a difficult process of growth, or if he would continue to repress his primitive desires and simmer with feelings of depression and anger.

USEFULNESS OF FORMULATIONS

A good formulation would be extremely valuable for someone who did not know the patient and wanted to learn the maximal information about the patient in the minimal time. If I were a consultant asked to evaluate a patient, this would be one of the most valuable resources I would have, and one of the first places I would look in the chart.

I hope these suggestions will prove helpful to you. If you try them out, you’ll find that formulating cases becomes easier with practice, and sometimes it can even be fun!
Suggestions for writing a Biopsychosocial Formulation

Attached is a copy of the article, “A Method for Developing a Biopsychosocial Formulation,” by David E. Ross, from the Journal of Child and Family Studies, Vol. 9, No. 1, 2000, pp.1-6. I believe this article captures the essence of a very helpful task in understanding patients in psychiatry. It will also be helpful to you as you think about your patients throughout your medical career. The framework presented in this article is a more detailed version of the schematic outline of a Biopsychosocial evaluation located in Chapter 2: Biopsychosocial Assessment and Case Formulation, Clinical Psychiatry for Medical Students, 3rd Ed., by Alan Stoudemire, page 81.

The Biopsychosocial formulation incorporates some of the same information that is used in formulating a differential diagnosis. However, the purpose of the differential diagnosis is different. The differential diagnosis helps you to select the appropriate diagnosis for a patient, after you have reviewed the history, signs and symptoms. The formulation helps explain the patient’s life story based on biological factors, psychological factors and social factors. If the differences between these two elements continue to be difficult, please contact me for further clarification.

Have fun!

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