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Concept of sub-threshold anxiety (non-clinical anxiety): by ground theory methodology

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Abstract

Introduction: Although sub-threshold disorders do not receive clinical diagnosis, they can lead to dysfunction in individuals. Sub-threshold anxiety is one of the different types of sub-threshold disorders. Attaining a pervasive, thorough, and comprehensive definition of Sub-threshold Anxiety is the crucial pre-requisite of diagnosis, treatment and further researches on the disorder. Accordingly, all researches done on sub-threshold anxiety were analyzed.

Materials and Methods: This research is done based on ground theory methodology (GT). In this method, discoveries are noted in three stages: open coding, axial coding, and selective coding. Eventually, a pervasive and relatively comprehensive model of sub-threshold anxiety is developed.

Results: Substandard anxiety was identified in a model of a disorder, which consists of the process of evolution and sexuality, risk factors, the prevalence rate, detection symptoms, comorbidity, and detection and cure.

Conclusion: Although duration and intensity of sub-threshold anxiety does not show anxiety disorders, and on the other hand physical problems and suicide are indicative of the probable infliction to a complete disorder, it needs prevention and intervention.

Keywords: Mental health, Primary prevention, Sub-threshold anxiety

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Introduction

Incomplete disorders in psychology and psychiatry are relatively noble incidents in disease detection, which means various symptoms are formed in the individual, but it cannot be ascertained for sure that detection of mental disorder is thoroughly explainable. Subthreshold psychiatric disorders briefly have symptoms of psychologic disorders; meanwhile, they are often mild, masked, atypical, and in some cases intense. In other words, they are indicative of the beginning, continuation, or remnants of psychological disorders (2). Thus, subthreshold individuals are classified as disordered people who have defects (3).

Although individuals suffering from subthreshold anxiety or depression are at risk of developing mental disorders with full symptoms, there is no available experimental basis for the subthreshold disorders mainly because subthreshold anxiety leads to different outputs in signs, symptoms, and the duration of the disorder. (4). There are particular facts about anxiety. For instance, the advent of subthreshold anxiety disorders, influence by age, sex, and job level, are different (1). Thus symptoms in each individual are different according to the predisposing factors.

The amount of damage that subthreshold anxiety inflicts might seem less than incomplete anxiety disorder; however, it is the opposite. It is more minor and is also twice more than GAD (Generalized anxiety disorder), indicative of complete disorders (5). Individuals under the circumstance of subthreshold have symptoms of neuroticism which could be mild, normalized, subtle, but recurrent. Thus, in subthreshold anxiety, they do not have "free symptoms" courses (5). Accordingly, most differences between threshold and subthreshold anxiety appear from "time." If the criteria of "time" in generalized subthreshold anxiety are eliminated, the prevalence rate of subthreshold anxiety will increase (5). In addition to the criteria of time, researches have shown that stress and dysfunction, which are the leading indicators of generalized anxiety in DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) are reported by at least 83.7% of youngsters between the age of 18 to 34, and 75% between the ages of 35 to 65. Borders between different anxiety symptoms are arbitrary because the symptoms practically merge. However, they all have "meaningful stress" and "dysfunction" when there is no threshold detection.

Although subthreshold disorders do not receive clinical detections and treatment, the population of clinical visitors is growing continuously. Balázs et al. showed that 32% of suicidal teenagers had subthreshold anxiety, 5.8% were anxious, 29.2% had subthreshold depression, and 10.5 % were depressed (9). Despite the non-elderly that show differences in their advents of subthreshold and threshold anxiety, in the elderly, the clinical subthreshold and threshold advents are more similar as seen in behavioral health point of view (10). Thus, considering the physical and depressive symptoms items can upgrade the assessment tools for subthreshold anxiety (11). There are no specific tools for detecting and filtering subthreshold anxiety; however, studies have shown that subthreshold anxiety and subthreshold depression are detected more clearly in the cut-off point of IDS-SR30[1] scale and Beck than in CIDI (detection interview) (4). In addition, there was a meaningful correlation between "the Beck test" and dysfunction. According to this research, the score of 11 indicates the subthreshold anxiety in the definition of clinical anxiety in the Beck test. This cut-off point is accompanied by 36% of malfunction cases in subthreshold anxiety. Moreover, subthreshold anxiety is more clearly defined and detected by reporting the symptoms than detective interviews (7).

The rate of the breakout of threshold generalized anxiety, in 12 months, according to DSM-IV, has been estimated to be 1.5%. However, 3.6% of replies issued show subthreshold anxiety in the last 12 months. Furthermore, a high rate of generalized anxiety and depression is detected in women (10% anxiety and 2.7% generalized anxiety) and, in return, in older individuals (9% anxiety). In the research of the city of Oregon, 1704 adults were analyzed, 52.5% of which showed at least one subthreshold disorder, and 40% of them experienced the comorbidity of subthreshold disorders (13). The rate of this

disorder in the typical population is 4.4% on average and is variable between 2.1% to 7.7%. Moreover, the probability of its prevalence during the lifetime of the individuals in a specific population is 12%. In addition, the prevalence rate in women is higher than that of men (5).

Generalized anxiety disorder is one of the most prevalent mental disorders in the collegial population and often emerges inconspicuously and in a subthreshold manner. Generalized subthreshold anxiety can be classified into four categories:

Subthreshold, with considerable symptoms of anxiety, the indication of potential growth of generalized anxiety: 13.7%

Subthreshold, with high GAD symptom severity: 13.7%

Subthreshold, with symptoms, were distressing: 12.3%

Subthreshold, with considerable worry: 17.4%

They also found that applying preventive models was better than "keep waiting and cure" models, which attempt to cure the disorder after it occurs (8). Clues of utilizing herbal medicines, like lavender, and self-helping preventive programs will lead to a 50% decrease in the rate of subthreshold disorders and the expenses of the mental health care unit. Studies suggest step-by-step therapy for subthreshold anxiety, which begins with "conscious anticipation and self-helping skills (change in the lifestyle, proper self-medicine-giving), followed by primary or simultaneous intensive care focused on the remnant symptoms. The remedial options in the present time are insufficient and unsatisfactory. Thus self-helping can be the most important part of the treatment. Although there is no specific remedy for subthreshold anxiety, dysfunctions can be reformed and cured. The factors that cause more dysfunction in subthreshold anxiety are as follows: having anxiety disorder in the past, high neuroticism, low consciousness and conscientiousness, physical defects, and child trauma (6). It is highly probable for subthreshold anxiety to co-emerge with subthreshold depression, alcohol consumption, conduct, and ADHD. This pattern of comorbidity shows no difference between men and women. On the other side, high comorbidity of subthreshold anxiety with physical pain disorder is visibly comprehended (13). Subthreshold anxiety is detected in primary health care patients (patients constantly examined medically) more clearly than in the average population (12).

Materials and Methods

This research is qualitatively and based on ground theory methodology. First, the term "subthreshold anxiety" was investigated in all Iranian and international scientific resources. Then, the principal points related to the definition of subthreshold anxiety in psychology were derived from the existing researches by coding method (15, 16). The method and content of this research have been verified and approved as a master thesis (research proposal and dissertation) by the corresponding faculty members of the University of Isfahan. In order to improve the reliability of research findings, the results were analyzed by professors of the psychology of the University of Isfahan (*) and University of Tehran (**), and their comments were applied in coding.

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After theoretical and grounded theory sampling (aimed sampling) from qualitative data, data analysis was done. Three techniques of "data coding" proposed by Corbin and Strauss in 1990 are as follows (17):

In this part, the categories of primary information related to the undergone incident are classified. In this research, all the studied contents in the "introduction" related to subthreshold anxiety, which was extracted from the researches, are coded.

Table 1. Open coding of existing concepts related to subthreshold anxiety

Not having all the diagnostic criteria of anxiety disorders
Lack of confidence in the detection of anxiety disorder by DSM
Mild, masked, atypical, or intense symptoms of anxiety, but lack of complete detection of the disorder
Symptoms of the beginning, the continuation, or the remnants of the complete disorder

The high comorbidity of anxiety and depression in the individuals with subthreshold anxiety
The influence of the intervening factors, such as age, sex, and job in subthreshold disorder
The anticipator (indicator) of the mental problems, pain, and dysfunction in future (with the probability of going twice more than complete disorders)
A syndrome of the mild, typical, subtle but constant symptom of anxiety
Regarding the criterion of "time duration" in DSM, the distinction factor of threshold and subthreshold disorders
The high rate of the prevalence of subthreshold anxiety in teenagers and the elderly in comparison to the middle-aged
The comorbidity of subthreshold anxiety with physical problems
Risk factors, such as the experience of other anxiety disorders, temper disorders and drug use
Lack of free symptom recovery
Having meaningful stress and dysfunction
36% dysfunction in subthreshold anxiety (the score of 11 in Beck test)
The detection of subthreshold symptoms based on "self-reporting" references
Regarding the symptoms of physic and depression in the detection of subthreshold anxiety
The differences of signs, symptoms, and the duration of subthreshold anxiety in different individuals
The constant visits of the individuals with subthreshold anxiety for daily cares and medical checkups
Having diagnostic criteria for complete disorder from the attitude of classifying / lack of diagnostic criteria while regarding spectral attitude
The comorbidity of subthreshold anxiety with the suicide in teenagers
Lack of distinction between advents of clinical and subthreshold anxiety in the elderly (above 65)
The high rate of anxiety in women and the elderly
The comorbidity of subthreshold anxiety with cognitive defects in the elderly
The rate of prevalence in typical population (4.4%) and between 2.1% to 7.7% variable / the probability of prevalence in the lifetime of the individuals of typical population is 12%
Risk factors: having anxiety disorder in the past, high neuroticism, low consciousness and conscientiousness, physical defects, and child trauma
The comorbidity of subthreshold anxiety with mild or fundamental depression, physical disorders, pain disorders, sleep and boredom disorders, suicidal attacks, and fragile physical health
The comorbidity with outflowed disorders: the comorbidity of subthreshold anxiety with alcohol consumption, conduct, ADHD
A 50% decrease in the rate of subthreshold disorders and the expenses of mental health care unit by applying the remedy of herbal medicines, conscious wait, and self-helping skills (changing the life style, proper self-medicine-giving)
Subthreshold anxiety is the most prevalent disorder among the collegial societies
Heterogeneous definitions and dissimilar replies of subthreshold anxiety
Subthreshold anxiety, a two-threshold or inter-threshold disorder (between disorder and mental health)
More returns and recurrences during the time in comparison with generalized anxiety

Axial coding: the points are resulting from open coding has been made by axial coding, and in order that the research's process and output would have more durability among psychology researchers, the axial coding has been done based on the existing axis in DSM5.

Table 2. Axial coding from the concepts of subthreshold anxiety

Detection traits	1. Heterogeneous definitions and dissimilar replies of subthreshold anxiety
	2. Subthreshold anxiety means not having all the diagnostic criteria of anxiety disorders
	3. Lack of confidence in the detection of anxiety disorder by DSM
	4. Mild, masked, atypical, or intense symptoms of anxiety, but lack of complete detection of the disorder
	5. Symptoms of the beginning, the continuation, or the remnants of the complete disorder
	6. Regarding the criterion of "time duration" in DSM, the distinction factor of threshold and subthreshold disorders
	7. Lack of free symptom recovery
	8. Having constant stress and dysfunction
	9. 36% dysfunction in subthreshold anxiety (the score of 11 in Beck test)
	10. The detection of subthreshold symptoms based on "self-reporting" references

	11. Regarding the symptoms of physic and depression in the detection of subthreshold anxiety
	12. The constant visits of the individuals with subthreshold anxiety for daily cares and medical checkups
	13. Having diagnostic criteria for complete disorder from the attitude of classifying (lack of diagnostic criteria while regarding spectral attitude)
	14. Subthreshold anxiety, a two-threshold or inter-threshold disorder (between disorder and mental health)
	15. More returns and recurrences during the time in comparison with generalized anxiety
Occurrence and process	1. The high rate of the prevalence of subthreshold anxiety in teenagers and the elderly in comparison to the middle-aged 2. The differences of signs, symptoms, and the duration of subthreshold anxiety in different individuals 3. Lack of distinction between advents of clinical and subthreshold anxiety in the elderly (above 65) 4. The high rate of anxiety in women and the elderly 5. The comorbidity of subthreshold anxiety with cognitive defects in the elderly
The prevalence	1. The high rate of the prevalence of subthreshold anxiety in teenagers and the elderly in comparison to the middle-aged 2. The rate of prevalence in typical population (4.4%) and between 2.1% to 7.7% variable 3. The probability of prevalence in the lifetime of the individuals of typical population is 12% 4. Subthreshold anxiety is the most prevalent disorder among the collegial societies
Risk factors	1. Risk factors, such as the experience of other anxiety disorders, temper disorders and drug use 2. Risk factors: having anxiety disorder in the past, high neuroticism, low consciousness and conscientiousness, physical defects, and child trauma
The comorbidity	1. The comorbidity of subthreshold anxiety with physical problems 2. The comorbidity of subthreshold anxiety with the suicide in teenagers 3. The comorbidity of subthreshold anxiety with mild or fundamental depression, physical disorders, pain disorders, sleep and fatigue disorders, suicidal attacks, and fragile physical health 4. The comorbidity with outflowed disorders: the comorbidity of subthreshold anxiety with alcohol consumption, conduct, ADHD
Prevention and cure	1. A 50% decrease in the rate of subthreshold disorders and the expenses of mental health care unit by applying the remedy of herbal medicines, conscious wait, and self-helping skills (changing the life style, proper self-medicine-giving) 2. Lack of influence of clinical anxiety remedies on subthreshold anxiety

Selective coding: In this part, all the components of the related axes intend to express the particular concept of subthreshold anxiety in a coherent manner:

Subthreshold anxiety (from an individual and social perspective) is a prevailing circumstance consisting of dysfunction and constant anxiety with mild, masked, atypical, recurrent symptoms dependent on the beginning, continuation, or remnants of clinical anxiety. Thus, it does not apply to the criteria of detecting anxiety disorders and is not curable with the prevalent remedies for clinical anxiety. On the other hand, the best way to detect disorder is "the symptoms' self-reporting" by the announced references. The highest prevalence has been reported among teenagers and collegial society (young people with high education level), and, in the second place, among the elderly who aged above 65. This disorder is brought up by risk factors such as anxiety disorders, tempers disorders, physical disorders, and child trauma and has comorbidity

with physical problems and depression. Among all remedies, step-by-step self-helping remedies based on conscious anticipation have been consequential so far.

Results

According to the method and the codings applied in this research, we can finally create a model for subthreshold anxiety disorder, which consists of evolution and sexuality, risk factors, the prevalence rate, detection symptoms, comorbidity, and detection and cure.

Discussion

Although having very few symptoms, subthreshold anxiety inflicts considerable consequences on function, which indicates the importance of primary treatment to ensure a better pre-awareness (18). Although subthreshold anxiety is not considered in psychological and psychiatric detection and cure, its growing progress to complete disorder requires intervention and prevention (19). Symptoms are 29% stable, and 13.8% result in anxiety disorder, whereas intervention is profitable in both stable and growing situations (20). Subthreshold anxiety is both mentally and physically perilous. A significant percentage of headache sufferers correlate with anxiety and subthreshold anxiety, while the presence of two or more anxiety criteria is enough to assess this correlation (21). As it was noted in the findings, teenagers and the elderly are more exposed to this disorder. Since the form of subthreshold anxiety among teenagers might lead to complete anxiety, it has clinical significance. This research showed that almost 3% of teenagers possess subthreshold generalized anxiety (GAD) criteria. If we lessen the sufficient duration from 6 to 3 months, the prevalence will increase to 65.7% (5.0%). If we eliminate the uncontrollability of anxiety, it will lead to a 20.7% increase and prevalence (6.1%) (22). Although this change in duration and intensity causes anxiety, precise detection, and a necessary intervention will cause the rate of infection to complete disorder to decrease (23). In contrast, teenagers with the generalized disorder show recurrent clinical courses to have comorbidity with other disorders (22). The danger of suicide among teenagers with subthreshold anxiety is of great importance. Generalized anxiety disorder (GAD) and subthreshold anxiety similarly lead to suicidal ideation, and a kind of dependent relation between generalized anxiety and suicide and subthreshold anxiety is observed (9,24). Thus, we should not expect that only the growing process of subthreshold anxiety causes complete anxiety and lead to suicide. In the evolutionary process, the risk of the elderly being infected by subthreshold anxiety is also significant. Its dimensions rather than its classifications should analyze anxiety. Time consistency in disabilities related to subthreshold anxiety has clinical significance. Thus, symptoms might alter, but dysfunction in a stable (constant) time duration magnifies the need for intervention (25).

Due to various forms existing in subthreshold anxiety, each culture must analyze its prevalence differently since different cultures influence symptoms (12,18).

Generally, studies in this domain are accompanied by some limitations, which are as follows:

Lack of internal studies

Lack of a coherent definition of subthreshold anxiety

Lack of a stable criterion to assess the quality of studying the prevalence

Thus, a sequence of the following items is recommended:

Analyzing different types of subthreshold anxiety adequate to internal culture

Creating assessing test for subthreshold anxiety according to its operational definition

Analyzing different types of subthreshold anxiety and its abnormal consequences on mental health

Editing a specific remedial pattern for subthreshold anxiety according to Iran's region and culture

Conclusion

Regarding the significance of subthreshold anxiety from both perspectives of 1) its growing process (which is indicative of clinical disorder) and 2) dysfunction and physical problems (chronic headaches), the subject is worth considering. Since the studies of prevention and intervention in subthreshold anxiety include both

the youngsters and the elderly groups, it is of high importance. The two groups mentioned above are at risk because, although they do not receive a clinical diagnosis, dysfunction and dissatisfaction are impediments that prevent them from growth and development. Thus, subthreshold anxiety prevents personal growth in individuals while it is not detectable and curable with clinical processes. This study has summed up the existing reports on subthreshold anxiety, which would pave the way for further fundamental and practical researches.

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