

# Quality of life of patients on Hemodialysis at King Hussein Medical Center

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## ABSTRACT

**Objective:** Having end-stage renal failure and being commenced on hemodialysis is a factor that affects all aspect of life and inducing decreases quality of life in all aspects. The aim of this study is to assess the quality of life and to determine the factors affecting the quality of life in adult patients receiving regular hemodialysis

**Method:** A cross-sectional descriptive study was conducted in the hemodialysis unit of King Hussein Medical Center. Patients on hemodialysis for a minimum of three months who have no psychiatric sickness and being literate were included in the study during the period extending from February to October 2017. Their quality of life was assessed using Arabic translated "Short Form 36 Quality of Life Scale" (SF-36 Quality of life Scale).

**Results:** A total of 141 patients were included in the study, 131 had an end-stage failure on Hemodialysis and 10 patients had CKD in pre-dialysis status as a control. The patients' quality of life scores was observed to be low. The means and standard deviations for the SF-36 Quality of life for physical functioning (34.92 + 26.28), social functioning (49.25 + 28.28), role-physical (23.47 + 33.22), role-emotional (41.51 + 38.53), emotional well-being (54.024+ 20.74), vitality (43.57 + 21.34), bodily pain (57.50 + 26.16) and general health (44.90 + 19.41). 78 patients (60%) were male. There was no difference in mean subscales score between male and female patients. Patients between 20 -30 had a higher mean in almost all subscales, Education level had no effect on the quality of life of the patients. Quality of life was significantly lower in patients with itching, anemia arthralgia, aches, and sleep problems

**Conclusion:** Quality of life is significantly low in patients on hemodialysis

**Key words:** Chronic kidney disease, Hemodialysis (HD), Quality of life (QOL), The Royal Medical Services of Jordan .

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## Introduction

The World Health Organization defines health as not merely the absence of disease or infirmity, but a state of complete psychical, mental and social well-being.<sup>(1)</sup>

Quality of life has many definitions; one of them as per Hecht and Shiel which defines it as "the patient's ability to enjoy normal life activities" since life quality is strongly related to wellbeing without suffering from sickness and treatment.<sup>(2)</sup>

Using quality of life measures in hemodialysis patient is helpful to ensure that treatment and evaluations focus on the patient rather than the disease, and useful in clinical encounter and in quality improvement.

Screening for hidden problems, facilitating shared clinical decision making and monitoring changes or responses to treatment and using these data to improve patients care.<sup>(3)</sup>

Having ESRF and being on hemodialysis is a condition with high morbidity and mortality and a situation that results in limitations in almost all domains of their daily lives.<sup>(4)</sup> In Jordan; all patients receive hemodialysis in specialized centers and need to visit it with a minimum of three visits weekly for a

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minimum of four hours for each session, most of the HD patients have another comorbidities and depression due to disruption of social, sexual, career life; All these factors affect QoL negatively. We conducted this study to assess the quality of life and to determine the factors affecting the quality of life in adult patients receiving regular hemodialysis

## **Methodology**

This cross-sectional descriptive study was performed in the Dialysis unit of King Hussein Medical Center/ The Royal Medical Services (RMS) of Jordan. The study was approved by RMS ethics committee. A total of 141 patients were included. 131 of them had ESRF and maintained on hemodialysis for a minimum of three months while 10 patients had chronic kidney disease (CKD) and still maintained on medical treatment as a control. The study was conducted over the period extending from February 01 to October 01, 2017.

The inclusions criteria include the patients who have been on hemodialysis (HD) for a minimum of three months with no psychiatric sickness and being literate. The data were collected utilizing Arabic translated "Short Form 36 Quality of Life Scale" (SF-36 Quality of life Scale), to assess their quality of life. The individual data form was outlined as a record of 15 inquiries including sociodemographic background and disease characteristics. The sociodemographic background includes four variables which are age, sex, working status, and education level while 11 domains were aimed at addressing disease factors including disease duration, itching, anemia and others. All the inquiries were multiple choices. The individual data form was made via looking through the literature. The attributes of chronic kidney disease were determined considering the literature (e.g. anemia, itching).

This scale was first created by Ware and Sherbourn<sup>(16)</sup>; it assesses eight health concepts including limitations in physical activities because of health problems; limitations in social activities because of physical or emotional problems; limitations in usual role activities because of physical health problems); bodily pain; general mental health (psychological distress and well-being); limitations in usual role activities because of emotional problems; vitality (energy and fatigue); and general health perceptions

The scale was assessed taking the most recent 4 weeks into account. All items were evaluated on a Likert scale except for the third and the fourth items.

The scores assigned to each category ranged from 0 to 100, where 0 and 100 stood for the lowest and highest quality of life respectively.

The third and fourth Items were yes or no inquiries

A consent was obtained from the participating patients who were educated to the point and strategy for the study. They were additionally informed that they can pull back from the review at whatever time they need and that all individual data will be kept confidential.

The statistical analysis of the data was performed utilizing SPSS23.0 for Windows. The mean, standard deviation, median, percentage distribution of the sample was calculated. The Shapiro-Wilk test was utilized as a part of the request to assess the normal distribution of parameters. The distribution of the SF-36 Quality of life Scale scores was assessed with the Shapiro-Wilk test, which showed that vitality, emotional well-being, and pain subscales scores presented normal distribution. The Student t-test of the difference between the two mean scores was used in the statistical evaluation of the vitality, emotional well-being, and pain subscales scores with the two-category classification; analysis of variance was used in the evaluation with more than two categories. For the statistical analysis of the physical functioning, role limitations due to physical health, role limitations due to emotional health, social functioning, and general health subscales scores, which do not present normal statistical distribution, the Mann-Whitney U test used for measuring two-category classifications and the Kruskal-Wallis test utilized for those with more than two categories. The significance level was chosen as .05 for all tests.

## **Results**

### ***Sociodemographic characteristics and quality of life scores***

The number of male and female participants was 78, 53 respectively. There was no difference in mean subscales score between male and female (Table I). Of all the taking part patients 74% were 42 or older. Patients between 20 and 30 years of age had a higher mean in almost all subscales  $p < .05$ ; (Table I)

Of all the participating patients, 46% were secondary school graduates and 22% university graduates. Education level had no effect on the quality of life of the patients, (Table I). Among our patients 31% were housewives, while retired subclass were 41% of the total study group, with a significant difference in physical function, role physical, and social functioning subscales (Table I).

**Table I:** Sociodemographic characteristics and quality of life scores

Sociodemographic Characteristics			SF-36 QoL subscales M + SD							
	N	%	Physical function	Role physical	Role emotional	vitality	emotional well being	social functioning	pain	general health
Gender										
Male	78	60	35.83 + 26.76	25.00 + 34.19	41.52 + 38.73	45.73 +	54.39 + 21.34	52.75 + 29.53	59.32 +	45.11 + 20.11
Female	53	40	33.58 + 25.75	21.23 + 31.92	41.50 + 38.62	40.39 +	53.48 + 20.00	44.10 + 25.76	54.81 +	44.59 + 18.51
P			.623	.455	.925	0.16	0.805	0.103	0.318	0.951
Age (year)										
20_30	12	9	55.00 + 30.23	45.83 + 39.65	58.33 + 40.51	60.25 +	60.12 + 18.27	66.88 + 25.36	75.00 +	55.83 + 21.51
31_41	22	17	41.59 + 29.94	26.14 + 38.17	34.82 + 37.75	46.59 +	56.39 + 18.61	48.41 + 23.43	55.68 +	50.57 + 20.38
>42	97	74	30.93 + 23.61	20.10 + 30.33	40.95 + 38.28	40.83 +	52.73 + 21.46	47.26 + 29.09	55.74 +	42.26 + 18.35
P			.013	.045	.187	.008	.431	.054	.053	.050
Education level										
Primary school	42	32	29.88 + 23.07	22.62 + 33.50	48.41 + 39.78	40.72 +	53.77 + 22.73	48.04 + 28.21	55.66 +	43.45 + 20.11
Secondary school	60	46	35.67 + 27.56	19.17 + 31.00	36.65 + 38.66	42.38 +	52.72 + 19.43	44.83 + 28.73	55.54 +	44.19 + 20.00
University	29	22	40.69 + 27.41	33.62 + 36.15	41.57 + 36.13	50.67 +	56.71 + 21.04	60.17 + 25.33	64.24 +	48.45 + 17.22
P			.275	.090	.236	.246	.764	.055	.283	.454
Working status										
Housewife	41	31	32.68 + 26.00	15.24 + 27.32	41.45 + 38.57	40.95 +	52.90 + 20.26	39.27 + 24.30	53.48 +	41.90 + 16.70
Civil servant	8	6	63.13 + 25.77	37.50 + 51.76	41.66 + 46.29	47.81 +	55.44 + 23.30	52.19 + 30.07	57.81 +	46.25 + 15.06
Worker	5	4	55.00 + 16.20	15.00 +22.36	33.33 + 47.14	35.60 +	53.80 + 22.66	54.50 + 16.81	85.00 +	49.00 + 24.60
Retired	54	41	31.67 + 25.01	20.37 + 29.17	38.26 + 36.86	42.10 +	50.92 + 21.51	49.70 + 31.08	56.11 +	42.41 +18.22
Self-employed	13	10	40.77 + 29.78	50.00 + 36.80	46.60 + 41.50	54.78 +	64.25 + 14.29	67.50 + 17.17	55.58 +	53.65 + 23.15
Others	10	8	21.50 + 14.54	32.50 + 42.57	56.66 + 38.65	48.28 +	61.10 + 21.60	59.25 + 30.85	70.00 +	56.10 + 27.34
P			.013	.026	.695	.312	.340	.025	.099	.339

### Patients' quality of life scores

The patients' quality of life scores was observed to be low. The means and standard deviations for the SF-36 Quality of life subscales were computed and found to be as following; physical functioning (34.92 + 26.28), social functioning (49.25 + 28.28), role-physical (23.47 + 33.22), role-emotional (41.51 + 38.53), emotional well-being (54.024+ 20.74), vitality (43.57 + 21.34), bodily pain (57.50 + 26.16) and general health (44.90 + 19.41).

### Disease characteristics and quality of life scores

Of all the participants, 35% had CKD V for one to three years; 85% of the patients had associated chronic illness (diabetes mellitus, hypertension, coronary artery disease, congestive heart failure and chronic obstructive pulmonary disease), and 81% had itching. Patients with itching were found to have lower mean Physical function, vitality, social function, and general health subscales score than the ones who had no itching (Table II). Those who had arthralgia and bone pain had lower mean in all subscales score than those who did not, with a significant difference in all subscales ( $p < .05$ ) (Table II). Anemia defined as hemoglobin less than 10 gm/ dl among hem dialysis population<sup>(6)</sup>. Of all patients, 47% of patients had anemia. Patients with anemia had lower mean physical function, emotional well-being, and pain subscales score than those who had no anemia ( $p < .05$ ) (Table II).

**Table II:** Disease characteristics and quality of life scores

Disease characteristics	N	%	SF-36 QoL subscales M + SD							
			Physical function	Role physical	Role emotional	vitality	Emotional well being	social functioning	pain	general health
<b>Disease duration</b>										
3_12 mo	27	21	41.11 + 27.50	28.70 + 35.15	45.68 + 41.50	44.46 + 21.69	53.13 + 21.34	50.46 + 30.96	60.93 + 27.11	44.82 + 17.01
1_3 yr	46	35	35.22 + 26.52	24.46 + 33.95	46.37 + 38.79	45.39 + 21.90	58.13 + 20.87	47.93 + 28.58	56.30 + 28.07	46.61 + 18.46
4_6 yr	29	22	30.00 + 25.36	13.79 + 22.74	28.72 + 34.18	41.29 + 22.27	50.08 + 21.02	54.74 + 24.21	55.17 + 26.63	42.33 + 22.16
> 7 yr	29	22	33.62 + 25.81	26.72 + 38.34	42.72 + 38.50	42.15 + 19.92	52.29 + 19.59	44.73 + 29.46	58.52 + 22.34	44.83 + 20.72
<b>Chronic illness</b>										
Yes	112	85	33.04 + 25.56	21.21 + 30.98	39.33 + 37.97	42.14 + 21.27	53.57 + 21.45	47.41 + 28.61	55.98 + 26.21	44.21 + 19.55
No	19	15	46.05 + 28.36	36.84 + 42.79	54.36 + 40.38	52.00 + 20.27	56.68 + 16.12	60.13 + 24.17	66.45 + 24.67	48.97 + 18.49
P			.069	.121	.148	.062	.547	.076	.121	.312
<b>Itching</b>										
Yes	81	62	28.77 + 23.74	19.75 + 30.55	39.91 + 37.79	38.53 + 21.21	51.85 + 21.47	40.21 + 25.16	55.21 + 26.92	42.41 + 21.02
No	50	38	44.90 + 27.34	29.50 + 36.66	44.11 + 39.96	51.74 + 19.06	57.56 + 19.17	63.90 + 27.11	61.20 + 24.70	48.92 + 15.86
P			.001	.149	.548	.000	.126	.000	.319	.032
<b>Anemia</b>										
Yes	61	47	29.92 + 25.86	20.08 + 31.56	37.15 + 38.05	42.78 + 23.50	49.65 + 21.78	44.95 + 29.75	52.62 + 26.87	42.81 + 19.99
No	70	53	39.29 + 26.03	26.43 + 34.55	45.31 + 38.82	44.26 + 19.13	57.84 + 19.13	53.00 + 26.59	61.75 + 26.59	46.71 + 18.84

P			.030	.206	.167	.693	.024	.094	.043	.183
Arthralgia and bone pain										
Yes	85	65	31.53 + 24.83	17.94 + 30.28	32.54 + 37.43	39.58 +	51.36 + 19.44	42.91 + 26.42	53.00 +	42.31 + 19.17
No	46	35	41.20 + 27.95	33.70 + 36.22	58.09 + 35.23	50.94 +	58.95 + 22.33	60.98 + 28.13	65.82 +	49.67 + 19.13
P			.052	.004	.000	.003	.045	.001	.008	.053

**Characteristics of symptoms and quality of life scores**

Of all patients, 69% expressed that they often had bodily pains due to issues related with the disease, and 66% stated that bodily pains affected their daily lives. Both who had bodily pains and had bodily pains affected their daily lives had lower mean in all eight subscales of the SF-36 scores than who did not (p < .01) (Table III).

Of all patients, 64% expressed that they often had sleep problems, and 60% stated that sleep problems affected their daily lives. Each who had sleep problems and had sleep problems affected their daily lives had lower mean in all eight subscales of the SF-36 scores than who did not (p < .01) (Table III).

Of the entire patients 73% stated that they experienced fatigue. Patients that suffered from fatigue had lower mean in all eight subscales of the SF-36 scores than those who did not (p < .05) (Table III); 70% of these patients stated that fatigue affected their daily lives. The patients who stated that fatigue affected their daily lives were found to have lower mean in all eight subscales of the SF-36 scores than who did not (p < .01) (Table III).

**Table III.** Characteristics of symptoms and quality of life scores

Characteristics of symptoms	N	%	SF-36 QoL subscales M + SD							
			Physical function	Role physical	Role emotional	energy/fatigue	emotional well being	social functioning	pain	general health
Experiencing pain										
Yes	90	69	31.17 +	16.67 +	36.65 + 37.07	38.56 +	51.65 + 20.35	40.86 + 25.90	53.61 +	41.08 + 18.74
No	41	31	24.00 +	29.27 +	52.17 + 40.00	20.67 +	59.24 + 20.86	67.68 + 24.50	25.39 +	53.27 + 18.40
P			.026	.000	.033	.000	.051	.000	.009	.000
Bodily pains affected daily living										
Affected	87	66	28.45 +	13.51 +	36.39 + 35.81	37.65 +	51.44 + 21.25	38.62 + 23.29	52.15 + 24.52	41.01 + 18.23
No Affected	44	34	22.69 +	26.36 +	51.64 + 42.03	20.41 +	59.14 + 18.88	70.28 + 25.54	68.06 + 26.35	52.60 + 19.57
P			.000	.000	.043	.000	.044	.000	.000	.001
Experiencing _ sleep problems										
Yes	84	64	28.10 +	13.99 +	38.08 + 37.00	38.14 +	51.60 + 20.81	41.54 + 25.32	54.40 + 26.29	40.99 + 17.91
No	47	36	22.48 +	23.72 +	47.64 + 40.83	20.32 +	58.35 + 20.09	63.03 + 28.30	63.03 + 25.27	51.87 + 20.20
P			.000	.000	.145	.000	.074	.000	.088	.002
Sleep problems affected daily living										
Affected	76	60	27.24	12.82	32.89 +	37.92	48.46 +	39.64 +	50.61 +	38.62 + 16.31

	8		+	+	35.82	+	19.09	24.76	24.46	
			22.43	23.06		19.76				
No	5	40	46.23	39.15	54.20 +	51.90	62.22 +	63.40 +	67.64 +	54.13 + 20.05
Affected	3		+	+	39.20	+	20.51	27.37	25.47	
			27.61	39.38		21.02				
P			.000	.000	.001	.000	.000	.000	.000	.000
			Experiencing fatigue							
Yes	9	73	29.84	16.58	34.02 +	39.07	49.99 +	43.79 +	53.23 +	40.92 + 17.39
	5		+	+	35.71	+	19.25	27.24	25.20	
			25.14	27.19		20.52				
No	3	27	48.33	41.67	61.27 +	55.44	64.68 +	63.68 +	68.75 +	55.39 + 20.75
	6		+	+	39.19	+	20.98	26.12	25.62	
			24.73	40.53		18.80				
P			.000	.000	.000	.000	.000	.001	.002	.000
			Fatigue affected daily living							
Affected	9	70	29.29	15.22	34.41 +	38.39	49.77 +	43.31 +	52.39 +	40.63 + 16.79
	2		+	+	36.46	+	18.92	27.51	24.94	
			23.91	26.72		20.38				
No	3	30	48.21	42.95	58.26 +	55.79	64.06 +	63.27 +	69.55 +	54.97 + 21.56
Affected	9		+	+	38.56	+	21.59	25.24	25.29	
			27.11	38.88		18.56				
P			.000	.000	.001	.000	.000	.000	.000	.000

## Discussion

This study seems to be the first one in Jordan to assess the QOL in Hemodialysis patients; the results of the study provide support that hemodialysis comprises the quality of life in generic physical component and mental component.

End-stage renal disease patients must cope with many adversities, like physical symptoms, special diet schedules, changes in their body image.<sup>(6)</sup>

The results of the present study showed that the overall quality of life was low in all domains

Low quality of life is not affected by gender both male and female; it affects all domains of life

We divided the patients according to age into 3 groups 20-30, 31-41, and more than 42, the patients above the age of 42 have especially low quality in 4 domains as shown in (Table 1).

Low quality of life is not affected by the level of education, and by the working status.

Although findings from other studies concentrating on sociodemographic variables provide evidence that sociodemographic as being female, older, less educated and divorced/widowed, relate to a more compromised QoL<sup>(7)</sup>. The quality of life is low any time after starting hemodialysis. Itching is causing a low quality of life in all the domains and significantly affecting physical function and social function. Since chronic pruritus is usually not manageable to medications, it can result in a weakening course, including the development of symptoms of depression, global distress, and insomnia.<sup>(8)</sup> While having anemia as a complication of ESRF decreases QoL and affecting social function and emotional wellbeing status. Anemia has been shown to have an adverse impact on health-related quality of life (QOL). Fatigue is the principal symptom of anemia, but other associated symptoms (eg, headache, depression, cognitive impairment) adversely affect patients' quality of life as well. Health-related quality of life is reduced through the weaken social interaction.<sup>(9)</sup>

Pain in general and fatigue affecting the daily activity, and arthralgia and bone pains specifically. Sleep disturbances affect significantly QOL which has been reported in another different study.<sup>(10)</sup> Poor sleep quality influences numerous hemodialysis patients and can conceivably anticipate their morbidity, mortality, quality of life and pattern of medication use. Assessment and management of sleep quality should be an important component of care-giving to these patients. Like the general population, increased stress, anxiety, depression and worry are related to poor sleep quality in dialysis patients.<sup>(11)</sup> Poor sleep is itself a predictor of mortality and QoL<sup>(12)</sup> improvements in sleep apnea occurs after starting nocturnal HD and hence improvement in QOL<sup>(13)</sup>

## Conclusion

Quality of life is decreased in patients on hemodialysis both from the symptoms of ESRD itself and from the physical and mental burden of dialysis treatment, especially in patients whose ESRF is not optimally controlled in regard of anemia Itching and sleep disturbances.

Furthermore; the care of social aspect is very important and providing psychosocial counseling is mandatory and part of care for hemodialysis patient in addition to medical care

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## الاستبيان

الاسم:

الرقم الطبي:

الرجاء الاجابة على الاسئلة القادمة كاملة و بشكل دقيق  
الصحة العامة

1. بشكل عام هل صحتك
- ممتازة
  - جيدة جدا
  - جيدة
  - مقبولة
  - سيئة

2. مقارنة بالعام الماضي و بشكل عام هل صحتك
- أفضل بكثير من العام الماضي
  - افضل نوعا ما من العام الماضي
  - نفس الشيء و لا تغيير
  - نوعا ما اسوء من العام الماضي
  - اسوء بكثير من العام الماضي

### محدودية الأنشطة

النقاط التالية حول الأنشطة التي يمكنك القيام بها خلال اليوم العادي. هل صحتك الآن تعيق من هذه الأنشطة؟ إذا كان الأمر كذلك، كم؟

3. الأنشطة الشاقة، مثل الجري وفعلا أشياء الثقيلة، و المشاركتها في الألعاب الرياضية الشاقة
- نعم تعيق كثيرا
  - نعم تعيق قليلا
  - لا تعيق ابدا

4. الأنشطة المعتدلة، مثل تحريك الطاولة، و دفع المكنسة الكهربائية، البولينج، أو لعب الغولف
- نعم تعيق كثيرا
  - نعم تعيق قليلا
  - لا تعيق ابدا

5. رفع أو حمل مشتريات السوق
- نعم تعيق كثيرا
  - نعم تعيق قليلا
  - لا تعيق ابدا

6. صعود عدة طوابق من الدرج
- نعم تعيق كثيرا
  - نعم تعيق قليلا
  - لا تعيق ابدا

7. صعود طابق واحد من الدرج



- نعم تعيق كثيرا
- نعم تعيق قليلا
- لا تعيق ابدا

8. الانحناء و الركوع

- نعم تعيق كثيرا
- نعم تعيق قليلا
- لا تعيق ابدا

9. المشي لمسافة كيلو متر واحد

- نعم تعيق كثيرا
- نعم تعيق قليلا
- لا تعيق ابدا

10. المشي لعدة مئات من الامتار

- نعم تعيق كثيرا
- نعم تعيق قليلا
- لا تعيق ابدا

11. السير لمسافة 100 متر

- نعم تعيق كثيرا
- نعم تعيق قليلا
- لا تعيق ابدا

12. الاستحمام و لبس الملابس بنفسك

- نعم تعيق كثيرا
- نعم تعيق قليلا
- لا تعيق ابدا

**مشاكل الصحة الجسدية**

13. خلال الاربع اسابيع الماضية هل عانيت من مشاكل في عملك او الانشطة اليومية نتيجة مشاكل جسدية  
تقليل مقدار الوقت الذي تقضيه في العمل او الانشطة الاخرى نتيجة المشاكل الجسدية

- نعم
- لا

14. مقدار الانجاز اقل مما تريد نتيجة المشاكل الجسدية

- نعم
- لا

15. كنت عاجز خلال العمل او الانشطة الاخرى نتيجة المشاكل الجسدية

- نعم
- لا

16. هناك صعوبة في اداء العمل او الانشطة الاخرى نتيجة المشاكل الجسدية

- نعم
- لا

**مشاكل الصحة العاطفية**

17. خلال الاربع اسابيع الماضية هل عانيت من مشاكل في عملك او الانشطة اليومية نتيجة مشاكل عاطفية كالإحباط او التوتر  
تقليل مقدار الوقت الذي تقضيه في العمل او الانشطة الاخرى نتيجة المشاكل العاطفية

- نعم
- لا

18. مقدار الانجاز اقل مما تريد

- نعم
- لا

19. لمتقو مبعلكأو غير همنا الأنشطة بعناية كما هو معتاد نتيجة المشاكال لعاطفية

- نعم
- لا

### النشاط الاجتماعي

20. هل تؤثر المشاكال لعاطفية علنا الأنشطة الاجتماعية العادية مع الأسرة و الأصدقاء و الجيران، أو الجماعات؟

- لا تؤثر
- قليلا
- بشكل متوسط
- بشكل كبير
- بشكل كبير جدا

### الألم

21. كم كان الألم الجسدي خلال الاربع اسابيع الماضية؟

- لا يوجد ألم
- بشكل قليل جدا
- بشكل قليل
- بشكل متوسط
- بشكل شديد
- بشكل شديد جدا

22. خلا لالأسابيع الاربعة الماضية، كم أثر الألم علنعلك العاديا لخاصبك (بما في ذلك العمل خارج المنزل و الاعمال المنزلية)؟

- لم يؤثر
- أثر قليلا
- أثر بشكل متوسط
- أثر بشكل لا بأس به
- أثر بشدة

### الطاقة و العاطفة

هذه الأسئلة هي حول كيف كنت تشعر وكيف كانت تفسر الامور معك خلا لالاربعة أسابيع الماضية. لكلسؤال، يربجبا إعطاء الجواب بالذي هو أقر بالطريقة التي تتما لشعور

23. هل كنت تشعر بالانتعاش و الحيوية

- كل الوقت
- معظم الوقت
- بنسبة جيدة من الوقت
- بعض الوقت
- قليلا من الوقت
- لم أشعر طول الوقت

24. هل كنت عصبي بشدة

- كل الوقت

- معظم الوقت
  - بنسبة جيدة من الوقت
  - قليلا من الوقت
  - لم أشعر طول الوقت
25. هل شعرت بالإحباط و انه ليس هناك شيء قد يسبب لك البهجة
- كل الوقت
  - معظم الوقت
  - بنسبة جيدة من الوقت
  - بعض الوقت
  - قليلا من الوقت
  - لم أشعر طول الوقت
26. هل شعرت بالهدوء و الامان
- طول الوقت
  - معظم الوقت
  - بنسبة جيدة من الوقت
  - قليلا من الوقت
  - لم أشعر طول الوقت
27. هل شعرت بالكثير من الطاقة
- طول الوقت
  - معظم الوقت
  - بنسبة جيدة من الوقت
  - قليلا من الوقت
  - لم أشعر طول الوقت
28. هل شعرت بالاكئاب
- طول الوقت
  - معظم الوقت
  - بنسبة جيدة من الوقت
  - قليلا من الوقت
  - لم أشعر طول الوقت
29. هل شعرت بالإرهاق
- طول الوقت
  - معظم الوقت
  - بنسبة جيدة من الوقت
  - قليلا من الوقت
  - لم أشعر طول الوقت
30. هل كنت انسان سعيد
- طول الوقت
  - معظم الوقت
  - بنسبة جيدة من الوقت
  - قليلا من الوقت
  - لم أشعر طول الوقت
31. هل شعرت بالتعب
- طول الوقت

- معظم الوقت
- بنسبة جيدة من الوقت
- قليلا من الوقت
- لم أشعر طول الوقت

### النشاطات الاجتماعية

32. خلال الاربعة اسابيع الماضية كم اثرت صحتك الجسدية و المشاكل العاطفية على نشاطاتك الاجتماعية مثل زيارة الاصدقاء و الاقارب

- كل الوقت
- معظم الوقت
- بعض الوقت
- قليلا من الوقت
- لم تؤثر

### الصحة العامة

33. أجب بمقدار "الصح" او "الخطأ" على العبارات التالية  
يبدو لي اني يمكن أن أمرض بشكل أسهل من كل الناس الاخرين

- قطعاً صحيح
- غالباً صحيح
- لا اعرف
- غالباً خطأ
- قطعاً خطأ

34. انا بصحة جيدة مثل اي شخص اعرفه

- قطعاً صحيح
- غالباً صحيح
- لا اعرف
- غالباً خطأ
- قطعاً خطأ

35. اتوقع أن تسوء صحتي

- قطعاً صحيح
- غالباً صحيح
- لا اعرف
- غالباً خطأ
- قطعاً خطأ

36. صحتي ممتازة

- قطعاً صحيح
- غالباً صحيح
- لا اعرف
- غالباً خطأ
- قطعاً خطأ