

# The Arabic Version of Multidimensional Fatigue Inventory : Reliability, Validity and Findings in Three Groups

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The high prevalence of fatigue and its negative effect on well being have made it an important research variable in the field of psychiatry as well as in many other domains.

In this work, results on the reliability and validity of the Arabic version of Multidimensional Fatigue Inventory (MFI) are reported. Three groups with different degrees of expected fatigue participated in the study: 110 subjects from normal population, 41 patients with renal failure and 49 junior physicians in their residency training. They completed the MFI and the GHQ.

Assessment of reliability included correlation coefficients and Cronbach's alpha for internal consistency and split - half reliability studies. Construct validity was estimated through comparison between groups and discriminant function analysis. Gender differences in the expression of fatigue were considered.

The results showed that 22% of general population group, 24% of medical residents and 88% of renal failure patients suffered from a high degree of fatigue. The results suggest that the internal consistency and split - half reliability of the MFI are high. Its validity, as assessed by group differences and sensitivity to differentiate different groups was also high.

Gender plays a role in the fatigue expression in the general population, as women expressed more general and physical fatigue.  
(Egypt.J. Psychiat., 1997, 20: 85-96).

## Introduction

Fatigue is an everyday experience that most individuals report after inadequate sleep or rest, or after exertion of physical power. People also report feelings of fatigue after mental effort or when they lack motivation to initiate activities (Smets, 1995).

Without trying to construct a complete list of physical disorders associated with the symptom of fatigue, we can mention in particular chronic diseases such as cancer, multiple sclerosis, arthritis, renal disease and HIV infection

(Smets et al, 1993; Krupp et al., 1988; Srivasta, 1989; Darko et al, 1992). Many endocrine disorders such as hypothyroidism or Addison's disease are also associated with the symptom of fatigue (Droba & Whybrow, 1989). Premenstrual and postmenopausal syndrome should be seen in the same context (Linden, 1991).

Of special interest to psychiatrists is the term "neurasthenia" which was introduced by Cullen at the end of the 18th century (Pichot, 1991). At the end of the 19th century, "neurasthenia" was described and explained in very mechanistic terms by Beard to account for physical and mental exhaustion and for varied somatic troubles imputed to failure of too much solicited nervous resources.

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This concept was then universally adopted and gave rise to diverse interpretations, among which was Freud's one (Pichot, 1994). From 1920, eclipse was observed in the use of "neurasthenia" where interest was focussed on neurotic depression and anxiety states (Kelly, 1991). In the same time, at least for ideological and cultural reasons, the concept remained in Russia and Asia (Pichot, 1994). During the last decade, the Western psychiatry has been led to accept that there are clinical situations focussed on fatigue and fatigability, even if it coined for them new terminologies (Tyrrel, 1994). While recent versions of DSM -IV keep on ignoring "neurasthenia", the ICD-10 (WHO, 1992) gives it an important place. In the ICD - 10 the term "neurasthenia has been retained under the heading of "other neurotic disorders" where the hall marks of the syndrome are considered to be the patient's emphasis on fatigability and weakness and concern about lowered mental and physical efficiency (in contrast to somatoform disorders, where bodily complaints and preoccupation with physical disease dominate the picture). In spite of ignoring the term neurasthenia, fatigue or body weakness of less than 6 month duration are included in DSM-IV under the residual category 'somatoform disorder, not otherwise specified; (APA, 1994).

On the other hand, fatigue, as a symptom, is one of the core symptoms of depression. The clinical syndrome of "neurasthenia" is covered to a large extent by the Hamilton Depression and Anxiety scales (Hamilton, 1959; 1967). Not only does fatigue constitute a part of major depressive episode that can be easily detected, but it is also characteristic of minor psychiatric disorders, such as somatised affective disorders, dysthymia and adjustment disorders that can be missed when presenting in a general

practice setting (Goldberg & Bridges, 1991).

Because of its high prevalence and increasingly acknowledged negative effect on the patient's well being, fatigue has become an important research variable. Besides being investigated as a symptom or side effect, it has also been studied as a precursor of disease (Apples & Muldrep, 1988), as a diagnostic criterion (Montgomery, 1990) and as an outcome variable by which treatment is evaluated (Fawzy et al, 1990).

Therefore, reliable and valid instruments for assessment of fatigue have to be available for researchers in psychiatric as well as primary care and other settings. The instruments so far available are either unidimensional, e.g., the Fatigue Severity Scale (Krupp et al., 1989) or multidimensional as the two dimensional scale used by Wessely and Powell (1989), containing a physical fatigue and a mental fatigue scale.

Other important components of fatigue as motivation and activity have been considered in the Multiple Fatigue Inventory (MFI) presented by Smets and Coauthors (1994).

Whatever the reason might be for including fatigue as a variable, its assessment has to be reliable and valid. The present work aimed at assessing reliability (internal consistency and split half reliability) and the construct validity of the Arabic version of MFI - 20, through its ability to differentiate three groups with different levels and quality of fatigue. It also aimed at estimating the degree of fatigue in a population sample as well as the gender differences in fatigue profile

## **Subjects and Methods**

### *1- The questionnaire*

The Multidimensional Fatigue Inventory, MFI-20, (Smets et al, 1994) is a multidimensional self report instrument

designed to measure five aspects of fatigue. The postulated dimensions are based on the fact that fatigue can be expressed by general remarks of a person concerning his / her functioning (general fatigue); by referring to physical sensations related to feelings of tiredness (physical fatigue); as well as in terms of cognitive symptoms, such as having difficulty concentrating. The last two dimensions assess a lack of motivation to start any activity (reduced motivation) and reduced activity which might result from fatigue.

Each scale contains 4 items for each dimension. The statements are worded in a positive and negative direction (2 in each case) to prevent tendencies towards the response set as much as possible. The statements refer to how the respondent has been feeling lately. The latter has to indicate on a 5 point scale ranging from agreement (yes) to disagreement (no) with the statement. Higher scores mean a higher degree of fatigue.

The MFI-20 was chosen to be translated into Arabic because it is short and multidimensional, does not contain any somatic items, designed to provide a complete description of the fatigue experience (Smets et al, 1995). Simple language was used in the translation, while colloquial Arabic was avoided as much as possible. The questionnaire was presented to a group of people with different education and social levels. The respondents commented on the understandability of the items. A group of psychiatric patients also responded to the questionnaire to assess their understanding of the items, as well as the scale. The Arabic version of MFI-20 is presented in appendix - I.

**2- General Health Questionnaire:** (GHQ) by Goldberg (1972), translated into Arabic by El-Akabawy (1983) was used in the present work to assess psy-

chiatric condition of participants. This questionnaire has been used as an indicator of psychiatric caseness, rather than as a scale covering indices of "neurasthenia", anxiety or depression (Bech, 1991).

### 3- Subjects:

To study the construct validity of the MFI-20, comparison of subjects with different degree of fatigue was carried out. In this paper we report on the results of screening for fatigue and general psychiatric condition in three groups of subjects: the first comprises patients with a chronic physical illness known to induce fatigue, i.e., chronic renal failure; the second is a group of residents who undergo training in a university hospital where a high work load, stress, irregular sleep and consequently high degree of fatigue are all expected. The last group comprised a sample from the general population with different work profiles.

Patients with chronic renal failure (n= 41) undergoing dialysis at Minia university hospital completed the questionnaire.

49 residents at Suez Canal University hospital participated in the study. The population sample comprised 110 subjects with a wide range of profession, social background respectively. Demographic data are shown in table (1).

### 4- Statistical Analysis:

In order to assess the construct validity of the MFI-20, we compared the scores of the three study groups with expected variation in degree and type of fatigue they must experience. Comparisons were carried out between each of the renal patient group and junior physicians on one hand and population group on the other using independent - samples t- test.

One of the objectives of this study is to estimate the internal consistency of

the Arabic version of the MFI. Therefore, Spearman rank correlation coefficients were calculated.

Internal consistency also was assessed by Cronbach's alpha coefficients for the five scales in each of the three groups.

Split - half reliability statistics for the five scales and the whole inventory were also carried out.

In order to assess the possible factors underlying fatigue, multiple regression analysis was performed for each of the groups with total fatigue as dependent variable and age, sex, education, marital status and total score on the GHQ being the independent variables. R- square in each case was calculated.

Comparison between male and female subjects in each group was conducted using t-test for independent samples.

Discriminant functional analysis was performed to assess the sensitivity of the MFI-20 to groups with different fatigue profile. The renal and population group were included in this analysis.

All statistical procedures were carried out using SPSS (Statistical Package for Social Sciences).

## Results

Mean and standard deviations on subitems of the MFI-20 are presented in table (2). Comparison between both the renal group and residents' group, on one hand, and the population group, on the other, showed that the renal group scored higher than the population group on all subscales of MFI-20, to a highly significant level, except for mental fatigue. On the other hand, only general and physical fatigue was higher in the residents' group, in comparison to population sample.

Correlation coefficients between items of the MFI-20 are shown in table

(3). In the population group, there is a high correlation between all fatigue items, while in the renal group, physical fatigue correlated with reduced activity, and reduced motivation correlated with general fatigue. The results in the residents' group are generally analogous to those in the population, except for the fact that general fatigue did not correlate significantly with mental fatigue or reduced activity.

In table (4), Cronbach's alpha coefficients for the five scales of MFI-20 are shown. The highest alpha was obtained in the population group, where it was  $>0.63$ , except for the scale of motivation. Parallel results were obtained for The junior physicians group. In the renal group, however, reliability of the mental fatigue was high, and was reasonable for general fatigue and reduced motivation, but it was low for physical fatigue and reduced activity scales.

Split - half reliability for the whole inventory and its five subscales are presented in table (5). Correlation between the two forms of the whole inventory was very high (.70), as well as the alpha of its two halves (.80 & .76 respectively). The best reliability was observed in the general and physical fatigue and the least was that on reduced motivation.

Results of regression analysis showing the effect of each of the following variables (independent): sex, age, education, marital status and psychiatric condition, as judged by total score on GHQ, on the total fatigue (dependent variable) in each of the three groups are demonstrated in table (6). In the population and junior physicians group, psychiatric condition plays a very highly significant level in determining fatigue  $p < .0001$ , while sex seems to contribute modestly to total fatigue only in the population group. On the other hand, all studied variables had no effect on fatigue.

The subjects involved in the present study were classified into two clusters (table 7), with the first scoring within the mean on all the subscales, and the second expressing more fatigue on all the five items ( $> \text{mean} \pm \text{SD}$ ). 88% of the renal - failure patients, 22% of the general population group and 24% of the junior physician group fell in the second cluster, i.e., suffered from abnormally high degree of fatigue.

Comparison between females and males in all groups (table 8) showed that women had significantly higher physical and total fatigue than men,

only in the population group, while male young physicians had more reduced activity than women. There was no statistically significant differences between women and men suffering from renal failure in all dimensions of fatigue.

The results of discriminant functional analysis are shown in table (9). 95% of the renal failure group patients were assigned to the same group, i.e., were correctly diagnosed. In the case of the population group, 86% of cases were correctly identified, while 14% were assigned to the renal group.

**Table 1**  
Demographic Data

Variable	Population	Renal	Residents
Age	33 ( $\pm 11.1$ )	39.8 ( $\pm 12.1$ )	27.8 ( $\pm 2$ )
Sex:			
Males	60	33	35
Females	50	8	14
Marital status:			
Married	58	25	
Single	47	14	40
Divorced	3	2	9
Widow	2		
Education:			
less than 12 years	10	29	
12-14 years	56	9	
university	33	3	
graduates			49
M.Sc. & Ph. D.	11		

**Table 2**  
Mean and Standard Deviation on the Five Scales and Total Fatigue for the Three Groups

	Population mean ( $\pm \text{SD}$ )	Renal patients mean ( $\pm \text{SD}$ )	Residents mean ( $\pm \text{SD}$ )
General fatigue	9.9 ( $\pm 3.4$ )	14.8 ( $\pm 2.9$ ) ***	11.2 ( $\pm 2.9$ ) *
Mental fatigue	9.4 ( $\pm 3.4$ )	11.0 ( $\pm 4.9$ )	10.5 ( $\pm 2.9$ ) *
Physical fatigue	9.4 ( $\pm 3.5$ )	14.2 ( $\pm 3.2$ ) ***	9.6 ( $\pm 2.5$ )
Reduced activity	8.9 ( $\pm 3.5$ )	15.3 ( $\pm 2.2$ ) ***	8.9 ( $\pm 2.9$ )
Reduced Motivation	8.4 ( $\pm 2.5$ )	11.5 ( $\pm 3.6$ ) ***	9.3 ( $\pm 2.8$ )
Total fatigue	45.9 ( $\pm 2.5$ )	66.8 ( $\pm 11.7$ ) ***	49.4 ( )

**Table 3**  
Correlation Coefficients between the Five  
Fatigue Scales in the Three Groups

	General fatigue	Mental fatigue	Physical fatigue	Reduced fatigue
<b>Population</b>				
Mental	.56***			
Physical	.60***	.39***		
Activity	.30**	.33*	.50***	
Motivation	.38***	.51***	.51***	.27**
<b>Renal</b>				
Mental	.26			
Physical	.22	.29		
Activity	.03	.09	.38***	
Motivation	.44**	.27	.35*	.05
<b>Residents</b>				
Mental	.26			
Physical	.60***	.54***		
Activity	.21	.44***	.24	
Motivation	.45**	.47**	.52***	.38**

**Table 4**  
Cronbach's alpha Coefficients for the Five Scales of  
MFI-20 in the Three Groups

	Population	Renal	Physicians
General fatigue	.66	.53	.52
Physical fatigue	.66	.25	.58
Reduced activity	.64	.12	.67
Reduced Motivation	.12	.51	.51
Mental fatigue	.63	.82	.57

**Table 5**  
Split - Half Statistics of the MFI-20 and its Five Scale

	General	Physical	Activity	n	Mental	All items
Correlation	.50	.44	.57	.27	.47	.70
Between forms						
Guttman spilt-half	.66	.61	.72	.43	.46	.82
Alpha (part 1)	.52	.38	.55	.14	.44	.80
Alpha (part 2)	.60	.65	.49	.40	.76	.76

**Table 6**  
Relationship between Demographic Data and  
Psychological State and Fatigue (Regression Analysis)

Variable	Population		Renal		Renal	
	T	Sig. T	T	Sig. T	T	Sig. T
Sex	1.97	.05*	.09	.9	.14	.2
Age	-.27	.8	-.2	.8	.53	.5
Education	-1.45	.2	.84	.4		
Marital status	.08	.9	1.4	.2	.94	.3
GHQ	6.03	.000***	.7	.5	5.08	.000***
R-square	.33		.07		.34	

**Table 7**  
Results of Cluster Analysis

	Cluster 1	Cluster 2
General fatigue	9.37	14.35
Physical fatigue	8.31	14.11
Reduced activity	8.22	13.7 9
Reduced Motivation	7.97	11.58
Mental fatigue	8.61	12.48
	number (%)	number (%)
Population group	86 (78%)	24 (22%)
Physicians	37 (76%)	12 (24%)
Renal groups	5 (12%)	36(88%)

**Table 8**  
Comparison Between Females and Males

	Population	Renal	Residents
<b>General fatigue</b>			
males	9.3 (3.5)	14.4 (2.9)	11.1 (2.9)
females	10.5 (3.5)	16.3 (2.3)	11.3 (2.9)
<b>Mental fatigue</b>			
males	8.9 (3.1)	11.4 (4.7)	10.6 (2.4)
females	9.8 (3.6)	9.5 (3.9)	10.1 (3.0)
<b>Physical fatigue</b>			
males	8.5 (3.1)	14.0 (3.1)	9.8 (3.4)
females	10.4 (3.7) **	14.9 (3.5)	8.9 (2.7)
<b>Red. Activity:</b>			
males	8.9 (3.5)	15.2 (2.2)	9.4 (3.0)
females	9.0 (3.5)	15.5 (2.5)	7.7 (2.2)*
<b>Red. Movtivation:</b>			
males	8.3 (2.3)	11.4 (3.5)	9.7 (2.7)
females	8.5 (2.7)	11.7 (4.2)	8.1 (4.4)
<b>Total fatigue:</b>			
males	43.7 (11.4)	66. (11.0)	50.8 (11.9)
females	48.6 (12.6)*	68 (9.9)	46.1 (8.5)

**Table 9**  
Results of Discriminant Functional Analysis

Actual Group	Predicted membership	
	Population	Renal group
Population renal group	86.2% 4.9 %	13.8% 95.1%
Function		
Red. activity	.87	
General fatigue	.60	
Physical fatigue	.59	
Red. motivation	.41	
Mental fatigue	.15	
Chi square 124.25	Wilks' lambda .52	signif. .000

### Discussion

A survey of psychiatric morbidity in Great Britain showed fatigue to be the commonest neurotic symptom, its prevalence rate in the population being 27% (Mason & Wilkinsoo, 1996). The prevalence of fatigue as a presenting complaint and as a symptom was evaluated in French general practice. At least one of the symptoms of persistent fatigue was reported by 41% of the patients, but only 7.6% had presented with fatigue to the doctor (Fuhrer & Wessely, 1995). An overview of studies on fatigue in primary care showed that the prevalence rates vary between 7 and 45% (Lewis & Wessely, 1992). This large difference in prevalence rates can be attributed to differences in measuring methods. In this work, 22% of the population sample suffered from abnormal degree of fatigue, a finding in congruence with the above-mentioned British survey.

Given the prevalence and sometimes serious consequences of fatigue, research efforts aiming at developing a reliable and valid instrument for assessment are essential (Smets et al, 1995). The reliability of the Arabic version of MFI-20 is supported by its significant degree of internal consistency observed

in the population group, as evidenced by correlation coefficient between all fatigue dimensions. In the renal group, high correlation coefficients were observed between physical fatigue and reduced activity and, to a lesser extent, reduced motivation. So, in this chronic medically ill group, the reduced activity and / or motivation might be consequences of physical fatigue of those patients. On the other hand, in the resident physicians group, significant intercorrelation appeared between physical fatigue, on one hand, and general and mental fatigue, on the other, signifying that mental and physical fatigue are characteristic of this group with a specific work profile. Reduced activity was also correlated with both mental fatigue and reduced motivation. Reduced activity and decreased motivation are closely related aspects of fatigue with one leading to the other. Both might also be affected by mental fatigue.

The reliability of the MFI in the population and junior physicians, as measured by the Cronbach's alpha, is slightly lower than that found by Smets et al (1994). In the renal failure patients, it is lower than the other two groups. This could be accounted for by the low num-



ber of subjects in this group. The number of subjects in the study of Smets et al (1994) was generally higher than in the present study. A long experience of El-Damaty and Abdel - Khalek (1989), who translated many scales into Arabic, has led them to conclude that the reliability of the translated scales is generally less than the original ones. This is the case in the Arabic version of MFI, though its reliability remains to be reasonable.

However, the MFI - 20 was very highly sensitive in detecting patients with expected high degree of fatigue, i.e., the renal fatigue group, the sensitivity being 95%. Its specificity, however, is not as high as sensitivity, as 14% of the population were incorrectly identified. This lower specificity is in accordance with the purpose of the inventory which is designed to test for fatigue in a wide range of groups. The function which discriminated the two groups comprised reduced activity, general and physical fatigue and, to lesser extent, reduced motivation and not mental fatigue, which is congruent with the clinical picture of renal failure.

Fatigue as a complaint does not fit neatly into the conventional view that disease is either "physical" or 'psychological'. Instead, the holistic concept of disease or a disorder of the whole person, body, mind and spirit, provides a better model for its understanding and management (Tyrrel, 1994). Psychiatric condition, as assessed by total score on GHQ) was the most significant factor contributing to fatigue in the population and junior physicians group. Two primary care studies have reported a close association between symptoms of fatigue and other psychological morbidity (Kroenke et al, 1988) or psychiatric diagnosis (Mc Donal et al, 1993). In psychiatric practice, fatigue was estimated to be the most frequent symptom in Egyptian patients

presenting with somatoform disorders (Mahfouz et al., in press). Most of those patients suffered also from depression or anxiety disorder. The fact that all factors entered into regression analysis did not contribute to total fatigue in the renal failure group supports the different origin of fatigue in those patients, being the medical illness.

Gender seems to affect total fatigue in the population group as evidenced by regression analysis (table, 4). Comparisons between both sexes in this group also showed that females scored higher than males on both physical and total fatigue. This is in congruence with other studies, both in the community (Walker et al, 1993; Pawilkowska, 1994), as well as in general practice attenders (David et al, 1990). This might be attributed to reduced physical fitness, reproductive or combined occupational and domestic responsibilities. The latter variable is supported by comparisons between both sexes in the other two groups, as there was no gender differences in the renal failure groups where both sexes are handicapped to the same degree and women are not expected to contribute to house - work. In the resident physicians group, sex did not contribute to total fatigue according to results of regression analysis and comparison between both sexes showed that they differed slightly only in reduced activity, being higher in males.

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### **La Version Arabe De L'inventaire Multi dimensionnel De fatigue: la stabilité Validité' et Les Resultats chez Trois Groupes**

La puissante extension de la fatigue et de ses effets négatifs fait un parmi les plus importants sujet de recherche dans le domaine de psychiatrie ainsi que dans plusieurs domaines.

Il s'agit dans cette étude, des résultats de stabilité et de validité de la version arabe de l'inventaire multidimensionnel de fatigue (IMF), chez trois groupes dont le degré prévu de fatigue est différent: 110 personnes normales, 41 patients d'échec renal et 49 jeunes médecins residents ayant terminé le IMF et le SSG.

L'évaluation de la stabilité a inclut les coefficients de corrélation et l'alpha de Cronbach pour la consistance interne et les études de la validité.

La validité a été estimée d'après une comparaison entre les groupes et l'alpha de Cronbach pour la consistance interne et les études de la validité.

La validité a été estimée d'après une comparaison entre les groupes et l'analyse discriminante de la fonction.

Les résultats ont montré que 22% du groupe normale, 24% de médecins residents et 88% de patients d'échec renal souffrent d'un degré élevé de la fatigue comme ils ont montré un haut degré de stabilité et de validité.

Le sexe semble jouer un rôle dans l'expressions de la fatigue les femmes (celles du groupe normale) souffrent physiquement d'un haut degré de fatigue.

## النسخة العربية لاستتبار الإرهاق متعدد الأبعاد الثبات والصدق والنتائج لدى ثلاث مجموعات

ازداد الاهتمام بالإرهاق في الفترة الأخيرة نتيجة لزيادة انتشاره وآثاره السلبية على الصحة.

ويقدم هذا العمل النسخة العربية لاستتبار الإرهاق متعدد الأبعاد، ثباته وصدقه، حيث تمت دراسة الإرهاق لدى ثلاث مجموعات تختلف في الدرجة المتوقعة للإرهاق : ١١٠ شخصاً من الأسوياء، و ٤١ مريضاً بالفشل الكلوي و ٤٩ طبيباً مقيماً وطبق على الجميع استتبار الإرهاق ومقياس الصحة العامة.

واشتمل تقييم الثبات معاملات الارتباط ومعادل كرونباخ للثبات الداخلي، وكذلك الثبات النصفى وقيم الصدق من خلال المقارنة بين المجموعات والتحليل التمييزي للوظيفة.

وقد أظهرت النتائج أن ٢٢٪ من الأسوياء و ٢٤٪ من الأطباء المقيمين و ٨٨٪ من مرضى الفشل الكلوي يعانون من درجة عالية من الإرهاق، كما أظهرت درجة عالية من الثبات والصدق.

ويبدو أن النوع يلعب دوراً في الأشكال التي يتخذها الإرهاق حيث تعاني النساء (في مجموعة الأسوياء) من معدل عال للإرهاق العام والإرهاق الجسمي.

## Appendix:

استبيان الإرهاق متعدد الأبعاد  
Multidimensional Fatigue Inventory (MFI)

## تعليمات:

نريد أن نعرف حالتك خلال الشهر الماضي  
- مثال: إذا كانت عبارة: أنا مرتاح تعبر عن حالتك خلال الشهر الماضي، ضع علامة X في خانة نعم تماماً، وفي حالة العكس تماماً، ضع علامة X في خانة لا تماماً. أما إن كانت حالتك بين هذا وذاك، فضع العلامة في الخانة المناسبة (علامة واحدة أمام كل عبارة من العبارات).

لا تماماً				نعم تماماً
				١- أشعر أنني سليم (لائق) جسدياً و عقلياً .....
				٢- أشعر أنني أقدر بدنياً علي عمل القليل فقط .....
				٣- أشعر أنني نشيط جداً .....
				٤- أشعر بالرغبة في القيام بأعمال طيبة (خيرة) .....
				٥- أشعر بالإرهاق (بالتعب) .....
				٦- أعتقد أنني أنجز (أنهي أملاً) الكثير في اليوم الواحد .....
				٧- أستطيع أن أركز تفكيري فيما أفعله .....
				٨- أستطيع أن أقوم بالكثير من الأعمال البدنية .....
				٩- اتفادي التكليف بالأعمال .....
				١٠- أعتقد أنني أعمل القليل في اليوم الواحد .....
				١١- أستطيع التركيز جيداً .....
				١٢- أنا مرتاح .....
				١٣- التركيز في عملي يتطلب مني مجهوداً أكبر من اللازم .....
				١٤- أشعر أن جسمي متعب (حالي البدنية سيئة) .....
				١٥- لدي خطط كثيرة .....
				١٦- أتعب بسرعة .....
				١٧- انتاجي في العمل قليل .....
				١٨- لا أريد القيام بأي عمل .....
				١٩- افكاري تنشطت بسهولة .....
				٢٠- أشعر أن حالي البدنية (الجسمية) ممتازة .....

## شكراً جزيلاً على تعاونك

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