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## *Letter to the Editor*

# Remarks about the Study of Quality of Life and Sleep in Hemodialysis Patients

*To the Editor,*

With great interest, we recently read the article by Edalat-Nejad entitled "Quality of life and sleep in hemodialysis patients"[1] published in your esteemed journal. This article addresses the evaluation of the quality of life (QoL) and sleep in 115 hemodialysis (HD) patients. We would like to share our experience on 6930 HD patients[2] in QoL evaluation among HD patients as it may be helpful to others.

There is a wide variation of gender effect on QoL among HD patients. A number of studies, such as our study,[2] have shown better QoL in men, while Bayoumi et al have found better QoL among females,[3] and, conversely, a few studies such as the current one[1] have shown that gender has no effect on health-related quality of life **(**HRQOL). It seems that this is due to some factors including perception of social support, religious conviction, healthy behaviors and outlook that vary among both genders in different areas. Moreover, a number of confounding factors such as levels of education, marital state, work status, etc. can influence QoL in both genders.

The mean age of the patients in our study was younger than the current article[1] (63 ± 15 and 54 ± 17 years, respectively). We have also found that our patients were younger than patients who were in 19 different studies.[2] Because the prevalence of end-stage renal disease varies widely among different ethnic groups,[4] we thought the reason was genetic differences between ethnic and geographic areas. Although the present study was also performed in Iran, using a small sample size of patients can be the cause of the differing results with our study having a huge number of patients.

We concluded that there exists a negative correlation between kidney disease component summary (KDCS) score and dialysis duration,[2] while the current study[1] showed no relationship between them. The discrepancy may be due to the patients education, as in our study, 25.5% of patients had high school or graduation study, while only 7.8% of the patients in the present study had equal education. If Edalat-Nejad and coworkers[1] had analyzed the correlation between education and QoL, they might have concluded differently.

We agree with the high prevalence of sleep disorders in HD patients, which was seen in other studies.[5,6] Although Edalat-Nejad et al did not find any correlation between sleep and diabetic HD patients,[1] Turkmen and colleagues[7] showed that these patients had more sleep disorders. It is a fact that one of the most important sleep disorders in HD patients is restless leg syndrome (RLS),[1] and it is proven that because of its polyneuropathy, RLS is more prevalent in diabetic patients.[8] Therefore, it seems likely that diabetic HD patients have more sleep disorders than non-diabetic HD patients.

Finally, we suggest a multi-center study to evaluate all factors that affect sleep and HRQoL among HD patients to evaluate the correlation between these factors and QoL in HD patients.

**Conflict of Interest:** None.

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# *Authors Reply*

*To the Editor*,

I would like to thank Dr. Motalebi and Dr. Einolahi for their interest in our work and their comments, and I would like to clarify the following:

- Obviously, the findings that are derived from epidemiological studies essentially depend on the time and spatial factors and, therefore, they can be very diverse and variable. This diversity is very remarkable in qualitative researches such as quality assessment of sleep or life because, in addition to chronological factors, some other socioeconomic and cultural factors such as education, location of residence and, certainly, comorbidities including mental and physical illnesses and political trends and crises have significant effects on the same. Therefore, the variation of findings in numerous published data in the recent decade about factors that affect the sleep and life quality reflect these facts.
- More than 30 years have elapsed from the first published article about sleep quality (SQ) in hemodialysis (HD) patients,[1] but, as you know, it is still in the center of attention of many researchers and despite the variability of findings about predisposing factors such as age, sex, diabetes, bio-chemistry and hormonal parameters, it is interesting that the sole common message of these enormous data is the high prevalence of poor sleep in this sub-group of patients. However, consistent with many studies, our later research, which was conducted to evaluate some hormonal and biochemical parameters' role on sleep quality, showed that the presence of diabetes and bodily pain were the main significant independent predictors for poor sleep.[2] Also, by the recent clinical trial that was designed to assess the effect of melatonin on sleep, again, we did not find any significant difference in the SQ between diabetic and non-diabetic HD patients.[3]

All these findings suggest that there are enormous unknown factors affecting sleep in these patients and there is still a long way to go.

- The prevalence of restless leg syndrome (RLS) is about 1.9–4.6% in the general

population,[4] and this is four times higher in diabetics, while RLS is seen in up to 62% of patients with end-stage renal disease.[5] The authors' enforced conclusion of the higher prevalence of sleep disorders in diabetics due to the greater prevalence of RLS with respect to the general population is inconsistent with the findings of some recent studies. Jeong-Min found no significant association between RLS and any of the following factors: Age, gender, duration of dialysis and comorbid diseases (including diabetes).[6] In other words, although the prevalence of RLS in people with diabetes is more than the general population, diabetes does not increase the risk of developing RLS in HD patients.

- Finally, in an epidemiological study, the tools to evaluate impacts are also of prime importance. For example, the PSQI questionnaire can only assess the quality of sleeping the previous month according to the patient impression; however, in our article, we referred to this as one of the limitations of our study.

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