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Relationship between inner well-being and illness behavioral pattern in patients

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Abstract

"Inner well-being" is the scientific name for people's assessment of their own life. Illness behavior is a process that involves understanding and interpretation of symptoms, assessment of possible reactions, and ultimately, making decision to deal with symptoms or ignore them. The present study seeks to find out whether there is a relationship between inner well-being and pattern of illness behavior. This study was conducted on a sample of 297 residents of the city, selected according to random sampling from a population consisting of patients aged 20 years and older attending hospitals and health centers (regardless of type of illness). Data were collected through a combination of standard Oxford Happiness Questionnaire, Diener's Satisfaction With Life Scale (SWLS), and Illness Behavior Pattern Inventory. Results obtained showed a significant difference between level of inner well-being and type of illness. Those visiting health centers immediately after onset of symptoms had the highest level of inner well-being, and those that never visited had the lowest. People that visited one physician only reported the highest level of inner well-being. Socio-economic and cultural status are the major factors affecting pattern of illness behavior. The present study showed inner well-being is one of the variables that can affect pattern of illness behavior.

Keywords: Happiness, Illness Behavior, Life, Well-Being

Introduction

Subjective well-being is the scientific name for how people assess their own life. This assessment is based on the overall judgment on satisfaction with various aspects of life, or according to people's emotional states. Subjective well-being has three components, including "life satisfaction", "pleasant affect" and "unpleasant affect", which are somewhat independent, despite having internal relationship [1].

Nowadays "subjective well-being" has found increasing importance in the world. Generally, the aim is for people to have a satisfactory life, so that they can be assessed by themselves simply by political indicators or clinical reports. Diener believes that as people endeavor to meet their biological needs, they

are also very much aware of happiness and satisfaction [2].

Whereas in the past, poor healthcare and lack of basic amenities of life created the pretext for discontent, at present, people's well-being is affected by complex factors. Illness is one of these factors, which is often accompanied by pain and suffering and subsequent functional limitations. However, illness relationship with well-being is more complicated that expected. Some patients show high level of well-being, and some people without any sign of illness have poor level of well-being. this relationship is drastically reduced when people's health is assessed by others (like doctors) [3].

illness behavior is patient's way of understanding, assessing, and responding to symptoms. Illness behavior can best be conceptualized as a process, which begins with onset of symptoms, followed by stages such as symptoms perception, meaning attribution, expression and communication, and finally treatment or help-seeking behavior. Illness behavior is a multidimensional phenomenon, in which a number of interacting factors that determine outcomes of illness and how to respond to them in a particular social setting should be considered. In fact, various people experience symptoms that may indicate illness; yet, following appearance of symptoms, some people seek help, and others do not. In other words, people with similar symptoms and restrictions have dramatic differences and distributions in their response to illness, coping strategies, help-seeking ways, and other illness behavior processes [4].

The importance of addressing "subjective well-being" has been demonstrated in various studies. Happy and satisfied people experience positive emotions more, and assess events around them positively, and have greater personal restraint, and stronger immune system [1].

some studies showed that subjective well-being has a positive correlation with level of education, income, and health status, and a negative correlation with unemployment, suicide, war, violation of civil rights, unrest, income inequity, repression of political opponents, undemocratic rule, and such like. a study, reported that by reduction in communicable diseases in 20th century, life expectancy has increased dramatically in some pars of the world. Studies on pattern of illness behavior and its relationship with subjective well-being suggest considerable effect of perception of illness on subjective well-being. In these studies, belief in more severe outcomes, prolonged illness, poor personal control over illness, and also greater concern about illness and more intense emotional reactions have been associated with poorer well-being [5-10].

Previous studies rather partially dealt with illness behavior process or subjective well-being and factors affecting them, and less addressed processes of illness behavior and their relationship with subjective well-being. The present study focuses on the whole process of illness behavior and seeks to find out if there is a relationship between subjective well-being and pattern of illness behavior and type of illness, and also effect of subjective well-being on pattern of illness behavior process (symptoms perception, meaning attribution, expression and communication, and finally treatment or help-seeking behavior).

Method

This cross-sectional study was conducted on a sample of 297 Gonabad city (the northeast of Iran) residents in autumn 2012, selected according to Cochran formula and random sampling from a population consisting of patients aged 20 years and older attending hospitals and health centers (regardless of type of illness). First, study objectives were explained, and questionnaire was issued for completion to those willing to participate. Data were analyzed in SPSS-19 using descriptive statistics and statistical tests (Mann-Whitney, Wilcoxon, Z stat and step-wise regression) at significant level 0.05.

Assessment of main study variables:

1. Assessment of subjective well-being: Over the past 25 years, there has been a dramatic increase in number of studies on subjective well-being possible correlating and moderating factors. three indicators

can be used for subjective well-being: 1) it is within personal experience, 2) contains positive measures, and 3) includes overall assessment of all aspects of personal life. subjective well-being is measured by score obtained in positive affect, negative affect, and satisfaction with life [2]. To assess these components, the following scales are used:

A) Oxford happiness questionnaire was first designed by Argyle and Lu with 29 items containing 5 factors of: content, positive mood, health, efficacy, and self-esteem. Scoring is according to a 6-option scale from zero (not at all) to 3 (much). For this scale, various studies have reported Cronbach's Alpha 0.87 to 0.92, and retest reliability 0.53 to 0.91 at different intervals. Valiant reported its validity 0.64 and 0.49 in two correlative occasions. In Iran, Alipour and Norbala reported favorable reliability for this scale, through Cronbach's Alpha (0.93), split-half (0.92), and test-retest (0.79) [11].

B) Diener's Satisfaction with Life Scale is a 5-item scale (each item from totally agree=1 to totally disagree=7), with scores ranging from 5 (low satisfaction) to 35 (high satisfaction), and reliability through Cronbach's Alpha 0.87, and test-retest 0.82 (with two months interval). Diener et al. determined number of abstracted factors using Scree test review and eigen-values. In Iran, in a study by Mozafari, Cronbach's Alpha was found 0.85 and test-retest reliability with 6 weeks interval 0.84 [12]. In the present study, Cronbach's Alpha for subjective well-being using combination of the above two questionnaires was found 0.81.

2. Illness Behavior Pattern Inventory: Required data were collected using a standard researcher-designed scale, whose face validity (by experts' consensus) and reliability (Cronbach's Alpha 0.893) were measured. This scale was designed according to stages of illness behavior process, including: symptoms perception (cognitive model), meaning attribution (possible cause and consequences of symptoms), expression and communication (indicators of pain and its open expression), and finally treatment or help-seeking behavior (emotion-oriented, and problem-oriented).

Results

In this study, participants selected were older than 20 years of age, of whom, 50.5% were women, and 49.5% were men. 77.77% were married, and 22.23% were single. Subjects were so selected that each age group made up 20% of the sample. In terms of education, 14% were illiterate, 28.19% had reading and writing literacy, 13.1% had junior high school education, 23% had diploma or associate diploma, 12.21% were university graduates, and only 9.5% had postgraduate qualifications. Assessment of subjective well-being showed that 9% had very high, 40.4% high, 39.4% moderate, 10.77% poor, and 0.3% very poor levels of well-being.

Results showed that despite better level of subjective well-being in women compared to men, there were no significant difference between them ($p>0.05$). Patients were questioned according to type of illness (including: infectious and parasitic, cancers and tumors, endocrine, nutritious and metabolic, hematopoietic system, immunity, psychological and behavioral disorders, neurological, cardiovascular, respiratory, gastrointestinal, genitourinary system, complications of pregnancy and childbirth, coetaneous and subcutaneous, musculoskeletal, unintentional accidents), and results showed significant differences in level of well-being according to type of illness, and people with endocrine and metabolic diseases reported the highest levels of well-being and those involved in unintentional accidents, the lowest $p<0.05$).

Wilcoxon test was used to assess relationship between subjective well-being and the first step after perception of disease. Results obtained showed that people that visited health centers immediately after onset of symptoms had the highest level of subjective well-being, and those that did not or waited for the cycle to finish had the lowest ($p<0.05$). There were no significant difference between subjective well-being and diagnosis of diseases in

subjects (p>0.05).

There are different levels of subjective well-being according to the time taken to visit a doctor after onset of symptoms, and people with highest level of well-being visited a doctor immediately after onset of symptoms, and those with lowest level of well-being did not (p<0.05). Results also showed that level of subjective well-being is different in terms of frequency of visits to the doctor. Those that visited only one doctor, had the highest level of well-being, and those that chose other cases had the lowest (p<0.05). Score of well-being is also different in terms of seeking treatment. Those that used medication prescribed by doctors had the highest level of well-being, and those that chose other options had the lowest (p<0.05). Level of well-being is different according to pattern of medication use. Those that answered yes to the question: "do you take your medication regularly and on time?" had the highest level of well-being, and those that chose other options had the lowest (p<0.05). there was a significant difference in level of well-being according to treatment encouragers, and those that were encouraged by their spouse and children scored the highest, and those that were encouraged by neighbors and elders, had the lowest level of well-being (p<0.05).

Table 1 *Regression test in relation of well-being and aborigines and the first act after illness perception*

Model	B	Beta	t	p-value
Intercept	1.93	-	9.42	0.0001
Aborigines	0.032	0.052	0.86	0.39
The first act	0.035	0.084	0.4	0.16

Regression fitness test was used to assess relationship between independent variables (subjective well-being, marital status, gender, and ethnicity) and dependent variable (illness behavior), with following results:According to Table 1, there is no significant relationship between subjective well-being and ethnicity or the first step after perception of symptoms. Results showed marital status and first step after perception of symptoms as predictors of well-being (Table 2).

Results presented in Table 3 indicate that there is no significant relationship between gender and subjective well-being. However, subjective well-being is significantly related to the first step after perception of symptoms.

Table 2 *Regression test in relation of well-being and marital status and the first act after illness perception*

Model	B	Beta	t	p-value
Intercept	3.12	-	2.71	0.0001
Marital status	0.23	0.052	2.82	0.005
The first act	-0.15	0.084	-3.81	0.0001

Table 3 *Regression test in relation of well- being and gender status and the first act after illness perception*

Model	B	Beta	t	p-value
Intercept	2.06	-	13.34	0.0001
Gender	0.12	0.052	1.28	0.202
The first act	0.16	0.084	4.09	0.0001

Discussion

The present study aimed to determine relationship between subjective well-being and illness behavior in patients in Gonabad, Iran. As discussed, illness behavior pattern can best be conceptualized as a process that involves stages such as: symptoms perception, meaning

attribution, expression and communication, and finally treatment or help-seeking behavior [4]. The present study sought to find effect of subjective well-being on each of these stages. Regarding first stage (perception of symptoms), two important aspects should be considered: first, patient's beliefs about condition he is in is often different to what therapists thinks. Second, even when patients have the same conditions, they may still have different perceptions of their disease [13]. The present study results showed that perceived well-being is different depending on the first step taken after perception of disease, and those that visit health centers immediately after onset of symptoms have the highest level of subjective well-being, and those that did not visit or waited for cycle to finish, had the lowest well-being.

Generally, review of relevant studies shows that although some studies emphasize role of perception of disease as predictor of disease outcomes (results indicate significant role of perception of disease in outcomes and compliance with diseases such as: rheumatoid arthritis [5], Huntington disease [6], diabetes [7], heart attack [8], renal [9], and lately, head and neck cancer [10]); there are insufficient number of studies on the relationship between subjective well-being and perception of disease in patients.

Provided symptoms are noted, patient enters the second stage that is meaning attribution. In this stage, patient attempts to analyze causes and potential outcomes, and attributes symptoms to causes such as dyspepsia or cardiac dysfunction. This labeling process requires presentations of symptoms within an understandable framework [4]. In other words, what patient diagnoses following perception of symptoms? The present study results showed no significant difference in level of well-being and diagnosis of disease. Another point regarding meaning attribution is that patient's interpretation affects timing and frequency of visits to doctors. The answer to question that whether level of subjective well-being varies according to interval of visits to doctors is affirmative, which means that the highest level of subjective well-being relates to those that visit the doctor immediately after onset of symptoms, and the lowest to those that did not. Moreover, level of subjective well-being varies according to frequency of visits to doctors, so that, those that visited only one doctor reported the highest level of well-being, and those that chose other options reported the lowest well-being. It is possible that when a patient visits several doctors, he may be faced with different diagnosis and think that his disease is so bad that no doctor can diagnose it, and he may not recover. This leads to different perceptions of the disease, and provides the context for reduced subjective well-being.

In the final stage, patient seeks treatment. This action may take different forms, including a combination of self-care, family care, and local therapist or specialist care [4]. The present study showed that well-being score varies according to the action taken for treatment, so that, those that use medication prescribed by doctors had the highest well-being, and those that chose other options (taking doctors and home-made medications simultaneously, or taking only home-made drugs) had the lowest well-being. There was a significant difference between level of well-being and treatment encouragers. Those that received treatment encouragement from their spouse and children had the highest scores, and those that received encouragement from neighbors and elders had the lowest well-being scores. Level of subjective well-being also varies according to pattern of medication use. Those that took medication regularly and according to doctor's instructions had the highest level of well-being, and others had the lowest. Different studies have shown a complex mix of factors that interact to affect illness behavior. In a study on patients in an out-patient clinic, patients of Irish and Italian origins dealt with their disease differently. Irish patients expressed their disease as a particular dysfunction, and Italian patients described their problem in more general terms and insisted on sporadic nature of the disease. A study in Mexico describes 4 major criteria for choice of treatment among Mexican communities: A) severity of disease, B) is there a known home-

therapy, C) faith in efficacy of home-therapies for a particular disease, and D) cost of treatment and access to resources. Similarly, in their study in Guatemalan communities, identified three main criteria: A) severity of disease, B) Financial resources, C) past experiences of the disease [4]. One of the problems in ethology of patients that is little understood is that why patients exposed to similar stressors and with similar clinical features perceive and interpret symptoms differently, and report different levels of subjective well-being. It is believed that different illness behaviors in patients (perception of symptoms) cannot be merely due to difference in their well-being. Some symptoms may be interpreted abnormal by a person or a family and result in visiting the doctor, which may be interpreted differently by another person or family [4], and this can also affect people's subjective well-being.

Conclusion

The present study showed that subjective well-being can affect pattern of illness behavior, such that people with high level of well-being seek treatment sooner and are more committed to using medication prescribed by doctors than those with lower levels of well-being. Moreover, people with high level of well-being less frequently change their doctor, and only visit one doctor, and take their medication regularly. Future studies can explore other influential factors on illness behavior pattern.

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Contribution

Study design: AB
Data collection and analysis: Other authors
Manuscript preparation: FM

Conflict of Interest

"The authors declare that they have no competing interests."

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