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Quality of Life Related to Surgical Treatment in Patients with Temporal Lobe Epilepsy Due to Mesial Temporal Sclerosis

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ABSTRACT

Introduction: Surgery is widely accepted as a modality of treatment for medically intractable seizures and the main goals of surgery as reduction or elimination of seizures without significant compromise in neurological function and improving QOL. **Purpose:** To assess QOL pre- and post-surgery in a sample of patients with temporal lobe epilepsy (TLE) due to mesial temporal sclerosis (MTS). **Methods:** Thirty-five consenting subjects who had undergone corticoamygdalo-hipocampectomy were included in this study. They answered the ESI-55 before and six months after surgical treatment. Analyses of Variance (ANOVA) was used to study the changes in QOL and we also determined the effect-size of the sample. **Results:** After surgical treatment 18 (51%) subjects were seizure free, 10 (29%) had only auras and seven (20%) had partial seizures. The post-operative mean scores were higher than pre-operative scores, except for Cognitive Function and Limitation due to Cognitive Problems in the group with seizures. A significant improvement in QOL post-surgery was observed in the domains *Health-Perception* (1.24), *Emotional-Well-being* (1.32) and *Energy/Fatigue* (1.43). **Conclusion:** A long-term follow-up is necessary to identify meaningful changes after the surgery.

Key words: temporal lobe epilepsy, surgical treatment, quality of life, Epilepsy Surgery Inventory (ESI-55).

RESUMO

Qualidade de vida após o procedimento cirúrgico em pacientes com epilepsia do lobo temporal com esclerose hipocampal

Introdução: A possibilidade cirúrgica é amplamente reconhecida como uma modalidade de tratamento no caso da presença de crises epiléticas refratárias à terapêutica medicamentosa. O objetivo maior da cirurgia é a redução ou eliminação completa das crises, sem comprometer significativamente o funcionamento cognitivo, além de melhorar a qualidade de vida (QV). **Objetivo:** Avaliar a QV em uma amostra de indivíduos com epilepsia do lobo temporal com esclerose do hipocampo antes e seis meses após o procedimento cirúrgico. **Metodologia:** Trinta e cinco pacientes submetidos à corticoamigdalo-hipocampectomia e que consentiram em participar do estudo submetido e aprovado pelo Comitê de Ética da UNIFESP fizeram parte desta série. O ESI-55 foi respondido antes e seis meses após o procedimento cirúrgico. A análise estatística constou da análise da variância (ANOVA) e do efeito de tamanho da amostra para determinar as mudanças

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ocorridas na qualidade de vida após a intervenção cirúrgica. **Resultados:** Seis meses após o tratamento cirúrgico 18 (51%) pacientes ficaram sem crises, 10 (29%) tiveram auras esporádicas e sete (20%) continuaram apresentando crises pouco frequentes. A média dos escores do ESI-55 foi maior nos três grupos (sem crises, auras e crises), em todos os domínios após a cirurgia, com exceção das subescalas Funcionamento Cognitivo e Limitação por Problemas Cognitivos no grupo com crises. Uma melhora estatisticamente significativa após a cirurgia foi observada nos domínios *Estado Geral de Saúde* (1.24), *Bem-estar Emocional* (1.32) e *Energia/Fadiga* (1.43). **Conclusão:** Embora aos seis meses já sejam verificadas algumas mudanças na qualidade de vida, avaliações periódicas anuais são fundamentais para o entendimento da extensão das modificações na QV após a cirurgia.

Unitermos: epilepsia do lobo temporal, tratamento cirúrgico, Epilepsy Surgery Inventory (ESI-55), qualidade de vida.

INTRODUCTION

It is established that chronic refractory epilepsy may have serious implications for social and psychosocial well-being and its impact on quality of life (QOL) is well documented^(2,11,14,21). Although seizures may be the primary problem in epilepsy, they generate secondary problems in both psychic and behavior of the patients and their families. Surgery is widely accepted as a modality of treatment for medically intractable seizures. It should, if successful, secondarily alleviate some of the psychosocial problems arising from seizures⁽¹⁸⁾.

Epilepsy surgery has been effective in reducing and eliminating seizure activity in patients with medically intractable seizure disorders⁽¹²⁾. Success rates vary according to epileptic focus and surgery programs, but in most of them it is estimated that as many as 70-75% of carefully selected surgery candidates will experience complete elimination of seizures post-operatively⁽⁸⁾. This success has traditionally been determined by focusing on four broad areas: 1. measurement of post-operative changes in seizure-related variables such as type, frequency, and severity of seizures; 2. the amount and number of antiepileptic drugs needed post-operatively; 3. assessment of surgical morbidity and mortality, and 4. changes in the formal neuropsychological evaluation after surgery⁽¹⁴⁾.

Spencer⁽²⁰⁾ identified the main goals of surgery as reduction or elimination of seizures without significant compromise in neurological function and improving QOL. However, some studies report a poor correlation between seizure suppression and psychosocial adjustment^(15,17). Even if the seizures are eliminated, the patient needs to discard roles associated with chronic seizures and to learn to continue their lives for successful adjustment. This highly complex process demands a re-conceptualization of the patient's identity from chronically ill to "cured" and it has been defined as a syndrome comprising psychological, affective, behavioral, and social features as clinical manifestations⁽²⁶⁾.

It is necessary to examine the long-term outcomes of surgery for several reasons. First, long-term investigation is needed to clarify the relationship between post-surgical medical and psychosocial changes⁽¹⁶⁾. There is no agreed follow-up period for assessment QOL post-surgery. Researches have chosen periods as diverse as three months, six months, one, two, and four years⁽²⁾, and other unresolved methodological issue include what percentage of seizure reduction is the most appropriate outcome measure⁽¹⁹⁾.

Thus, a number of QOL measures have been used and this diversity of instruments makes intra-study comparisons difficult. QOL instruments used have included the Epilepsy Surgery Inventory (ESI-55)⁽²⁴⁾, the Quality of Life in Epilepsy (QOLIE-89)⁽⁶⁾ and the Washington Psychosocial Seizure Inventory (WPSI)⁽⁷⁾. Among them, the ESI-55 is the only validated instrument to Brazilian epileptic population⁽¹⁾.

This study aimed to assessing QOL pre- and post-surgery in a sample of patients with temporal lobe epilepsy (TLE) due to mesial temporal sclerosis (MTS).

METHODS

1. Data collection

Thirty-five consenting subjects who had undergone corticoamygdalo-hipocampetomy were included in this study. All the patients were older than 18, presenting refractory seizures and unilateral MTS. Those who had the Intelligence Quotient (IQ) less than 70, a concomitant co-morbidity likely to affect the state of health, and incapable of responding the ESI-55, were excluded.

All the subjects had answered the ESI-55 before and six months after surgical treatment.

The instrument ESI-55 was constructed from a review of the literature and the Medical Outcomes Study Health-Survey Short-Form 36 (SF-36) serves as its generic core. SF-36 validation has been done for the Brazilian population. Adding 19 additional items to the SF-36 that

tap relevant aspects of QOL to patients with epilepsy yielded a total of 55 items: 54 measuring 11 dimensions of HRQOL and one item measuring change in health status. One specific item asks subjects to compare their present health with that of one-year ago. The dimensions which compose the ESI-55 are: Health Perception (9 items); Physical Functioning (10 items); Pain (2 items); Role Limitations due to Physical Problems (5 items); Role Limitations due to Emotional Problems (5 items); Social Function (2 items); Energy/Fatigue (4 items); Emotional Well-being (5 items); Cognitive Function (5 items); Role Limitations due to Memory Problems (5 items) and Overall Quality of Life (2 items). The scoring procedure for ESI-55 converts the raw pre-coded numeric values of items to 0-100 scores. Higher scores always reflect better QOL. The scores were obtained by using the original manual given to us by the author to conduct this study.

In a semi-structured interview before the surgery, the patients were asked to identify the major impact of seizures in four areas: employment, relationships, emotional status, and independence to execute daily activities. The demographic data, medical history, and clinical characteristics of epilepsy were documented.

2. Statistical analyses

The post-operative seizure outcome, as defined by Engel's classification system⁽²⁵⁾, was determined for each patient. The subjects were divided into three groups according to seizure frequency after surgery (seizure free, having auras and having seizures). The comparison of ESI-55 scores before and six months after epilepsy surgery assessed QOL.

The Analyses of Variance (ANOVA) with a fixed factor (seizure frequency after surgery) was used to study the changes in QOL. We also determined the effect-size of the sample. The effect-size (mean change in scores from before surgery to follow-up/standard deviation – SD of preoperative score) was interpreted using the Cohen⁽⁴⁾ standard of greater than 0.20 for small effects, greater than

0.50 for moderate effects, and greater >0.80 for large effects.

RESULTS

The thirty-five subjects, 22 (63%) women and 13 men (37%), had a mean age of 36 and 25 years of epilepsy duration. Twenty subjects (57%) had attended elementary school, 14 (40%) secondary school, and one (3%) higher education.

Before the surgery, 13 (37%) were employed full-time, 13 (37%) were retired or receiving ill-health benefits, eight (23%) had never worked, and one (3%) was unemployed. With respect to impact of seizures, 13 (37%) described having problems getting and keeping a job, 10 (29%) described emotional problems like depression, sadness, anxiety, and nervousness, seven (20%) mentioned difficulties with relationships, and five (14%) described dependence on others to do daily activities.

In this series, the status of seizures before the surgery showed that all the patients had partial seizures, which in nine (26%) evolved to secondarily generalized seizures. In the pre-operative seizures frequency, 23 (66%) had more than five seizures/month and 12 (34%) 2-5 per month. Twenty-one (60%) subjects had left MTS, and 14 (40%) had right.

After surgical treatment 18 (51%) subjects were seizure free, 10 (29%) had only auras and seven (20%) had partial seizures. The mean scores of the ESI-55 according to seizure frequency are shown in Table 1. The post-operative mean scores were higher than pre-operative scores, except for Cognitive Function and Limitation due to Cognitive Problems, which were lower in the group with seizures.

A significant improvement in QOL post-surgery was observed in the domains *Health-Perception* (1.24), *Emotional-Well-being* (1.32) and *Energy/Fatigue* (1.43) as summarized in Table 2. Thus, these results will be examined carefully because of the large confidence intervals.

Table 1. Means, SD and the difference of periods of the ESI-55 domains

Variable	Period	Seizure free (n=18)	Auras (n=10)	Seizures (n=7)
Physical Function	Before	82,8 (SD=25,2)	92,0 (SD=7,5)	85,7 (SD=19,0)
	After	93,6 (SD=8,7)	89,5 (SD=7,6)	84,3 (SD=22,6)
	After - Before	10,8 (SD=20,2)	-2,5 (SD=9,2)	-1,4 (SD=6,3)
Role Limitations due to Physical Problems	Before	73,3 (SD=38,2)	64,0 (SD=42,0)	54,3 (SD=34,1)
	After	81,1 (SD=31,8)	90,0 (SD=17,0)	57,1 (SD=40,7)
	After - Before	7,8 (SD=37,7)	26,0 (SD=47,2)	2,9 (SD=55,9)
Pain	Before	61,8 (SD=24,3)	70,9 (SD=24,5)	45,3 (SD=17,2)
	After	75,7 (SD=23,1)	67,7 (SD=30,0)	53,9 (SD=27,8)
	After - Before	13,9 (SD=26,2)	-3,2 (SD=31,7)	8,6 (SD=18,5)

(cont.)

Table 1. Means, SD and the difference of periods of the ESI-55 domains

(conclusion)

Variable	Period	Seizure free (n=18)	Auras (n=10)	Seizures (n=7)
Role Limitations due to Emotional Problems	Before	72,2 (SD=36,4)	52,0 (SD=40,2)	31,4 (SD=36,3)
	After	94,4 (SD=16,5)	88,0 (SD=21,5)	65,7 (SD=39,5)
	After - Before	22,2 (SD=43,9)	36,0 (SD=35,0)	34,3 (SD=27,6)
Health Perception	Before	57,9 (SD=23,3)	53,6 (SD=24,3)	44,0 (SD=12,9)
	After	87,8 (SD=11,7)	75,8 (SD=21,1)	60,1 (SD=9,8)
	After - Before	29,9 (SD=27,7)	22,2 (SD=25,9)	16,1 (SD=8,6)
Social Function	Before	66,9 (SD=31,0)	57,8 (SD=31,8)	54,1 (SD=20,9)
	After	86,4 (SD=21,8)	79,6 (SD=27,8)	80,6 (SD=15,4)
	After - Before	19,5 (SD=27,0)	21,8 (SD=31,9)	26,4 (SD=34,2)
Cognitive Function	Before	61,8 (SD=25,2)	56,9 (SD=27,9)	50,7 (SD=27,2)
	After	80,8 (SD=16,8)	56,7 (SD=27,5)	45,7 (SD=10,7)
	After - Before	18,9 (SD=26,5)	-0,2 (SD=24,5)	-5,0 (SD=25,0)
Role Limitations due to Cognitive Problems	Before	75,6 (SD=37,9)	64,0 (SD=43,0)	51,4 (SD=30,2)
	After	91,1 (SD=26,8)	62,0 (SD=43,7)	34,3 (SD=32,1)
	After - Before	15,6 (SD=51,1)	-2,0 (SD=33,3)	-17,1 (SD=45,4)
Mental Well-being	Before	55,1 (SD=25,8)	57,2 (SD=28,4)	46,3 (SD=18,6)
	After	84,2 (SD=12,3)	67,2 (SD=22,6)	65,7 (SD=12,4)
	After - Before	29,1 (SD=27,3)	10,0 (SD=19,2)	19,4 (SD=12,9)
Energy/Fatigue	Before	59,4 (SD=25,4)	55,0 (SD=28,0)	50,0 (SD=15,8)
	After	85,0 (SD=17,7)	68,0 (SD=18,4)	66,4 (SD=26,4)
	After - Before	25,6 (SD=27,7)	13,0 (SD=29,8)	16,4 (SD=23,9)
Overall Quality of Life	Before	61,2 (SD=15,3)	56,8 (SD=15,1)	49,0 (SD=16,4)
	After	83,1 (SD=17,2)	65,4 (SD=13,8)	54,0 (SD=15,9)
	After - Before	21,9 (SD=22,4)	8,6 (SD=20,3)	5,0 (SD=19,4)

Table 2. Effect of change in QOL by comparing the means before and after surgery^a

Scales	Effect size – (post-op score – pre-op score)/SD of pre-op score		
	Seizure free	Auras	Seizures
Physical Function	0,53 (-0,05 ; 1,11)	-0,12 (-0,90 ; 0,65)	-0,07 (-1,00 ; 0,86)
Role Limitation due to Physical Problems	0,62 (-2,02 ; 3,26)	2,07 (-1,47 ; 5,62)	0,23 (-4,00 ; 4,46)
Pain	0,36 (-0,16 ; 0,88)	-0,08 (-0,78 ; 0,62)	0,22 (-0,61 ; 1,06)
Role Limitation due to Emotional Problems	0,70 (-0,21 ; 1,61)	1,13 (-0,09 ; 2,36)	1,08 (-0,38 ; 2,54)
Health Perception	1,24 (0,47 ; 2,00)*	0,92 (-0,10 ; 1,94)	0,67 (-0,55 ; 1,89)
Social Function	0,73 (-0,10 ; 1,57)	0,82 (-0,30 ; 1,94)	0,99 (-0,35 ; 2,33)
Cognitive Function	0,48 (-0,01 ; 0,96)	-0,01 (-0,65 ; 0,64)	-0,13 (-0,90 ; 0,65)
Role Limitation due to Cognitive Problems	0,61 (-0,72 ; 1,94)	-0,08 (-1,86 ; 1,70)	-0,67 (-2,80 ; 1,46)
Mental Well-being	1,32 (0,54 ; 2,10)*	0,45 (-0,59 ; 1,50)	0,88 (-0,37 ; 2,13)
Energy/Fatigue	1,43 (0,28 ; 2,58)*	0,73 (-0,82 ; 2,27)	0,92 (-0,93 ; 2,76)
Overall Quality of Life	0,75 (0,21 ; 1,29)	0,29 (-0,43 ; 1,02)	0,17 (-0,70 ; 1,04)

^a Means of the original variables divided by the SD, with 99.83% confidence intervals in parentheses.

* Marked improvement in QOL post-surgery.

DISCUSSION

The seizure-free patients in our sample showed better QOL than the other groups (those with auras and seizures), which is largely supported by previous studies^(3,10). Seizure control, which usually occurs after temporal lobectomy, is associated with a favorable HRQOL outcome. The patients who do not experience a reduction in seizure frequency following either surgical or medical treatment are susceptible to some deterioration in HRQOL^(13,23).

Our results suggested that improvements in QOL at six months after the surgery were observed in three of the ESI-55 domains: *Health Perception*, *Mental-Well-being* and *Energy/Fatigue*. Among individual ESI-55 scales, the nine-item Health Perception Scale was previously shown to have the greatest sensitivity in discriminating across patients with known differences in seizure types and frequency⁽²⁴⁾. This scale measure how much the patient feels sick or healthy. The better score in this domain after the surgery may indicate that, relief from seizures leads to changes in the health perception, and the possibility of discard roles associated with chronic illness.

Mood and emotional status are important to investigate, particularly in temporal lobe epilepsy because depression is common in these patients and associating with poor QOL scores⁽⁵⁾. Mental Well-being and Energy/Fatigue domains were correlated with several screening instruments to assess depressed mood and mental health is the most sensitive scale of HRQOL⁽²³⁾. Improvements in the scales Mental Well-being and Energy/Fatigue post-surgical treatment, in our sample, may reflect an increase in psychological status.

In this study all mean scores on the ESI-55 after surgery were higher than in pre- surgical evaluation, except for *Cognitive Function* and *Limitation due to Memory Problems*. Successful surgery can stop mental decline due to chronic epilepsy and it can reverse this negative trend by releasing of functions and capacities that were secondarily affected before surgery. However, surgery bears the risk of additional impairments, which, in interaction with normal and even pathological process of mental aging, may accelerate cognitive decline in older age. From a neuropsychological point of view, early recognition of pharmacoresistance is important with early and complete seizure control with maximal sparing of functional tissues⁽⁹⁾. The mean age of the subjects in this series was 36 years, which could contribute to the perception of impairment in the cognitive performance post-surgery. However, this conclusion needs a larger follow-up and a neuropsychological evaluation to confirm these results.

Our results also suggest that better QOL was associated with better seizure outcome, although no

statistical difference was observed between the seizure free group and those of patients with auras and rare seizures.

A number of recent studies have assessed HRQOL pre- and post- surgical treatment, nevertheless several methodological issues remain unclear.

First, there is no simple relationship between seizure severity, seizure frequency and the consequences of epilepsy, and it has been debated whether a reduction in seizures leads to an improvement in HRQOL. Secondly, the samples studied are not homogeneous which make the comparison of the results difficult.

Third, there is controversy in the studies about the intervals in which QOL should be measured after surgery and which would be the better QOL instrument to assess responsiveness to changes. Large and uniformly studies with prospective cohort, will be critical in defining the extent and overall impact of epilepsy surgery⁽²¹⁾.

Finally, the major limitation of our study is that long-term outcomes are necessary to show surgical medical and psychosocial changes. McLachlan and colleagues⁽¹³⁾ studied time contingent effects on social function, cognitive function, energy and fatigue, and overall HRQOL, stating that changes might not be evident until at least two years post-surgery. Markand and colleagues⁽¹⁴⁾ found that improvements in overall HRQOL, emotional well-being, attention/concentration, language, and social isolation were more pronounced after 2-years of follow-up. Other studies have documented specific areas that are slow to change. Spearling and colleagues⁽²²⁾ identified that improvements in vocational status took as long as six years to occur.

Further studies with a long follow-up, a patterned methodology and specific epilepsy instruments of QOL are needed to determine the meaningful changes occurring after surgical treatment.

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ANEXO

INVENTÁRIO PARA AVALIAÇÃO DA QUALIDADE DE VIDA NO TRATAMENTO CIRÚRGICO DAS EPILEPSIAS

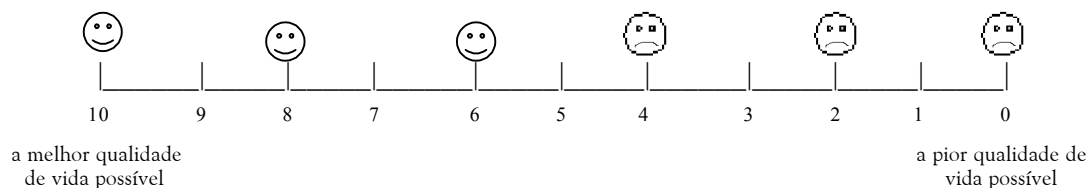
EPILEPSY SURGERY INVENTORY (ESI-55)

INSTRUÇÕES: Esta pesquisa questiona você sobre sua saúde. Estas informações nos manterão informados de como você se sente e quão bem você é capaz de fazer suas atividades de vida diária. Responda cada questão marcando a resposta como indicado. Caso você esteja inseguro ou em dúvida em como responder, por favor tente responder o melhor que puder.

1. Em geral, você diria que sua saúde é: (Circule um número)

Excelente	Muito Boa	Boa	Ruim	Muito ruim
1	2	3	4	5

2. De maneira geral, como você classifica sua qualidade de vida? (Circule um número na escala)



3. Comparada a um ano atrás, como você classifica sua saúde em geral, agora? (Circule um número)

Muito melhor	Um pouco melhor	Quase a mesma	Um pouco pior	Muito pior
1	2	3	4	5

4-13. Os seguintes itens são sobre atividades que você poderia fazer atualmente durante um dia comum. Devido a sua saúde, você teria dificuldade para fazer essas atividades? Neste caso, quanto? (Circule um número em cada linha)

Atividades	Sim. Dificulta muito	Sim. Dificulta um pouco	Não. Não dificulta de modo algum
4. Atividades vigorosas , que exigem muito esforço, tais como correr, levantar objetos pesados, participar em esportes árduos	1	2	3
5. Atividades moderadas , tais como mover uma mesa, passar aspirador de pó, jogar bola, varrer a casa	1	2	3
6. Levantar ou carregar mantimentos	1	2	3
7. Subir vários lances da escada	1	2	3
8. Subir um lance de escada	1	2	3
9. Curvar-se, ajoelhar-se ou dobrar-se	1	2	3
10. Andar mais de 1 quilômetro	1	2	3
11. Andar vários quarteirões	1	2	3
12. Andar um quarteirão	1	2	3
13. Tomar banho ou vestir-se	1	2	3

14-18. Durante as **últimas 4 semanas**, você teve algum dos seguintes problemas com o seu trabalho ou com alguma atividade diária regular, devido a sua saúde física? (Circule um número em cada linha)

Atividades	Sim	Não
14. Você diminuiu a quantidade de tempo que dedicou ao seu trabalho ou a outras atividades?	1	2
15. Realizou menos tarefas do que você gostaria?	1	2
16. Esteve limitado no seu tipo de trabalho ou em outras atividades?	1	2
17. Teve dificuldade de fazer seu trabalho ou outras atividades (p. ex.: necessitou de um esforço extra?)	1	2
18. Trabalhou ou realizou outras atividades com menos cuidado do que geralmente faz?	1	2

19-23. Durante as **últimas 4 semanas**, você teve algum dos seguintes problemas com o seu trabalho ou outra atividade regular diária, devido a **algum problema emocional** (Como sentir-se **deprimido** ou **ansioso**)? (Circule um número em cada linha)

Atividades	Sim	Não
19. Você diminuiu a quantidade de tempo que dedicou ao seu trabalho ou a outras atividades?	1	2
20. Realizou menos tarefas do que você gostaria?	1	2
21. Esteve limitado no seu tipo de trabalho ou em outras atividades?	1	2
22. Teve dificuldade em realizar seu trabalho ou outras atividades?	1	2
23. Trabalhou ou realizou outras atividades com menos cuidado do que geralmente faz?	1	2

24. Durante as **últimas 4 semanas**, de que maneira sua **saúde física** ou **problemas emocionais** interferiram nas suas atividades sociais normais, com a família, vizinhos, amigos ou em grupo? (Circule um número)

De forma nenhuma	Ligeiramente	Moderadamente	Bastante	Extremamente
1	2	3	4	5

25-33. Estas questões são sobre **como você se sente** e como tudo tem acontecido com você durante as **últimas 4 semanas**. Para cada questão, por favor dê uma resposta que mais se aproxime da **maneira como você se sente**. Em relação as **últimas 4 semanas**. (Circule um número em cada linha)

Atividades	Todo tempo	A maior parte do tempo	Uma boa parte do tempo	Alguma parte do tempo	Uma pequena parte do tempo	Nunca
25. Quanto tempo você tem se sentido cheio de vigor, cheio de vontade, cheio de força?	1	2	3	4	5	6
26. Quanto tempo você tem se sentido uma pessoa muito nervosa?	1	2	3	4	5	6
27. Quanto tempo você tem se sentido tão deprimido que nada pode animá-lo?	1	2	3	4	5	6
28. Quanto tempo você tem se sentido calmo ou tranqüilo?	1	2	3	4	5	6
29. Quanto tempo você tem se sentido com muita energia?	1	2	3	4	5	6
30. Quanto tempo você tem se sentido desanimado ou abatido?	1	2	3	4	5	6
31. Quanto tempo você tem se sentido esgotado?	1	2	3	4	5	6
32. Quanto tempo você tem se sentido uma pessoa feliz?	1	2	3	4	5	6
33. Quanto tempo você tem se sentido cansado?	1	2	3	4	5	6

34-39. Durante as **últimas 4 semanas**: (Circule um número para cada linha)

Atividades	Todo tempo	A maior parte do tempo	Uma boa parte do tempo	Alguma parte do tempo	Uma pequena parte do tempo	Nunca
34. Quanto de tempo sua saúde prejudicou suas atividades sociais como visitar amigos ou parentes próximos?	1	2	3	4	5	6
35. Quanto de tempo você teve dificuldade para concentrar-se e pensar?	1	2	3	4	5	6
36. Quanto de tempo você teve problemas para manter sua atenção por um longo período em alguma atividade?	1	2	3	4	5	6
37. Quanto de tempo você se preocupou em ter outra crise?	1	2	3	4	5	6
38. Quanto de tempo você teve dificuldade para raciocinar e resolver problemas (por exemplo: fazer planos, tomar decisões, aprender coisas novas?)	1	2	3	4	5	6
39. Quanto de tempo você ficou desanimado por causa de seus problemas de saúde?	1	2	3	4	5	6

40. Quanta dor **no corpo** você teve durante as **últimas 4 semanas**? (Circule um número)

Nenhuma	Muito Leve	Leve	Moderada	Grave	Muito Grave
1	2	3	4	5	6

41. Durante as **últimas 4 semanas**, quanto a dor interferiu com o seu trabalho normal (incluindo tanto o trabalho fora de casa e dentro de casa)? (Circule um número)

De maneira alguma	Um pouco	Moderadamente	Bastante	Extremamente
1	2	3	4	5

42-47. Escolha a resposta que melhor descreva o quanto cada uma das afirmações abaixo é **verdadeira** ou **falsa** para você? (Circule um número em cada linha)

Atividades	Definitivamente verdadeiro	A maioria das vezes verdadeiro	Não sei	A maioria das vezes falsa	Definitivamente falsa
42. Eu costumo adoecer um pouco mais facilmente que as outras pessoas.	1	2	3	4	5
43. Eu sou tão saudável quanto qualquer pessoa que eu conheço.	1	2	3	4	5
44. Eu acho que a minha saúde vai piorar.	1	2	3	4	5
45. Minha saúde é excelente.	1	2	3	4	5
46. Quando há situações de doença à minha volta eu geralmente adoço.	1	2	3	4	5
47. Parece que eu tenho crises um pouco mais facilmente que as outras pessoas com epilepsia.	1	2	3	4	5

48. Como tem sido a sua qualidade de vida durante as **últimas 4 semanas** (ou seja: como as coisas têm sido para você)? (Circule um número)

Excelente	Muito boa	Nem boa nem ruim	Muito ruim	Péssima
1	2	3	4	5

49. Durante as **últimas 4 semanas** você teve algum problema com sua **memória**, (por exemplo: esquecer nomes, onde guarda suas coisas, o que você lê, o que as pessoas lhe contam)? (Circule um número)

Sim, bastante	Sim, algum	Sim, um pouco	Não, nenhum
1	2	3	4

50. Durante as **últimas 4 semanas** você teve algum problema com sua **fala ou linguagem** (por exemplo: troca de palavras no momento de falar, encontrar a palavra certa que deseja falar, dificuldade para compreender o que as pessoas lhe falam ou o que você lê)? (Circule um número)

Sim, bastante	Sim, algum	Sim, um pouco	Não, nenhum
1	2	3	4

51-55. Durante as **últimas 4 semanas** você teve algum dos seguintes problemas com o seu trabalho ou com alguma atividade regular diária **devido a problemas de memória**, de **fala** ou de **linguagem**? Por favor, responda **sim** ou **não** para cada questão. Circule 1 ou 2 em cada linha.

	Sim	Não
51. Reduziu a quantidade de tempo dedicada ao trabalho ou a outras atividades?	1	2
52. Realizou menos tarefas do que gostaria?	1	2
53. Esteve limitado no seu tipo de trabalho ou em outras atividades?	1	2
54. Teve dificuldade no desempenho do trabalho ou em outras atividades?	1	2
55. Trabalhou ou realizou outras atividades com menos cuidado do que o habitual?	1	2