2 Editorial
Abdul Abyad

Models and methods and Clinical Research

3 Validity and Reliability of Persian version of WASSP test for adults with stutter
Morteza Farazi, Laiya Gholami tehrani, Anahita Khodabakhshi koolaee, Hashem Shemshadi, Mehdi Rahgozar

Original Contribution / Clinical Investigation

8 Association between social support of family and friends and meaning of life with Depression among spinal cord injuries disabilities and non-disabilities
Marzieh Imani, Anahita Khodabakhshi Koolaee, Masoumeh Rahmatizadeh

13 Analysis of Internet addiction and its relation to metacognitive beliefs among university students
Leili Mosalanejad, Mohamed Amin Ghobadifar

CME

20 Oliver

25 Omar
This is the last issue this year and deals with several issues including depression, translation of the WASSP scale for stutter and internet addiction. In addition we have a large CME section with a number of psychiatric cases.

A paper from Iran looked at the association between social support of family and friend and meaning of life with Depression among spinal cord injuries disabilities and non-disabilities. A total of 80 people with spinal cord injury disability were chosen with available sampling and were matched with 80 person non-disabilities for gender, state of marriage and level of education. The findings showed that between social support of family and friend and meaning of life with depression among spinal cord injuries disabilities and non-disabilities there is a significant relationship (p<0.01). The authors concluded that these results show that counselors should attention to meaning of life and social support in process of treatment in relation to disable and non-disable individuals.

A paper from Tehran looked at the Validity and Reliability of Persian version of WASSP test for adults with stutter. A third paper analyzed Internet addiction and its relation to metacognitive beliefs among university students. The authors did a cross sectional study on 245 students of Jahrom University of Medical Sciences from random cluster sampling. Data gathering was from 2 questionnaires in 3 parts. The results revealed that the prevalence of internet addiction in this population was 18/6 %. 72% of participant had weak addiction, 24/3% moderate and 3/7% of them had severe addiction. All metacognition elements in addicted student were higher than normal range, but there wasn’t any significance between them. The authors concluded that due to relationship between internet addiction and anxiety factors (metacognition belief) and other negative consequences of them on student academic achievement, its necessity to considering sufficient educational program as a preventive program in university to optimal using of this technology correctly.

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Validity and Reliability of Persian version of WASSP test for adults with stutter

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Abstract

Objectives: An essential need in Iran for the application of stuttering self-rating tools for the people who stutter (PWS) and its conversion into Persian language has encouraged this research to examine the validity and reliability of Wright and Ayre Stuttering Self-Rating Profile (WASSP) test to the benefits of adult Persian-speaking individuals who stutter. WASSP is an excellent tool for assessment and measuring outcomes and a beneficial tool for clinicians and clients as well. So, the purpose of this study is to examine the content validity by some speech and language pathologists in Iran, then to evaluate the reliability of the WASSP test for adult Persian-speaking people with stutter.

Methods and Procedure: The participants were 24 (20 males and 4 females) stutterers who were Persian speaking, 18-30 years old (mean 24 years) with no medical or behavioral problems. 20 skilled Speech-Language pathologists (SLPs) who were independent of the research, participated in the study to evaluate translation and content validity of the test. Cronbach’s alpha coefficients were used to assess internal consistency of items and reliability assessed by estimating Intraclass Correlation Coefficients (ICC) in test-retest study.

Results: Results indicate that ICC for all sub-scales were in 0.76-0.99 and all correlation coefficients among total sub-scales scores at each time of testing in 0.87-0.97 range. Internal consistency coefficients for items of sub-scales at each time of testing were above 0.78 (0.78-0.96).

Conclusions: The Persian version of WASSP test provides a valid and reliable tool to assess the self-rating of stuttering in Persian language and overt and covert aspects of stuttering. SLPs will be able to determine PWS test scores to manage their accurate treatment and future planning

Key words: Stuttering; Self-rating; WASSP; PWS; Validity Reliability
1. Introduction

Stuttering is one of the most controversial communicative diseases among other disorders. Thus, treatment for such disorder varies according to the therapists’ beliefs (Kotby et al, 2003). The incidence of stuttering is estimated at approximately 4-5% within and a 1% prevalence rate in all cultures (Bloodstein & Bernstein, 2008, Onslow, 2000) with a male to female ratio of 4:1 in adulthood (Ratner et al,2008). Stuttering typically occurs between the ages of two and five years (Yairi, Ambrose, & Cox, 1996). Stuttering is frequently associated with negative consequences across the lifespan (Blood,1995, Blood & Blood, 2007). The research shows that stuttering has negative effects on the stuttering adults’ educational life and career. By using a questionnaire Hayhow (2002), for instance, examined the 332 opinions of stuttering adults about the effect of stuttering on their lives, speech therapy and other common treatments and their hopes of speech therapy in future. The results show that the stuttering has had the most negative effect on their lives. It has often been reported that stuttering adults view their speaking as negative, stressful and even terrifying.

One of the most important issues in stuttering is the attitude of stuttering adults toward the stuttering and their way of speech. According to Alport(1935), attitude is the most necessary structure in social psychology. Nevertheless, when the question of attitude is considered in the stuttering adults, we should know that the stuttering is a complex and multidimensional disorder which emerges due to the complex and dynamic interaction of several factors including genetic preparation, ability of motor speech, mood and attitude, language skills, cognition, and other numerous environmental factors. Aspects of this impairment include involuntary speech disruption and associated problems such as embarrassment, frustration, fear, anxiety, shyness, sensitive and social avoidance (Craig et al, 2003). Also, stuttering typically worsens when a stutterer begins to speak to strangers or addresses large audiences or those felt to be his/her superior (Van Riper,1984). The stuttering problem has been considered as having a different variety of implications (physiological, physical, social, and psychological).

Evidence shows that efficacious speech pathology treatment is available in early childhood (Jones et al, 2005), but, stuttering in adults is much less responsive to an interdisciplinary speech therapy (Craig & Hancock,2003). A Clinician’s definition of stuttering is extremely important because it provides a basis for the goals of treatment and outcome criteria (Van Riper and Emerick. 1984). Clinicians who treat people who stutter (PWS) often employ formal or informal self-reporting to measure selected aspects of stuttering and track changes during treatment. However, there is an increased interest in self-reporting as a basic measure for the stuttering treatment outcome (Ingham, and Cordes,1999). Overall, PWS often need to receive more clinical services from the speech and language pathologist side, for they achieve successful results through reliance and trust on clinicians’ knowledge and guidance. The confirmation and supervision of the clinicians’ function is in ASHS’ responsibility. Self-reporting protocols have been used in treatment and research with PWS. Manning (2001) described 51 tests or protocols used to evaluate various aspects of stuttering since 1944. 28 tests out of the whole involved self-reports of teenagers or adults. More recent studies have found self-rating could be an evaluating source of information with regards to stuttering severity (O’Brain, Packman, &Onslow,2004). Most of the instruments were multi-dimensional, but some targeted a single factor such as speaking situations related to avoidance (Cooper,1996). The features which are evaluated are as follows:

Speaker’s attitudes and feeling, fear/anxiety, avoidance, concealment devices, reaction to stuttering, etc. The stuttering measurement which is based on a theoretical structure is of great importance both in clinical intervention and research. Thus, the measurement tools provide some information about the individuals’ stuttering in different places and times. Naturally, the discord in how the stuttering happens, leads to how the measurement takes place. Therefore, Stuttering measurements are paramount both in clinical interventions and research, and include:

(1) tools for observable features, for example, University of IOWA Scale for rating severity of stuttering (Johnson and Spriestersbach,1963), Sherman-Lewis Scale (D.Lewis and Sherman,1951, Sherman,1963), Stuttering Severity Instrument (SSI-3 & SSI-4) (Riley, 1972, 2009), etc.

(2) tools for intrinsic features, for example, Perception Stuttering Inventory (PSI) (Wolff,1967), S-24 Scale (Andrews & Cutler,1974; Erickson,1969), State- Trait Anxiety Inventory(STAI) (Spielberger,1983), Endler Multidimensional Anxiety State-Trait (EMAS-T) (Edward, & Vitelli,1989), WASSP (Wright & Ayre,2000),Unhelpful Thoughts and Beliefs about Stuttering (UTABS)(St Clare,2009), Communication Attitude Test-Revised (CAT-R)(Brutten,DeNil,1991) and Overall Assessment of the Speaker’s Experience of Stuttering (OASES) (Yaruss & Quesal, 2006). Also the Wright & Ayre Stuttering Self-Rating Profile (WASSP) is a client-completed, standardized instrument. It is said to be the first instrument to attempt to describe aspects of the whole disorder (Ayre & Wright,2000). WASSP addresses the overt, covert and social dimensions of stuttering, resulting in changes which are specific to each individual client. It consists of five reliable sub-scales:

Stuttering behaviours: Frequency of stutters, physical struggle during stutters, duration of stutter, uncontrollable stutters, urgency/fast speech rate, associated facial/body movements, general level of physical tension, loss of eye contact;

Thoughts about stuttering: Negative thoughts before speaking, negative thoughts during speaking, negative thoughts after speaking;
Feelings about stuttering: Frustration, embarrassment, fear, anger, helplessness;

Avoidance due to stuttering: Of words, of situations, of talking about stuttering with others, of admitting the problem to yourself;

Disadvantage due to stuttering: At home, socially, educationally, at work. This instrument was designed to measure change over time and to facilitate the setting of clinical goals. The purpose of this study is to examine the content validity by some speech and language pathologists in Iran, then to evaluate the reliability of the WASSP test for adult Persian-speaking people with stutter.

2. Methods
2.1. Translation process
First, the text of the WASSP was translated into Persian by the researcher. Translation validity was evaluated by 20 expert speech therapists twice for adaptation with original text. Finally, after receiving experts’ comments, the Persian version of WASSP was finalized and was used for the study.

2.2. Participants
The participants were 24 (20 males and 4 females) stutterers who were Persian speaking, and they were 18-30 years old (mean 24 years) with no medical or behavioral problem. Also, 20 skilled Speech - Language pathologists (SLP?) who were independent of the research, participated in this study as judges.

2.3. Procedure
The WASSP test was used for the assessment of all subjects. The WASSP uses a 7-point Likert scale (1) indicates: none and (7) indicates: very severe, for 24 items (plus two optional items) in the domains of: Stuttering behaviors (8 items), thoughts about stuttering (3items), feeling about stuttering (5 items), avoidance due to stuttering (4 items), and disadvantages due to stuttering (4 items). The client completes a rating sheet with a highlighter pen. All subjects were assessed three times: after personal interview, after 10 days, and after 1 month interval.

So, the self-rating sheet identifies the following: stuttering behaviours, thoughts about stuttering, feelings about stuttering, avoidance due to stuttering and disadvantage due to stuttering.

2.4. Statistical analysis
Internal consistency of items were assessed by Cronbach’s alpha coefficient. Reliability was assessed by estimating Intraclass Correlation Coefficient (ICC) in test-retest study.

2.5 Content validity
Content validity assessment was based on judgment of experts. Lawshe’s content validity ratio (CVR,1975) that includes a three-point scale (essential, useful, not necessary) was used. To ensure content validity of Persian version of WASSP, 20 speech therapists who were working in medical sciences universities and clinical centers were involved. Content validity was established through responses of speech therapists to items of subscales of test, twice. Finally, the CVR’s score for WASSP test was computed resulting 1. According to Lawshe’s recommendations, this result demonstrates extremely good content validity of scoring.

2.6 Reliability
Issues of reliability are important in treating efficacy of studies. Assessment of test-retest reliability was conducted to ensure the stability of responses to WASSP test on 24 adults who were suffering stutter. They completed the WASSP test three times: after personal interview, after 10 days, and after 1 month. Intraclass Correlation Coefficients (ICC) were estimated to determine the relationship among taken participants’ scores. Reliability of subscales were evaluated by Pearson’s correlation coefficient among total scores of subscales among the three repeats. Cronbach’s alpha coefficient was used to assess internal consistency of items.

3. Results and Outcomes
Test-retest reliability results showed high reliability in sub scales. All Intraclass Correlation Coefficients (ICC) of total subscales were in range 0.76-0.99, with most of them above 0. 94 (p<0.032) (Table1 - next page). All correlations of total subscales between Time 1 - Time 2, Time 2 - Time 3 and Time 1 - Time 3 were in the range (0.87-0.97) with most of them above 0.87, for example in sub-scale of stuttering behaviours were 0.97, 0.95 and 0.92 respectively (Table 2). Cronbach’s alpha coefficients were calculated for assessing internal consistency of items of sub-scales in each of the testing times separately. All alpha coefficients were in the range 0.78-0.96; the majority were above 0.89, demonstrating high levels of internal consistency of items in sub-scales indicating that items in each sub-scale are measuring related aspects of stuttering (Table3). Item analysis was reasonable to measure consistency of items in subscales. Inter-item correlations were computed to indicate the degree of association between scores on each item and other items of sub-scales at each time of testing separately. Items in sub-scales were correlated with a range from 0.61 to 0.97; most of them higher than 0.84 showing that items of sub-scales are internally consistent (Table 4).

4. Conclusions and Implications
This study was conducted with the purpose of providing an instrument for both client and therapist to gain greater insight into what has changed and any implications in stuttering therapy, as illustrated in Tables 1- 4 (ICC, internal consistency and item analysis). Therefore, the results of this measure were considered in terms of the clinical significance for adults who stutter. It is one way of measuring change and planning future management. Hence, the present Persian version of WASSP test can also be conducted at the beginning, in the process, and the end of treatment protocols for stuttering. On the other hand, it is likely that Persia’s WASSP test will be useful in diagnosis and treatment for adult Persian-speakers with stutter. Therefore, these results show extremely acceptable scoring reliability. Participants scoring also demonstrated that each sub-scale...
Table 1: Intraclass correlation coefficients (ICC) for subscales

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>ICC</th>
<th>P-value</th>
<th>CI 95% Lower</th>
<th>CI 95% Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviours</td>
<td>0.97</td>
<td>&lt;0.001</td>
<td>0.94</td>
<td>0.98</td>
</tr>
<tr>
<td>Thoughts</td>
<td>0.88</td>
<td>&lt;0.023</td>
<td>0.76</td>
<td>0.94</td>
</tr>
<tr>
<td>Feelings</td>
<td>0.97</td>
<td>&lt;0.001</td>
<td>0.94</td>
<td>0.98</td>
</tr>
<tr>
<td>Avoidance</td>
<td>0.97</td>
<td>&lt;0.001</td>
<td>0.95</td>
<td>0.99</td>
</tr>
<tr>
<td>Disadvantage</td>
<td>0.89</td>
<td>&lt;0.032</td>
<td>0.75</td>
<td>0.92</td>
</tr>
<tr>
<td>Total</td>
<td>0.93</td>
<td>&lt;0.018</td>
<td>&lt;0.011</td>
<td>&lt;0.14</td>
</tr>
</tbody>
</table>

(all significant at p<0.05)

Table 2: Correlations between scores at each time of testing

<table>
<thead>
<tr>
<th>Sub-Scale</th>
<th>Time 1 - time 2</th>
<th>Time 2 - time 3</th>
<th>Time 1 - time 3</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviours</td>
<td>0.97</td>
<td>0.95</td>
<td>0.92</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Thoughts</td>
<td>0.97</td>
<td>0.88</td>
<td>0.87</td>
<td>P&lt;0.025</td>
</tr>
<tr>
<td>Feelings</td>
<td>0.97</td>
<td>0.95</td>
<td>0.92</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Avoidance</td>
<td>0.94</td>
<td>0.95</td>
<td>0.94</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Disadvantage</td>
<td>0.93</td>
<td>0.90</td>
<td>0.88</td>
<td>P&lt;0.042</td>
</tr>
</tbody>
</table>

Table 3: Cronbach’s Alpha coefficients of sub-scales for each time of testing

<table>
<thead>
<tr>
<th>Sub-Scale</th>
<th>Time 1*</th>
<th>Time 2*</th>
<th>Time 3*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviours</td>
<td>0.71-0.91</td>
<td>0.63-0.91</td>
<td>0.61-0.90</td>
</tr>
<tr>
<td>Thoughts</td>
<td>0.94-0.97</td>
<td>0.95-0.96</td>
<td>0.75-0.86</td>
</tr>
<tr>
<td>Feelings</td>
<td>0.77-0.94</td>
<td>0.87-0.97</td>
<td>0.73-0.95</td>
</tr>
<tr>
<td>Avoidance</td>
<td>0.64-0.95</td>
<td>0.61-0.94</td>
<td>0.72-0.93</td>
</tr>
<tr>
<td>Disadvantage</td>
<td>0.62-0.97</td>
<td>0.61-0.90</td>
<td>0.62-0.86</td>
</tr>
</tbody>
</table>

*all significant at 0.05 level

Table 4: Range of correlations in item analysis for each sub-scale

produces consistent results relatively. Results obtained from this study showed no significant difference between sub-scales score of present study and previous studies (Wright & Ayre, 2000).

5. Discussion
As it has been mentioned earlier, there are different tools for stuttering measurement particularly in examining the intrinsic features, though this study has been only done in WASSP test domain. The main purpose of this study is to investigate the validity and reliability of the WASSP test for adult Persian-speakers with stutter. WASSP consists of five internally reliable sub-scales that together address the overt, covert and social dimensions of stuttering (Wright & Ayre, 2000). Results of Wright & Ayre’s (2000) study described in the self-rating on stuttering measurement, supports our findings that imply high reliability of the Persian version of WASSP. It seems likely that WASSP could be considered as a highly acceptable tool for the assessment and measuring in persons with stutter. Such values could be considered highly beneficial for speech and language therapists in their clinical practices. Since the range of correlation in the item analysis confirms findings the item analysis for each sub-scale, such values could be considered highly beneficial for speech and language therapists in their clinical practices. Naturally, it is predicted that the successive evaluations of the patients’ stuttering should have the following cases:
It should explore an organized continuation and strengthen the patients’ motivation toward the treatment continuity. It causes the patient to adopt a rational attitude toward the stuttering (acceptance of stuttering) and consider it as a big deal. It causes the decreasing of the verbal and non-verbal associated behaviors while speaking. It causes the patient to adopt a positive attitude and satisfaction in the developing changes. It causes the enhancing of interactions and communicative skills with others. Therefore, it is suggested that from now on Iranian clinicians use the WASSP test in the preliminary and final stages of stuttering treatment in their evaluation and treatment of the stuttering adults, with full seriousness.

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The authors would like to thank all speech-language pathologists (SLPs), as well as the participants (people who stutter) who helped us in this research.

References


Association between social support of family and friends and meaning of life with Depression among spinal cord injuries disabilities and non-disabilities

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Abstract

Objectives: A number of researchers indicate that depression in people with physical disability is higher than people without physical disability; that depression is 4 times higher than in other people. Also research indicates that people with physical disability may lose their meaning of life because of inadequate adjustment and low social support.

Method: 80 people with spinal cord injury disability were chosen with available sampling and were matched with 80 person with non-disabilities for gender, state of marriage and level of education. Data of research was analyzed with t test and step by step regression and variance analysis.

Result: Findings of this research show that between social support of family and friend and meaning of life with depression among spinal cord injuries disabilities and non-disabilities there is a significant relationship (p<0.01).

Discussion: These results show that counselors should pay attention to meaning of life and social support in the process of treatment in relation to disabled and non-disabled individuals.

Keywords: social support, meaning of life, depression, spinal cord injuries disabilities.

Introduction

A spinal cord injury entails a sudden and dramatic alteration of the body, including paralysis, lack of balance, bowel and bladder problems (1). Spinal cord injury (SCI) is a devastating condition causing profound life changes for millions of people around the world (2). Worldwide prevalence of SCI is between 15 to 40 people per one million people; in Iran and the USA, this ratio approximately is 40 (3). Approximately 1,275,000 individuals in the United States suffer from paralysis due to spinal cord injuries (SCI), with 11,000 cases occurring each year (4) and the most frequent causes of injuries include motor vehicle accidents, violence, falls, and recreational accidents (2).

Depending on the level of the injury, people with SCI may experience permanent paralysis and altered bowel, bladder, and sexual functioning. (5) Because of the nature of the disability, they will have to make changes in employment (e.g., change or leave their job), social life (e.g., marriage and friendship patterns), and functional activities (e.g., limiting activities on the basis of accessibility) that may alter individual identity (6). Many survivors also experience serious psychological, psychosocial, and neurobehavioral issues and are at increased risk of developing anxiety disorders, substance abuse problems, feelings of helplessness, poor coping skills, low self-esteem, and depression (2). Depression is the most common psychological issue associated with SCI (7), reportedly affecting approximately 30% of patients, and is generally characterized by depressed mood and diminished pleasure over a two-week span accompanied by issues including energy loss, concentration difficulties, and sleep...
or appetite disturbances (2); however, rates of depressive symptoms across other studies have been found to range from 10-60% (8). It was once believed that virtually all SCI patients experience some level of depression as part of the adjustment process (2). Negative outcomes associated with depression among persons with SCI include diminished quality of life, poor social integration, and increased secondary medical complications. Depression levels may change over time since injury, and depression has also been correlated with prolonged rehabilitation and fewer functional gains (2).

Literature suggests that social support might be helpful in coping with the consequences of chronic conditions. Social ties and social support seem to have particular significance for people living with a disabling physical condition (9). Within the traumatic spinal cord injury (SCI) population, social support has been identified as a powerful influence on post injury achievements, explaining additional rehabilitation outcome variance beyond that explained by injury, demographic and psychological factors (10). When disabled people, due to depression, low social support, and poor psychological adjustment are marginalized, in most conditions they have lost their meaning of life (11). Depression in people with spinal cord injury can be the result of a lack of meaning in life (12). Lack of support could explain the high incidence of depression, but also support the proposition that depression is not inevitable as suggested by Dorsett and Geraghty (13). Thus, it may be too difficult to regain meaning with life without the necessary support (13). Many people who are forced into the struggle to deal with trauma ultimately find meaning in their suffering, and experience both growth and enhanced life satisfaction. Finding benefits in the encounter with their illness was positively correlated with finding meaning in life in one study (14).

According to previous studies and since SCI have high prevalence in Iran, where the most frequent causes of injuries include road accidents, falls and other factors. On the other hand, due to much research in the field of SCI factors are physiological, and social support, depression and creating meaning in life are essential components of mental health promotion, especially in people with SCI. Therefore, this research evaluates the association between social support of family and friends and meaning of life with depression among spinal cord injuries disabilities.

Methodology
This study was conducted in 2011 in Tehran and Karaj; the present study is a causal-comparative study. The sample consisted of two groups: 80 people with spinal cord injuries disability and a control group. The sample of this group was chosen with available sampling

The control group consisted of 80 persons with non-disabilities who were matched for gender, state of marriage and level of education. Age ranged from 20 to 40 years. The inclusion criteria were as follows:
1. The minimum age is 18 years.
2. Without any addiction.
3. Without any severe mental and physical illnesses.
4. Less than 12 months have passed since the spinal cord injury.

All participants completed 4 questionnaires, including a sociodemographic data sheet, social support of family and friend (Vaux), the meaning of life (Frankel) and depression (Beck). Then data was collected was analyzed with SPSS-16 software. Data was analyzed between the two groups by utilizing independent t-test for two groups and step by step regression and variance analysis.

Results
In Table 1 (next page), the results of socio-demographic characteristics of all of participants are indicated. As shown in Table 1, the high category of age in group SCI belonged to 31-40 and in group non-disabilities belonged to 20-30. A total of 160 individuals were involved in this study; 80 (50%) of whom were SCI and 80 (50%) non-disabilities. 80 (50%) were male and 80 (50%) were female. A total of 73.8% of the individuals were single and 26.2% were married.

"Is there a significant association between social support and meaning in life with depression in spinal cord injuries disabilities and non-disabilities?" For responding to this research question, a coefficient of multiple correlation was conducted on the data; the results are displayed in Table 2, which shows that correlation coefficient between social support and depression is a significant negative relationship (r = -0.81, P < 0.05 in group SCI, r = -0.45, P < 0.05 in group non-disabilities) and correlation coefficient between meaning in life and depression is a significant negative relationship (r = -0.87, P < 0.05 in group SCI, r = -0.41, P < 0.05 in group non-disabilities).

The second research question was "Is there a significant difference between social support and meaning in life with depression in spinal cord injuries disabilities and non-disabilities?" Regarding the results of Table 3, the t-test indicated that there was a significant difference between the items of social support, meaning life and depression. Comparison of the average of scores between the two groups indicated that the non-disabilities group had a higher score in social support (t = 2.39, P < 0.05), also comparison of the average of scores between the two groups indicated that the SCI group had a higher score in meaning in life (t = 2.50, P < 0.01), depression (t = 4.13, P < 0.01). Table 3 provides the t-test results.

The third research question was "Does the social support, meaning in life, sex and group predict depression in the SCI group?" Stepwise regression was applied to the response data to predict the social support, meaning in life, sex and group predicts depression in SCI group. As shown in Table 4, in the first step (F = 142.81, R = 0.69, P < 0.001) it showed that this model accounted for 0.48% of the variance in depression, in the second step; (F = 106.20, R = 0.76, P < 0.001) this model accounted for 0.58% of the...
Table 1: Socio-Demographic Characteristics of all Participants in Percent

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group spinal cord injuries disabilities</th>
<th>Group non-disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group, y</td>
<td>f</td>
<td>f</td>
</tr>
<tr>
<td></td>
<td>20-30</td>
<td>34</td>
</tr>
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<td></td>
<td></td>
<td>42.5</td>
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<td></td>
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<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Single</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Female</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

**P<0.05

Table 2: The correlation matrix between social support, meaning in life and depression

<table>
<thead>
<tr>
<th></th>
<th>Social support</th>
<th>Meaning in life</th>
<th>Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinal cord injuries disabilities</td>
<td></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.85 **</td>
<td>-0.87 **</td>
<td></td>
</tr>
<tr>
<td>Non-disabilities</td>
<td></td>
<td>-0.36 **</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.45 **</td>
<td>-0.41 **</td>
<td></td>
</tr>
</tbody>
</table>

**P<0.05

Table 3: Mean, SD and t-value of social support, meaning life and depression for spinal cord injuries disabilities (Group 1, n=80) and non-disabilities (Group 2, n=80) groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean±SD</th>
<th>Df</th>
<th>P value</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social support</td>
<td>1</td>
<td>16.39±4.67</td>
<td>158</td>
<td>0.05</td>
<td>-2.39</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>17.95±4.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean±SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>173.25±33.81</td>
<td>197.22</td>
<td>0.01</td>
<td>2.50</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>159.86±33.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>1</td>
<td>16.40±9.08</td>
<td>138.57</td>
<td>0.01</td>
<td>4.13</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>11.34±6.13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: SD, Standard Deviation; DF, Degree of freedom; t, Student's t-test.
variance in depression and in the third step; (F =2110.72, R =0.78, P < 0.001) this model accounted for 0.60% of the variance in depression. A comparison of data in SCI and non-disabilities groups, on the basis of gender, showed sex variable has not the ability to predict variance in depression and there is no significant difference between men and women with depression.

Discussion
The results of this study, indicate that depression in SCI individuals, compared to the non-disabled, was reduced with increased social support and also with decreased meaning in life, depression was significantly increased. The finding of the present study is similar to previous findings which have been performed in this field such as; Burns & Hough (2011) found that greater social support is associated with lower depression scores and depression was significantly decreased with less of meaning in life (16).

Wilson and Alabama (2008) found that among the social support subscales, positive social interaction was found to be the only moderator of pain intensity, with this interaction effect strengthening or weakening pain intensity to influence the severity of depression among persons with chronic SCI pain (17). In another study, Beedie and Kennedy (2002) revealed that high quality of social support was associated with low hopelessness and depression scores in the SCI population (18). Cassini et Marquette (2009) examined the influence of meaning making on distress and well-being following spinal cord injury and results showed that Resource loss was positively associated with depression and PTSD and negatively associated with psychological well-being (19). Kennedy et al (2006) examined a psychosocial activity course for people with spinal cord injuries. That Results found that participants’ satisfaction with leisure, generalized self-efficacy and motivation to engage in activities was significantly increased between the start and end of the courses and anxiety significantly reduced. At both the start and end of the course, higher perceived manageability scores and self-efficacy were correlated with lower depression and anxiety (20). Several researches have shown that in people who deal well with stressful events, it is more possible that others are attracted to them and there is little likelihood that others avoid them. In contrast, people who have problems in coping with stress, do not have such situations. It is a very unfortunate implication, the people who required social support more than others, have less chance (likelihood) to acquire that (21).

Findings of the present study showed that meaning in life, social support and group accounted for 0.60% of the variance in depression. Angel and Kirkevold (2011) found that social support is a predictor of adjustment and decreased depression in people with SCI (22). Steger et al (2009) found that depression was the strongest predictor of perceived general health. However, the interaction of people’s experience of meaning in life and their propensity to seek deeper meaning in their lives predicted variance in perceived health above and beyond depression (23).

Table 4: Summary of model prediction depression based on social support, meaning in life, group and sex

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
<th>R</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>5003.54</td>
<td>1</td>
<td>5003.54</td>
<td>142.81</td>
<td>0.001</td>
<td>0.69</td>
<td>0.48</td>
</tr>
<tr>
<td>Residual</td>
<td>5500.83</td>
<td>157</td>
<td>35.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10504.38</td>
<td>158</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>6056.40</td>
<td>2</td>
<td>3028.20</td>
<td>106.20</td>
<td>0.001</td>
<td>0.76</td>
<td>0.58</td>
</tr>
<tr>
<td>Residual</td>
<td>4447.98</td>
<td>156</td>
<td>28.51</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>10504.38</td>
<td>158</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>6332.17</td>
<td>3</td>
<td>2110.72</td>
<td>78.41</td>
<td>0.001</td>
<td>0.78</td>
<td>0.60</td>
</tr>
<tr>
<td>Residual</td>
<td>417.20</td>
<td>155</td>
<td>26.92</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1050.38</td>
<td>158</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: DF, Degree of freedom; F, one way analysis of co-variance; MS, mean of Squares; R, regression coefficient; R², coefficient of determination; Sig, significance SS, Sum of Squares
Acknowledgments

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References


Analysis of Internet addiction and its relation to metacognitive beliefs among university students

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Abstract

Objectives: The Internet was originally designed to facilitate communication and scientific activities. However, the use of the Internet in recent years has led to pathological use (Internet addiction). The purpose of this research is the evaluation of internet addiction and relationship with metacognitive belief as an anxiety condition.

Methods: This is a cross-sectional study on 245 students of Jahrom University of Medical Sciences from random cluster sampling. Data gathering was from 2 questionnaires in 3 parts. The first part contained demographic variables, the second part was Internet Addiction Test (IAT) and the 3rd part was a metacognitive questionnaire MCQ 30 with five factors including (self-confidence, positive beliefs about worry, self-consciousness, negative beliefs about uncontrollability of thoughts and dangers, and the need to control thoughts). Data was analyzed by descriptive and analytic statistics in SPSS (software Inc 15).

Results: Results showed prevalence of internet addiction in this population was 18.6%. 72% of participants had weak addiction, 24.3% moderate and 3.7% of them had severe addiction. All metacognition elements in addicted students were higher than the normal range, but there wasn't any significance between them. There was a positive relationship between some metacognitive factors with internet addiction elements.

Conclusion: In attention to results and due to the relationship between internet addiction and anxiety factors (metacognition beliefs) and other negative consequences of them on student academic achievement, it is necessary to consider sufficient educational programs as a preventive program in universities to optimal using of this technology correctly.

Key words: Metacognition belief, Internet Addiction, students, Anxiety
Introduction
The number of Internet users has increased dramatically. In March of 2011 the number of internet users reached 2 billion and 100 thousand and that 33 million and 200 thousand of these users live in Iran [1]. Today, the internet is a vital tool to get great information in so many countries. However, despite the advantages and capabilities, the internet has created many serious problems, such as mass and explosion data, image and information with abnormal content. Interestingly Internet addiction has close similarities with other addictions [2] and Internet dependence is a new topic which attracts researchers to affiliation behavior in recent years [3]. Although computers and the Internet are used less than other information resources, it could be argued that the Internet is a tool for every individual in every field of expertise that enables him/her to communicate with their colleagues around the world [4]. For many people, the concept and definition of Internet addiction and its dependence is exaggerated so that people consider it as drugs and alcohol [5]. Young believed that the word addicted is used also for Internet users, because the symptoms of Internet addiction has the same characteristics seen in alcoholism and smoking. He could design and identify internet addiction with a questionnaire of 20 questions on top of 5 Likert scales [6]. Internet addicts use film, music, cartoons, computer games, social networking and chat via internet connection, while normal users connect to take advantage of news, events, shopping, reserve and educational and academic sites. Whereas the addicted, use the Internet unpurposefully and in private indoors [7]. Recent studies done on Internet addiction mainly emphasize on three important categories which includes individual factors such as a low degree of self-reliance [8] introspection features, instinctual behaviors and tendencies [9] and communication skill violence [10] social factors such as poor support from family members and social psychological factors originated in poor communication with family [11]. In this paper we examine the relationship between Internet addiction and metacognitive beliefs.

The term metacognitive refers to knowledge about cognitive processes and their effective utilization to achieve learning objectives [12].

Metacognitive processes have two independent but related aspects; one is metacognitive knowledge and the other metacognitive experience (13). Cartwright - Hatton & Wells have designed the following five aspects Psychometric Assessment Scale in order to analyze cognitive thinking and metacognitive beliefs:

- Positive beliefs about worry (like concerns that could help me to cope).
- Concern that focus on negative beliefs which concentrate on uncontrollability and dangers of worrying.
- Low cognitive assurance (as if I have a poor memory).
- Negative beliefs about thoughts, including corporal punishment, superstition etc.
- Cognitive knowledge (e.g. how to do what I’m seriously considering to my mind).

Each of these factors has a significant relationship with emotional vulnerability and are conceptually related to each other such as consciousness and cognitive failures which emphasize on true character and its real dimensions.

Spada et al. also argue that metacognition plays a mediator role between perceived stress and negative emotions and the activation of uncontrollable metacognitive beliefs and danger makes people experience emotional stress. In fact, these processes cause people to overestimate the environmental threats and neglect their coping ability, resulting in mental disorders (15).

Therefore, regarding negative dimensions, this project aims to analyze the relationship between Internet addiction and metacognitive beliefs to take effective steps in understanding psychological consequences of complications and improve the students’ mental health.

Materials and Methods
This cross sectional study aimed to investigate the prevalence of Internet addiction in students with metacognitive beliefs. Due to the unequal balance of students in different disciplines, random - classified sampling procedure was used in different groups and 244 people were selected according to the frequency of previous studies.

Data were gathered using Young’s Internet Addiction questionnaire and a short metacognitive beliefs questionnaire (MCQ-30): a 30-item self-report scale that measures individuals thinking about their beliefs. This scale is based on Wells and Matthews’ self-regulatory executive function (S-REF) that measures emotional disorders and metacognitive anxiety disorder. The scale has five subscales (1) positive beliefs about worrying, (2) beliefs about uncontrollability and danger of thoughts, (3) beliefs about the cognition assurance, (4) beliefs about the need to control thoughts, and (5) cognitive awareness. The validity of the questionnaire, based on Cronbach’s alpha coefficients for the subscales, are reported from 0.72 to 0.93; also considered 0.75 for its reliability and 0.59 to 0.87 for small scales. Shirin Zade Dastgiri in Iran reported 0.91 for the internal consistency coefficient of the total scale and range of 0.71 to 0.87 for the subscales. For 4-weeks test-retest, reliability is reported 0.73 for the total scale and subscale which ranged from 0.59 to 0.83.

Internet addiction Test is designed and developed by Young. According to this Self-assessment scale Internet addiction is measured. Classification is as follows: always (score 5), usually (score 4), often (score 3), sometimes (score 2), rarely (score 1) or never (score 0).

The test scores range is from 0 to 100. The higher a person’s score means higher Internet addiction. The rate of Internet addiction scores were divided into four categories:
1. Scores of 0 to 19 - normal
2. Scores 20 - to49 - mild
3. Scores 50 - 79 - medium
4. Scores 80 - 100 - severe

This test has good validity and reliability and complies with Iran’s community norm. [16, 17, 18]

Descriptive statistics such as frequency, percentage and mean of the distribution and the correlation coefficient were used to assess the correlation between variables. Moreover, chi-square test was done to examine the association between the variables and T-student to differentiate between metacognitive component in patient and non-patient groups.

Results

Results of Table 1 show that the overall average of Internet addiction has lower levels among samples. Also based on the cut-off point, only 6/18% of the students were patients and severity of the disorder is seen as mild in 72% and only 7/3% is seen as serious. Highest Internet addiction was associated with impaired social activity with average of 11/25 (Table 1).

Table 2 shows that the mean score of most components of cognitive beliefs was moderate (0-24). Table 3 shows that the average values of metacognitive components were higher among females, although there were no significant differences between boys and girls.

Although the difference in average internet addiction was not significant; boys had higher values. Table 4 shows although the addicted group had ahiger average, the difference was not significant. The relationship between the components of Internet addiction and metacognitive beliefs also shows cognitive self-consciousness correlated with all components of Internet addiction and was seen among other components malfunctions with positive beliefs about worrying and uncontrollability and danger, shown in Table 5.

Discussion

The results showed that the level of Internet addiction was lower among university students’ group. In other words university students showed a very weak internet addiction. From Young’s point of view an internet addict is one who spends at least 38 hours per week or 8 hours per day in cyberspace (18).

Findings of Mohseni Tabrizi and colleagues also support the findings of this study; they confirm that the average hours of using Internet for users was 17:14 hour per week. 29% of users experienced mild internet addiction, and all of them had varying degrees of weakness, inability to perform activities, social behavior, loneliness and social isolation, lack of interest in interpersonal relationships.

Table 1: Descriptive Statistics in internet addiction

<table>
<thead>
<tr>
<th>Internet addiction</th>
<th>Normal</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>218 (%81.4)</td>
<td>50 (%18.6)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Severity of internet addiction</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>192 (%72)</td>
<td>65 (%24.3)</td>
<td>10 (%3.7)</td>
</tr>
</tbody>
</table>

Table 2: Distribution of internet addiction Factors in students

<table>
<thead>
<tr>
<th>Sub scale</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet addiction</td>
<td>11.25 (4.38)</td>
</tr>
<tr>
<td>Social problem</td>
<td>7.57 (3.1)</td>
</tr>
<tr>
<td>Loss of control</td>
<td>4.43 (1.86)</td>
</tr>
<tr>
<td>Excessive use</td>
<td>4.21 (2.57)</td>
</tr>
<tr>
<td>Neglect social life</td>
<td>7.49 (2.67)</td>
</tr>
<tr>
<td>Anticipation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total score</th>
<th>Internet addiction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>29.83 (9.94)</td>
</tr>
</tbody>
</table>
and interactions (19). Some studies have also confirmed supporting results of Internet addiction in students mainly in males. In a study held in Isfahan male students (30%) use internet over 8 hours, and female students (29 percent) between 2 to 4 hours per week on average. Isfahan University of Medical Sciences (respectively 22% and 27%) used internet between 2 to 4 hours per week (16).

Other research conducted on internet users in Shahinshahr showed that 4 patients (3/2 percent) had scores above 80 who were considered as the first group of severe addiction; 46 (27/05%) had moderate addiction; 120 person (70/58 percent) scored lower than 50 who were among ordinary users with mild addiction. Due to the high percentage of mild addiction in most studies; this present study also confirmed the results (20).

Another study conducted in Tehran aimed to investigate the prevalence of Internet addiction and reported that the average is 3.2% (21). But higher levels of Internet addiction rate, were reported to be 18%. Another study conducted by Ayzanlo and Gudarzi on Internet addiction and its relationship with social problems revealed that 77.2% of users suffered mild addiction and only 3.6% of people suffering severe addiction. The results of this study are consistent with the results of other Internet addiction studies. Also research on Internet addiction scores showed a higher percentage of addiction in boys than girls (70.1 % in boys rather than 29.9% in girls) but there was no significant difference between the two groups (22).

Numerous studies have been conducted in different countries
and have different rates of Internet addiction. In the United States and Europe, the incidence was 1.5% to 8.2%. In a telephone study of general population of users in the United States it was reported as 0.3% to 0.7% (23). The prevalence of Internet addiction in two groups of 12 and 13 years involved with technology and its related problems were studied in Hong Kong. The comparison reported addiction 26/4% in the first group and 26/7% in the second group (25).

Research on 371 English students indicated that the rate is 3/18%, and it is associated with mental health problems (26). Research conducted on 3,616 Taiwanese students, confirmed that the prevalence of Internet addiction was different from 14/1 to 5/16 (27).

Internet usage in China was 88% and internet addiction was reported as 4/2% (28).

In other Asian countries and in Lebanon, the amount of addiction was 2/4 percent and the higher rate of use was allocated to entertainment and advertising rather than scientific and academic usage (29). Internet addiction rates in Japan were reported as 33.7% mild and 1/6% severe addiction. It was 24.6% in men and 1.8% in women (30). The result of the present research on the prevalence of Internet addiction was similar to the other mentioned studies and in a lot of other research.

Additional results showed that there are significant differences in the rate of Internet addiction and its components by sex and field of study. However, research conducted in Hong Kong showed that there is no significant difference between Internet addiction, age, gender, economic status, and immigration (31). This result is consistent with the results of the present study.

But some of the problems associated with Internet addiction happened in 19.4% in men and 1.5% in female (32).

Finally, some evidence suggests that a rate of psychiatric disorders associated with Internet addiction in men is higher in men than women (33). The results of this study showed that the mean average of metacognitive components in students is medium and although the mean component of metacognitive disorder in people with Internet addiction was higher but no significant difference was observed in the two groups of patients and normal. Evidence suggests that negative emotions can impact metacognitive beliefs and Internet addiction. Some studies stressed the importance of metacognition as a mediator between the negative effects of Internet addiction (34).

In another study it was shown that there is a relationship between aspects of cognition and Internet addiction. Also there was a significant association between Internet addiction and public health. The present study emphasized on the mediator role of metacognition in public health and reduction of Internet Addiction. It was also found that the various aspects of cognition mainly thought control should be controlled more than other aspects. In this study these factors were associated with impaired occupational activities. But consciousness and higher cognitive ability correlated with all components of Internet addiction.

Table 5: Relation between metacognition beliefs sub scale and internet addiction factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Internet addiction</th>
<th>Normal</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive beliefs about worry</td>
<td>13.07 (3.7)</td>
<td>12.50 (3.2)</td>
<td>0.31</td>
</tr>
<tr>
<td>Cognitive confidence</td>
<td>12.64 (3.47)</td>
<td>12.32 (2.63)</td>
<td>0.43</td>
</tr>
<tr>
<td>Cognitive self-consciousness</td>
<td>14.99 (3.1)</td>
<td>14.95(3.1)</td>
<td>0.94</td>
</tr>
<tr>
<td>Negative beliefs about uncontrollability of thought &amp; danger</td>
<td>14.39 (3.46)</td>
<td>14.23 (3.59)</td>
<td>0.86</td>
</tr>
<tr>
<td>Beliefs about need to control thoughts</td>
<td>12.70 (3.78)</td>
<td>12.55 (3.20)</td>
<td>0.35</td>
</tr>
</tbody>
</table>

*P<0.5
The need to control thoughts and self-awareness are cognitive manifestations of intrusive thoughts and as Spada states cognitive factors such as concerns about lack of control made individuals increase their access to negative information and more likely to use the Internet as a regulator of emotional state (15).

The present study approves the relationship between negative emotions and components of Internet addiction. In another study it was shown that there is a metacognition mediated relationship between low mental health and addiction to internet and affects the rate of this relationship. Among the cognitive variables, thought control had the highest correlation. (R = 0.80) (36).

Mathews and Wells mentioned the role of self-regulatory performance on metacognitive beliefs and its impact on continued disturbances and psychiatric disorders as well. They consider these disorders maladaptive coping strategies, a feeling of depression (anxiety / mental rumination), monitoring of threatened or suppressed thought to regulate the dysfunctional beliefs or increased access to negative information about self (37).

Some argue that Internet addiction disorder has been associated with depression and over activity and poor concentration. Depression disorders in men are highly associated with depression (38, 39), that accompany physical disorders of Internet addiction; anxiety, aggression, non-paranoid psychosis (40), symptomatic distress (41) are appropriate measures to early identification of individuals and help prevent other psychiatric disorders.

According to the results, and the relationship between Internet addiction and anxiety factors (Metacognitive beliefs) and its negative consequences on psychological and educational aspects; proper training seems to be essential to train students to use technology in a correct and efficient way. In conclusion the researchers hope to take important steps in improving students’ health by appropriate cultural training.

Acknowledgement
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Mental health CME Cases

Oliver is a 10-year-old boy who is brought to see you by his mother. She tells you that while he is obviously bright and ‘with it’, he has never done well in school, as he is unable to adapt to the classroom routine, or get along with his peers.

His mother says that he is always irritable, moody and uncommunicative, but that his moods seem to wax and wane in intensity.

He is physically much smaller than his classmates and has failed to gain much weight in the last two years.

At the interview, Oliver says, tearfully, that he believes that there is definitely something wrong with his brain. He says he sometimes hears voices in his head. He says he can’t help what’s wrong with him, and that “it isn’t my fault”. He feels that nobody will ever love him the way he is.

Oliver’s mother has bipolar disorder and says that during the depressive phases of her illness she was unable to care for Oliver properly.

“..it’s not my fault..”

1. Which of the following statements are true?

1. In children an irritable mood may be the only manifestation of depression.
2. In children, failure to gain weight is equivalent to weight loss in an adult.
3. Most children and adolescents with depression have co-morbid psychiatric disorders.
4. In children family discord is a risk factor for major depressive disorder.
5. In children low self-esteem is a risk factor for major depressive disorder.

Authors’ Answers

1. In children an irritable mood may be the only manifestation of depression.
   Author’s answer: True
   In children or adolescents, an irritable mood may suffice for the depressed mood criterion.

2. In children, failure to gain weight is equivalent to weight loss in an adult.
   Author’s answer: True.
   Significant weight loss or marked change in appetite may be substituted by a failure to make expected weight gains in children or adolescents.

3. Most children and adolescents with depression have co-morbid psychiatric disorders.
   Author’s answer: True.
   Between 40 and 70 percent of children and adolescents with depression have a co-morbid psychiatric disorder, and up to 50 percent have two or more co-morbid disorders.

4. In children, family discord is a risk factor for major depressive disorder.
   Author’s answer: True
   Risk factors for major depressive disorder include a family history of depressive disorder, particularly depressive disorders in parents. Other risk factors include family conflict, rejection and childhood
maltreatment, in particular, a lack of family warmth, family discord, and disturbed maternal relationships.

5. In children low self-esteem is a risk factor for major depressive disorder. Author’s answer: True.
The presence of a negative cognitive style in children is also a potential risk factor. A ‘negative cognitive style’ includes low self-esteem, being prone to self-criticism and feeling a lack of control.

Continuing history

During severe cycles, which seem to last a week or two, Oliver becomes irritable anxious and inconsolable, believing that nobody likes him or cares for him, and he complains of multiple physical symptoms such as abdominal pain or headache.

2. Which of the following statements are true?

1. The diagnostic criteria for major depressive disorder in childhood are essentially the same as adults. Author’s answer: True.
   In general, the diagnostic criteria for major depressive disorder in childhood are the same as those that apply with adolescents and adults.

2. In children with major depressive disorder anxiety is more common than in older age groups. Author’s answer: True.
   There is some evidence that children with major depressive disorder experience more symptoms of anxiety than those in older age groups.

3. In children with major depressive disorder somatic symptoms are more common than in older age groups. Author’s answer: True.
   Younger children more often exhibit temper tantrums or complaints of somatic symptoms for which no biological aetiology can be identified.

4. Auditory hallucinations are more common in adults than children with depression. Author’s answer: False.
   Auditory hallucinations and somatic complaints appear with greater frequency among prepubertal children with major depressive disorder than among adolescents and adults.

5. Psychomotor retardation is more common in adults. Author’s answer: True.
   Pervasive loss of interest and significant psychomotor retardation, typical of adults with depression, are not often observed as dramatically in children with major depressive disorder.

Continuing history

At other times his mother and his teacher describe periods in which his activity level seems frenetic, constantly making up stories. His peers continually reject him because of his absurd story telling.
3. Which of the following statements are true?

1. Approximately 2% of children have major depressive disorder.
2. Major depression is more common in girls than boys.
3. Less than 10% of children with depression relapse after recovery.
4. More than 20% of children with major depression develop a bipolar disorder later in life.
5. Major depression is more common in children than adolescents.

Authors’ Answers

1. Approximately 2% of children have major depressive disorder.
   Author’s answer: True.
   Approximately 2% of children have major depressive disorder at any single point of time.

2. Major depression is more common in girls than boys.
   Author’s answer: False.
   Among children, the ratio of boys to girls with depressive disorder is 1:1, while it is 1:2 in adolescents. The change in the ratio occurs as children move through puberty.

3. Less than 10% of children with depression relapse after recovery.
   Author’s answer: False
   40-60% of children with depression experience a later relapse after recovery.

4. More than 20% of children with major depression develop a bipolar disorder later in life.
   Author’s answer: True
   Approximately 20-40% of young people develop a bipolar disorder within 5 years following their depressive disorder.

5. Major depression is more common in children than adolescents.
   Author’s answer: False
   In most studies, adolescents had significantly more depressive disorders than children under 12 years of age.

4. Which of the following statements are true?

1. Isolated depression is rare in children.
2. Anxiety disorders are common in children with major depressive illness.
3. Disruptive behaviour disorders are common in children with major depressive disorder.
4. Suicide is more common in children than adults.
5. Family discord is an independent risk factor for suicide in children and adolescents.

Authors’ Answers

1. Isolated depression is rare in children.
   Author’s answer: False
   Epidemiological studies of mood disorders in children or adolescents support the notion that pure depression is rare among youths and that depression usually occurs in association with another diagnosis.

2. Anxiety disorders are common in children with major depressive illness.
   Author’s answer: True
   Anxiety disorders and dysthymic disorder tend to be the most common co-morbid diagnoses from 30 to 80 percent of the time.

3. Disruptive behaviour disorders are common in children with major depressive disorder.
   Author’s answer: True.
   Disruptive behaviour disorders co-occur with major depressive disorder 10 to 80 percent of the time, and
substance abuse co-occurs 20 to 30 percent.

4. Suicide is more common in children than adults.  
Author’s answer: False  
Suicide in children is extremely rare world-wide. This is in contrast to suicide rates among 15- to 19-year-olds, which have quadrupled over the last four decades.

5. Family discord is an independent risk factor for suicide in children and adolescents.  
Author’s answer: True  
In particular, a lack of family warmth, family discord, and disturbed maternal relationships are independent contribution to the risk of suicidal behaviour.

Continuing history

After a screening to exclude organic illness you refer Oliver to a child psychiatrist. Her opinion is that Oliver does not exhibit clear-cut periods of pure mania or pure depression, but that his waxing and waning of mood symptoms are consistent with a diagnosis of bipolar disorder.

4. Which of the following statements are true?

1. Treatment of bipolar disorder includes psychotherapy.  
Author’s answer: True  
Treatment includes counselling or psychotherapy for the child, and support and education about childhood depression for parents.

2. Treatment of bipolar disorder includes resolution of conflict between family members.  
Author’s answer: True  
Treatment includes resolution of conflict between family members, school-based interventions involving teachers, and the use of medication.

3. Tricyclic antidepressants are first line treatment for childhood depression.  
Author’s answer: False  
Tricyclic antidepressants should not be used to treat childhood depression as there is no evidence that they are effective for the treatment of the disorder in this age group.

4. Selective serotonin reuptake inhibitors (SSRIs) are recommended for major depression in children.  
Author’s answer: True  
There is some evidence that selective serotonin reuptake inhibitors (SSRIs) are effective for adolescents with depression. It is suggested that one of these agents be chosen if children with depression require treatment with a psychotropic drug.

5. Treatment with antidepressants should continue for 6-12 months.  
Author’s answer: True  
Treatment should continue for 6-12 months.

Authors’ Answers

1. Treatment includes of bipolar disorder includes psychotherapy.  
Author’s answer: True  
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5. Treatment with antidepressants should continue for 6-12 months.  
Author’s answer: True  
Treatment should continue for 6-12 months.

Proceed to Main points of the case . . .
Oliver... Main Points

“..it’s not my fault..”

1. Diagnostic criteria of major depressive illness in childhood are essentially the same for major depressive illness in adults.

2. Major depressive illness in childhood differs from major depressive illness in adults in the following ways:
   - failure to gain weight equates to weight loss in adults
   - co-morbid psychiatric disorders occur in 40-70 percent of children
   - irritable mood may suffice for the depressed mood criterion.
   - anxiety is more common
   - somatic symptoms are more common
   - auditory hallucinations are more common
   - loss of interest and psychomotor retardation are less common
   - often progress to bipolar disorder
   - suicide is rare
   - risk factors differ

3. Risk factors for major depressive disorder in childhood include:
   - a family history of depressive disorder
   - family conflict
   - rejection and childhood maltreatment
   - lack of family warmth
   - family discord
   - disturbed maternal relationships
   - the presence of a negative cognitive style

4. Serotonin reuptake inhibitors (SSRIs) are effective for adolescents with depression and have been suggested as the drugs of choice in depression which requires treatment with a psychotropic drug.
Mental health CME Cases

Omar is an eighteen year old university student who presents with a three week history of increasing depression. He says he feels as though he has no personal initiative or volition whatsoever.

He says he wakes early in the morning and ruminates over and over about his worthlessness. He has been constipated for over a week and has lost his appetite. He cannot identify any recent changes in his life to account for these feelings but is consumed by guilt because he knows he must be responsible.

He appears depressed and non-reactive, with marked motor retardation.

“...I’ve been possessed by the devil...”

1. Which of the following statements are true of Omar’s presentation?

1. Omar is suffering from major depressive disorder with melancholia.
Author’s answer: True
Psychomotor-vegetative disturbances dominate the clinical picture of major depressive disorder with melancholic features.

2. Guilt is a prominent feature of major depressive disorder with melancholic features.
Author’s answer: True
Major depression with melancholia is characterised by a marked loss of pleasure in all or almost all activities with a lack of reactivity of mood and guilt.

3. Diurnal variation is a prominent feature of major depressive disorder with melancholic features.
Author’s answer: True
Depression is usually worse in the morning and improves during the day.

4. Major depressive disorder with melancholic features is usually precipitated by environmental stress.
Author’s answer: False
At the heart of the concept of morbid depression is its autonomy from stresses that may have precipitated it, and its general unresponsiveness to other environmental input.

5. Major depression with melancholic features typically responds poorly to antidepressants.
Author’s answer: False
The diagnosis of major depression with melancholic features implies a strong likelihood of response to antidepressants.

Authors’ Answers

1. Omar is suffering from major depressive disorder with melancholia.
Author’s answer: True
Psychomotor-vegetative disturbances dominate the clinical picture of major depressive disorder with melancholic features.

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Author’s answer: True
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At the heart of the concept of morbid depression is its autonomy from stresses that may have precipitated it, and its general unresponsiveness to other environmental input.

5. Major depression with melancholic features typically responds poorly to antidepressants.
Author’s answer: False
The diagnosis of major depression with melancholic features implies a strong likelihood of response to antidepressants.
Further History

Omar says when he looks in the mirror he sees a repugnant figure he no longer recognises or likes. When you examine him he says, ‘at different times I feel as though my teeth are rotting away’; ‘I am in a coffin’; ‘I am possessed by evil’. When you enquire whether he hears voices, he says the evil force is maintaining a running commentary on the worthlessness of his life and actions, and demanding that he commit suicide.

2. Regarding this presentation, which of the following statements are true?

1. Omar’s delusions are diagnostic of schizophrenia.
2. Psychotic depression occurs in around 10% of people with major depressive disorders.
3. Auditory hallucinations in this context suggest a diagnosis of schizophrenia.
4. Omar should be referred to a psychiatrist.
5. Suicidal ideation is an indication for referral to a psychiatrist.

Authors’ Answers

1. Omar’s delusions are diagnostic of schizophrenia.
   Author’s answer: False
   Depression may have psychotic features, with delusions of guilt, worthlessness, or punishment.

2. Psychotic depression occurs in around 10% of people with major depressive disorders.
   Author’s answer: True
   About 10-15 percent of major depressive disorders have psychotic features, usually from among those with melancholic features.

3. Auditory hallucinations in this context suggest a diagnosis of schizophrenia.
   Author’s answer: False
   A minority of depressed persons have fleeting auditory or visual hallucinations with extremely unpleasant content, and occasionally auditory hallucinations. There is no reason to believe that in this patient the feelings of somatic passivity and running commentary indicated a schizophrenic process.

4. Omar should be referred to a psychiatrist.
   Author’s answer: True
   Referral to a psychiatrist is normally indicated when the patient has psychotic depression (4,6).

5. Suicidal ideation is an indication for referral to a psychiatrist.
   Author’s answer: True
   Referral to a psychiatrist should be considered when the patient has bipolar disorder, or active suicidal thoughts; when there is no response to one or two trials of treatment; when there is co-morbid medical, psychiatric, or substance use disorder; or when there may be a need for ECT (ECT is effective for patients with psychotic depression or melancholic depression not responding to antidepressants).

Further History

Omar is admitted to hospital with a diagnosis of major depressive disorders with psychotic features and treated with fluoxetine (Prozac), which is titrated to 40 mg over a 10-day period. He makes a dramatic recovery and is discharged after three weeks. The fluoxetine is continued for the next twelve months and then gradually discontinued.

A year later, he graduates as a civil engineer. Two years after that, he is brought in by his wife (of six months). She says that over the last two days she has noticed a marked increase in his energy level and speed and frequency of his speech. People at his work have complained that he was being intrusive, irritable, and silly.
Omar says that he has never felt better. He feels “exploding with creativity and confidence,” and as if a laser beam has transformed his sluggish thoughts, recharging them, galvanising them. During the visit he maintains a constant banter of jocularity and witticisms, and makes thinly veiled attempts to seduce the practice receptionist.

3. Which of the following statements are true?

1. The community incidence of bipolar disorder (manic depressive illness) is about 0.1%.
2. Bipolar disorder (manic depressive illness) has a strong genetic basis.
3. Most people with bipolar disorder (manic depressive illness) have full inter-episode symptomatic recovery.
4. About 50 percent of patients with bipolar disorder (manic depressive illness) only have manic episodes.
5. Mania occurring for the first time in later life is often secondary to medications or medical illnesses.

Authors’ Answers

1. The community incidence of bipolar disorder (manic depressive illness) is about 0.1%.
   Author’s answer: False
   Bipolar disorder (manic depressive illness) occurs in 1 to 2 percent of the population. The impact of the illness is severe, impinging on relationships, career, self-esteem and longevity.

2. Bipolar disorder (manic depressive illness) has a strong genetic basis.
   Author’s answer: True
   Bipolar disorder (manic depressive illness) has a peak onset in early adult life and there is a strong genetic basis.

3. Most people with bipolar disorder (manic depressive illness) have full inter-episode symptomatic recovery.
   Author’s answer: True
   Bipolar disorder (manic depressive illness) is characterised by distinct episodes of mania and depression, with full inter-episode symptomatic recovery in most individuals.

4. About 50 percent of patients with bipolar disorder (manic depressive illness) only have manic episodes.
   Author’s answer: False
   About 10 percent of patients only have manic episodes.

5. Mania occurring for the first time in later life is often secondary to medications or medical illnesses.
   Author’s answer: True
   Mania occurring for the first time in later life may be secondary to medications, such as corticosteroids, or medical illnesses such as cerebrovascular disease, and acquired immunodeficiency syndrome. It should be fully investigated.

Further History

Omar agrees to go to hospital where he is diagnosed with bipolar disorder, manic phase. On admission Omar talks constantly and expansively about, among other things, a plan he had to develop a new international shipping business. He becomes irritable and argumentative when his ideas are challenged. His wife says this complete change in Omar’s personality, has come on gradually over a few days.

4. In considering alternate treatments, which of the following statements are true of antidepressants treatment and electroconvulsive therapy (ECT) in this context?

1. Grandiose plans are characteristic of bipolar illness, manic phase.
2. Clinical features of mania usually appear gradually over a period of weeks.
3. Episodes of mania may be mild and of short duration.
4. The depressive phases of bipolar disease are identical to major depressive illness.
5. Omar should be considered for prophylactic treatment.

Authors’ Answers

1. Grandiose plans are characteristic of bipolar illness, manic phase.
   Author’s answer: True
   Features of mania are elevated mood, accelerated speech, racing thoughts, increased activity and reduced sleep. Grandiose ideas and reckless acts are common. Increased sexual drive and activity are also common.

2. Clinical features of mania usually appear gradually over a period of weeks.
   Author’s answer: False
   The clinical features of mania usually appear abruptly.

3. Episodes of mania may be mild and of short duration.
   Author’s answer: True
   Clinical features of mania may be mild and of shorter duration. When this occurs, the term hypomania is used. With recurrent mania, early symptoms of mania are often recognised by the patients’ family.

4. The depressive phases of bipolar disease are identical to major depressive illness.
   Author’s answer: True
   The clinical features and treatment of the depressive phase of this illness are identical to those of other depressions.

5. Omar should be considered for prophylactic treatment.
   Author’s answer: True
   Prophylactic treatment following treatment of an acute episode should be considered in a patient having two or more previous episodes of either mania or depression. The frequency and severity of episodes, the age of the patient, concurrent medical illness and compliance need to be taken into account. Treatment may be time-limited (3 to 5 years) or indefinite depending on previous illness history, response to medication, age of the patient and tolerability of the medication.

Further History

Omar is commenced on lithium and discharged well two weeks later. He is advised by the psychiatrist that he should take lithium for the next five years, but is reluctant to do so, and comes to ask you whether there is an alternate treatment, and what precautions he should take if he remains on lithium.

5. Which of the following statements are true in relation to withdrawal of Omar from his antidepressants?

1. Carbamazepine is effective as long term prophylaxis.
2. Sodium valproate is now used widely for maintenance treatment.
3. Angiotensin converting enzyme inhibitors may cause lithium toxicity in people taking the drug.
4. Omar should have his thyroid function monitored every 6 to 12 months.
5. Cessation of lithium should be gradual, over at least 1 to 2 months.

Authors’ Answers

1. Carbamazepine is effective as long term prophylaxis.
   Author’s answer: True
   Controlled trials have established the efficacy of lithium and carbamazepine as long term prophylaxis.
2. Sodium valproate is now used widely for maintenance treatment.
Author’s answer: False
While sodium valproate is in widespread clinical use for maintenance treatment, controlled data have yet to be published.

3. Angiotensin converting enzyme inhibitors may cause lithium toxicity in people taking the drug.
Author’s answer: True
Intercurrent illness, fluid loss or use of diuretics, nonsteroidal anti-inflammatory drugs or angiotensin converting enzyme inhibitors may reduce renal clearance of lithium and lead to increased tissue concentrations and toxicity.

4. Omar should have his thyroid function monitored every 6 to 12 months.
Author’s answer: True
It is important to assess renal and thyroid function prior to commencing lithium. Lithium is excreted by the kidney and impaired renal function will decrease lithium elimination and require reduced doses. Serum lithium concentration should be measured every 1 to 3 months after stable therapeutic concentrations are achieved. Renal function with serum creatinine and electrolytes should be monitored every 3 to 6 months. Thyroid function including TSH should be monitored every 6 to 12 months.

5. Cessation of lithium should be gradual, over at least 1 to 2 months.
Author’s answer: True
Abrupt cessation of lithium may lead to relapse of mania (or, less likely, depression) in many bipolar patients within the next few months. Therefore, if lithium is to be ceased, this should be undertaken slowly over at least 1 to 2 months.

Omar ... Main Points

“I’ve been possessed by the devil.”

1. Major depression with melancholia is characterised by:
- marked loss of pleasure in all or almost all activities
- lack of reactivity of mood
- guilt,
- diurnal variation
- worse in the morning.
- early morning awakening
- loss of appetite and weight.
2. Mania occurring for the first time in later life may be secondary to medications, such as corticosteroids, or medical illnesses such as cerebrovascular disease, and acquired immunodeficiency syndrome. It should be fully investigated.

3. Referral to a psychiatrist should be considered when:
   - bipolar disorder,
   - active suicidal thoughts
   - no response to one or two trials of treatment
   - co-morbid medical, psychiatric, or substance use disorder
   - need for ECT

4. Prophylactic treatment of bipolar disorder should be considered in a patient having 2 or more previous episodes of either mania or depression.

5. Prophylactic treatment of bipolar disorder: controlled trials have established the efficacy of lithium and carbamazepine. Sodium valproate is in widespread clinical use for maintenance treatment; controlled data have yet to be published.

6. In patients taking lithium, toxicity may occur in:
   - intercurrent illness,
   - fluid loss or use of diuretics,
   - non-steroidal anti-inflammatory drugs
   - angiotensin converting enzyme inhibitors
   - reduce renal clearance
provides ongoing support. It also prevents relapse and improvement of social interaction (El-Bilsha, 2005) which concluded there was an activity therapy, social isolation represented of the present study, (San et al. 2007) (36) that schizophrenia is expected because schizophrenia is majority of the schizophrenic patients have social isolation. This is to be described as a withdrawal pattern of behavior in addition to the effect of negative symptoms like neglect and additionally improve activities of daily living among patients. It can be concluded from this study that the activities of daily living improved after implementation of activity therapy in conjunction with antipsychotic drugs. This conclusion leads us to accept the hypothesis of which lead to a severe feeling of motivation and interest which is caused by lack of energy, withdrawal either from the environment and additionally improve activities of daily living among schizophrenic patients.

The present study reported that the rehabilitation outcome of stroke and interpersonal relationships, all of which lead to a severe feeling of motivation and interest which is caused by lack of energy, withdrawal either from the environment and additionally improve activities of daily living among schizophrenic patients. The majority of schizophrenic patients have social isolation. This is to be described as a withdrawal pattern of behavior in addition to the effect of negative symptoms like neglect and additionally improve activities of daily living among patients. It can be concluded from this study that the activities of daily living improved after implementation of activity therapy in conjunction with antipsychotic drugs. This conclusion leads us to accept the hypothesis of which lead to a severe feeling of motivation and interest which is caused by lack of energy, withdrawal either from the environment and additionally improve activities of daily living among schizophrenic patients.

This is in agreement with the findings of a previous study (San et al. 2007) (36) that schizophrenia is expected because schizophrenia is majority of the schizophrenic patients have social isolation. This is to be described as a withdrawal pattern of behavior in addition to the effect of negative symptoms like neglect and additionally improve activities of daily living among patients. It can be concluded from this study that the activities of daily living improved after implementation of activity therapy in conjunction with antipsychotic drugs. This conclusion leads us to accept the hypothesis of which lead to a severe feeling of motivation and interest which is caused by lack of energy, withdrawal either from the environment and additionally improve activities of daily living among schizophrenic patients.

Based on the results of this study we recommend use of activity therapy in conjunction with antipsychotic drugs improve well as eating and sleeping patterns. 5th ed. USA. Mosby Inc: 300-5-8

conclusion that schizophrenia is expected because schizophrenia is majority of the schizophrenic patients have social isolation. This is to be described as a withdrawal pattern of behavior in addition to the effect of negative symptoms like neglect and additionally improve activities of daily living among patients. It can be concluded from this study that the activities of daily living improved after implementation of activity therapy in conjunction with antipsychotic drugs. This conclusion leads us to accept the hypothesis of which lead to a severe feeling of motivation and interest which is caused by lack of energy, withdrawal either from the environment and additionally improve activities of daily living among schizophrenic patients.

Conclusion

It can be concluded from this study that the activities of daily living improved after implementation of activity therapy in conjunction with antipsychotic drugs. This conclusion leads us to accept the hypothesis of which lead to a severe feeling of motivation and interest which is caused by lack of energy, withdrawal either from the environment and additionally improve activities of daily living among schizophrenic patients.

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