PHYSICAL MEDICINE

EVALUATION OF COGNITIVE AND PSYCHOCIAL FUNCTION AND LIFE SATISFACTION IN HEMIPARETIC PATIENTS

HEMİPARETİK HASTALARDA BİLİŞSEL VE PSİKOSOSYAL FONKSİYONLARIN VE YAŞAM KALİTESİNİN DEĞERLENDİRİLMESİ

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SUMMARY

This study was designed to evaluate the cognitive, social and psychosocial problems experienced by chronic stroke patients using different measurement scales. 25 stroke patients were compared with a control group consistng of 20 patients with lumbar spondylosis In both patient groups, we performed Minimental Status Examination (MMSE) for cognitive functions, Modified Barthel Index for functional status, Beck Depression Inventory (BDI) and State Trate Anxiety Inventory (STAII) for depression and mood disorders. Quality of life was assessed by the Nothingham Health Profile (NHP). Mobility and emotion component scores of the NHP were found to be highly (p<0.01) and social isolation component score very significantly (p<0.001) higher in the stroke group compared to osteoarthritics. On the other hand pain score was significantly high in the osteoarthritic group (p< 0.05).

In conclusion, in chronic stroke patients, major problems are observed in areas of mobility, emotion and social isolation components of quality of life, whereas pain and energy levels are not significantly affected.

Key words : Stroke, quality of life, outcome

ÖZET

Bu çalışma farklı ölçüm skalaları yardımıyla kronik strok hastalaarında karşılaşılan bilişsel, sosyal ve psikolojik problemleri değerlendirmek amacıyla düzenlendi. Çalışma grubu olarak 25 hemiparetik hasta, kontrol grubu olarak da 20 lomber spondilotik hasta seçildi. Her iki hasta grubuna bilişsel fonksiyonlar için Minimental Durum Değerlendirmesi (MMSE), fonksiyonel durum için Modifiye Barthel İndeksi, depresyon ve ruhsal durum için Beck Depresyon Skalası (BDI) ve STAII skalaları kullanıldı. Yaşam kalitesini değerlendirmek için ise Nothingham Health Profile' dan yararlanıldı. Çalışmamızın sonucunda çalışma grubunda NHP'nin mobilite ve emosyon komponentleri skorları daha yüksek (p< 0.01), sostal izolasyon komponenti skoru ise çok daha yüksek (p< 0.001) bulundu. Diğer yandan ağrı skoru ise kontrol grubunda yüksek (p<0.05) olarak bulundu.

Sonuç olarak kronik hemiparetik hastalarda yaşam kalitesinin değerlendirilmesinde ağrı ve enerji düzeyleri fazla etkilenmezken, asıl sorunların mobilite, emosyonel durum ve sosyal izolasyon alanlarında karşılaşıldığı görülmüştür.

Anahtar sözcükler : Stroke, quality of life, outcome

INTRODUCTION

In last decades despite the growing interest in quality of life (QL) issues in clinical research and practice, little attention has been paid to evaluate systematically the QL of stroke patients. It is known that quality of life of stroke patients, adversely affected not only by neurological deficits, but also by major functional and psychosocial problems. Although there is an association between neurological deficits and QL, they are not synonymous. Various studies of QL in stroke indicate that physical disabilities often have a negative impact on QL (1,2).However stroke patients with little or no physical dysfunction can also experience a deteriorated QL because of cognitive and psychological problems. Psychosocial status appears to be as important as physical disability in altering an individual QL (3). If a clinical benefit has been obtained with any given intervention, it is usually demonstrated in terms of improved neurological function, also an evaluation of the effects on patients' daily functioning, subjective health, and well- being is still highly relevant.

Over the years QL has been defined in many different ways

such as, need of satisfaction, health- related subjective experiences or pschosocial and physical well-being (4) Most researchers today adopt a multidimentional approach to QL assesssment. A broad consensus has emerged that at least four dimensions should be included in a QL assessment: physical, functional, psychosocial and social health (4,5).

The aim of the study was to describe the cognitive, social and psychosocial problems experienced by chronic stroke patients and evaluating their life quality using different measurement scales.

METHODS

The study group consisted of 25 stroke patients (10 females /15 male) admitted to our outpatient clinic. The mean age of the patients was 59±10.6 years (range 40- 73) and the mean of the stroke duration was 25.4±16 (range 7-60) months. 11 of the patients had right hemiparezis, as the others had left. In order to distinguish between QL effects related to stroke and those attributable to aging, stroke patients were compared with a control group consisting of 20 lumbar spondylotic patients (12 females and 8 male). The mean age of the control group was 63.4±6.8 years (range 49-73) (6).

In both patient groups, we performed minimental status examination (MMSE) to evaluate cognitive functions, Modified Barthel Index for functional status,and the Turkish versions of Beck Depression Inventory (BDI) and Stait Trate Anxiety Inventory (STAII) for depression and mood disorders. The Turkish version of Nothingham Health Profile (NHP) was used to assess quality of life.

NHP is a questionnaire designed to measure social and personal effects of illness (4,5).

It is used as a measure of need for health care and as an outcome measure in evaluation. NHP is easy to use with stroke patients and may be used with those who cannot manage more complicated questionnaries, such as General Health Questionnaire (GHQ) or Sickness Impact Profile (SIP) (5,6).NHP has 38 questions (requiring a yes /no response) on energy, pain, emotion, sleep, social isolation and mobility. The scores on each component are weighted to give a score from 0 to 100. It can be completed in about 5 minutes (5,7).

These questionnaries were answered completely by the pati-

ents except for two aphasic patients who were assessed by their partners' help. The results of the two groups as well as left and right hemiparetics in the stroke group were compared.

Statistical analysis was performed using the Instat program. Mann- Whitney-U test was used for intergroup comparisons, and Wilcoxon test was used for intragroup comparisons. Sperman's correlation coefficient was used for intergroup correlations.

RESULTS

There was no statistical difference between the two groups on the MMSE. All patients in the osteoarthritic group scored 100 total points on the Modified Barthel Index, whereas the mean score of the osteoarthritic group was found 90.2+ 10.7. The BDI and STAII scores did not differ significantly between the two groups (Table I).

Table I: Mean Values of the MMSE, M. Barthel Index, Beck and STAII Scores

	Stroke group	Osteoarthritic group	p
MMSE	24.46±5.15	25.9±3.28	ns (p>0.05)
M.Barthel Index	90.2±10.7	100	p>0.05
Beck Depres. Inventory	17.6± 9.6	14.3±6.3	p>0.05
STAII	44.2±8.9	37.9±11.1	p>0.05
Trait	46.3±8.3	42.5±9.5	p>0.05

As for the NHP,the sleep and enery component scores were also not significant in both groups. However, the mobility and emotion component scores were found to be significantly (p<0.01), and social component isolation score very significantly (p<0.001) higher in the stroke group compared to the osteoarthritics. On the other hand pain score was found to be significantly high (p< 0.05) in favour of osteoarthritic patients (Table II).

Moreover comparing the right and left hemiparetics statistically, we could not find a significant difference in any of the after the questionnaries assessed (p>0.05) (Table III).

In the stroke group, each subscore of the NHP was tested for correlation with M. Barthel Index, BDI and the STAII scores.

Table II: Mean Values for the Components of the Nothingham Health Profile

	Stroke group	Osteoarthritic group	p
NHP (sleep)	30.6±33.06	20±20.32	ns (p>0.05)
NHP (mobility)	48.3±22	25±21	• (p<0.01)
NHP (emotion)	42±28	15.4±23	• (p<0.01)
NHP (s.isolation)	46.6±20.9	12±21	•• (p<0.001)
NHP (pain)	17.85±6.57	30.9±8.5	* (p<0.05)
NHP (energy)	38.8±17.89	43.5±10.53	ns (p>0.05)

••: highly significant for stroke patients
• : significant 　　 " 　　 " 　　 "
* : significant for osteoarthritic patients

M.Barthel scores were very significantly correlated with mobility and energy subscores of the NHP (p< 0.01) whereas BDI scores were significantly correlated with emotion and social isolation subscores of the NHP (P<0.01). Sleep and pain subscores were not found to be correlated with any of the other scales.

DISCUSSION

Cerebrovascular disease, or stroke, is well recognized as being one of the major health problems over the world. The long term outcome in stroke patients, is usually described in terms of survival, neurological deficits and functional dependency (8-10) A person's disability is most directly influenced by impairments, that reflect organ dysfunction or abnormalities of body structure. Disabilities refer the consequences of impairments in terms of the patient's functional performance. Handicap is also determined by the social and societal consequence of impairments and disabilities (5,10). Quality of life can be defined as an even broader spectrum of consequences of disease, including elements of disabilities and handicaps, as well as a patient's perceived health status and well being (4,7,11). Quality of life is a recently emphasized concept that needs to be taken into consideration in assessing outcome of stroke patients as well. It is known that in stroke, there are a variety of factors affecting functional dependency and quality of life other than neurological deficits (9,11,12).Dysfunction of longer-term survivors is often greater than would be expected frm their physical disability (9).

Table III: Mean Values of the Beck, State, Trait, M.Barthel Index, MMS and Total NHP Scores

	Left hemiparetics	Right hemiparetics	p
Beck Dep. Invent.	15.2±10	20.75±8.9	ns (p>0.05)
STAII	44.14±9.9	44.25±8.7	p>0.01
Trait	41.85±6.7	50.25±7.9	p>0.05
M.Barthel Ind.	88.8 ±12.9	91.3± 9.3	p>0.01
MMSE	25±5.7	24±5.2	p>0.01
NHP	37±16.9	37.8±16	ns

Compared with a general elderly population, the stroke patients have lower functional ability and a pronounced reduction in life satisfaction (8,9) Additionally, the strong associations between impaired ability, mood and quality of life problems suggest that stroke itself is an important determinant of social and psychological distress (1,3,9).

Our study shows that in chronic stroke patients major problems are observed in the areas of mobility, emotion and social isolation, whereas pain and enegy levels are not significantly affected comparing the age matched osteoarthritic patients.

To evaluate cognitive functions we used MMSE. It is widely used as a brief screening measure of cognitive impairment (13). Compared with an age matched control group there was no statistical difference between the two groups. Since the MMSE is a rather gross measure of cognitive function, it is possible that slight changes may have been unnoticed using this method.

Modified Barthel Index was used for functional ability. It is easily understood and completed by the patients (9,13). Total score on the M.Barthel Index indicating complete independence was observed in the control group as expected. In contrast, the mean score of the stroke group was 90.2±10.7 (p<0.05). Thus it is clear that the stroke group as a whole was in the upper band of stroke survivors, the patients being near completely functional. Therefore, only energy and mobility subscores were found to be correlated with M.Barthel scores in the stroke patients.

Estimates of the incidence of poststroke depression range

from 50% to 85% in chronic stroke patients (9,11).)We have used validated Turkish version of Beck Depression Index (BDI) and Stait Trate Anxiety Inventory to evaluate depression and mood disorders in our patients. In both groups, the patients had lower scores on the BDI, indicating a trend towards depression. We could not find a statistical difference comparing with the lumbar spondylotic patients (p>0.05). Probably, this is related to the high incidence of depressive disorders among the patients suffering from chronic pain as lumbar spondylosis. As we expected, emotion and social isolation subscores were highly correlated with BDI scores.

The NHP has been developed for a range of different uses, as an outcome measure for interventions. The profile is easy to use with stroke patients and is managed by some patients who can not complete other more complicated measures, as SİP and GHQ (7). In our study, comparing with the age matched control group , there was highly significiance difference for emotion, mobility and social isolation component scores in favour of stroke patients. On the other hand pain component score was found to be significantly high in lumbar spondylotic patients as was expected. The correlations found between the subscores of the NHP and the scales used for function and depression suggest that the NHP may be sufficient by itself to assess physical and psychosocial function in stroke patients.

As for the evaluations between right and left hemiparetics there was no statistical difference.

No association was found between emotional dysfunction and location of hemispheric lesion, seeming contrary to the previous studies suggesting more depressive symptoms in patients with left frontal lesions. In contrast to some studies which suggest poorer results for left hemiplegics, we could not find any statistical difference for the NHP and M. Barthel Index scores according to the lesion laterality (14,15).

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