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Clinically significant inverse dose-response relationships were found between postdialysis recovery time and health-related quality of life domains and subscales among patients with end-stage renal disease undergoing regular hemodialysis.

## BACKGROUND

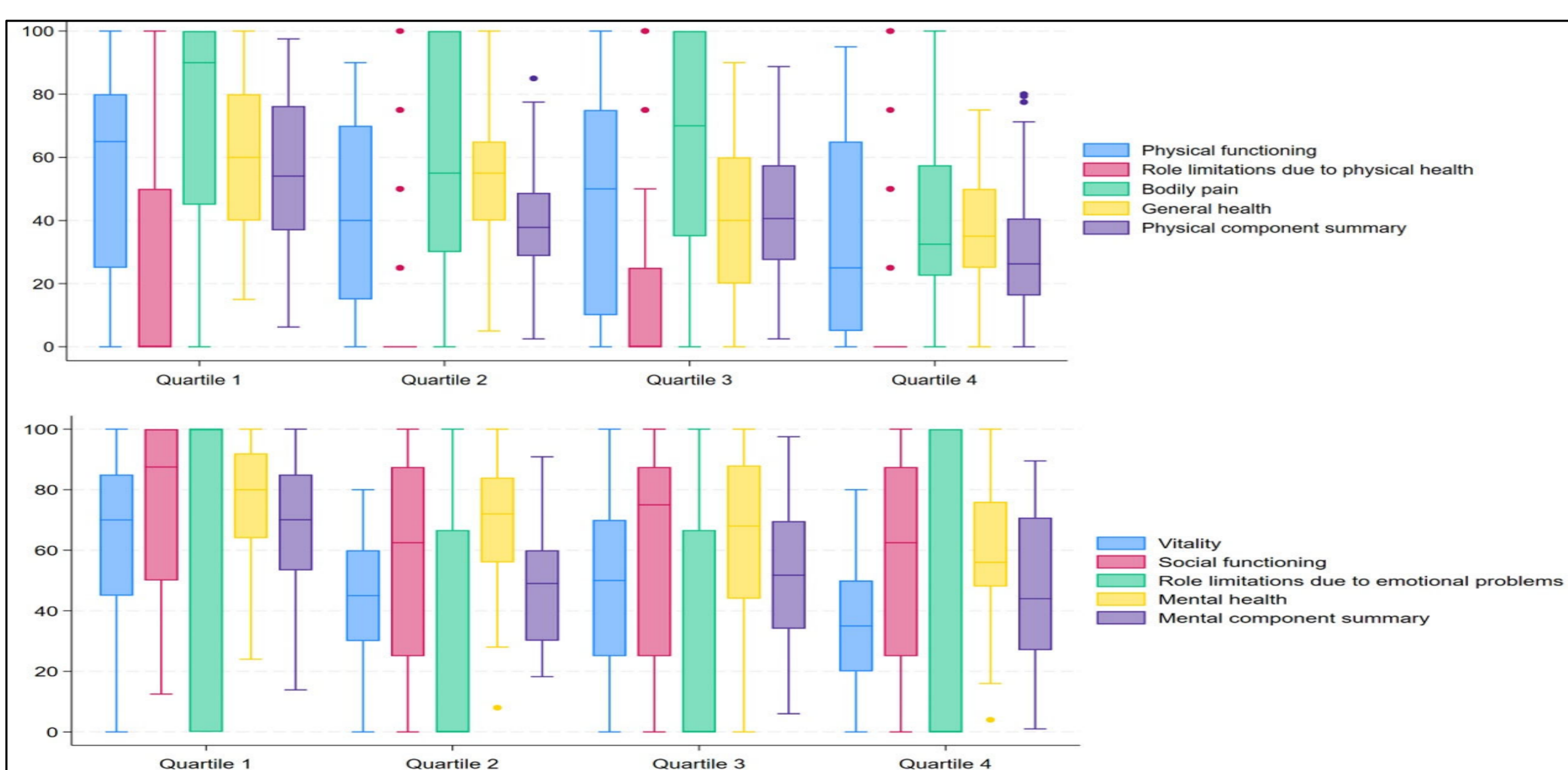
- Health-related quality of life (HRQOL) is an important patient-centered indicator linked to hospitalization and mortality among patients with end-stage renal disease (ESRD).
- Limited evidence suggests an inverse association between self-reported postdialysis recovery time (PDRT) and HRQOL among patients with ESRD on hemodialysis (HD).
- The aim was to assess the relationship between PDRT and HRQOL among patients with ESRD on regular HD.

## METHODS

- A cross-sectional study of patients with ESRD aged 18 years or older who were receiving regular HD in a central kidney unit in Nablus, Palestine.
- HRQOL and PDRT were assessed via the Arabic versions of the SF-36 survey<sup>1-3</sup> and the previously validated open-ended question: "How many hours does it take you to recover from a dialysis session?",<sup>4</sup> respectively.
- Linear regression was used to examine the independent relationships between PDRT quartiles and scores of the physical component summary (PCS) and mental component summary (MCS) domains and subscales of the SF-36.
- The IRB of Al-Najah National University approved the study (#2018/10).

## RESULTS

- The present study included 222 patients, 143 (64.5%) of whom were males. The median age was 59.0 years (interquartile range (IQR)=19.0), and the median duration on HD was 3.0 years (IQR=4.0).
- Compared with patients in the 1st quartile of PDRT, those in the 2nd, 3rd, and 4th quartiles of PDRT had lower PCS scores by 14.2 (95% confidence interval (CI) 5.8, 22.6), 16.2 (95% CI 7.3, 25.1), and 21.5 (95% CI 12.5, 30.4), respectively.
- Similar associations in direction and magnitude were observed between PDRT quartiles and the MCS scores.



**Figure 1.** Box plots of perceived physical and mental health-related quality of life scores according to postdialysis recovery time quartiles among participants (N=222).

## RESULTS CONTINUED

**Table 1.** Adjusted associations between postdialysis recovery time and perceived health-related quality of life scores.

SF-36 Domains	Postdialysis recovery time (hours)		
	Quartile 2 (n= 54)	Quartile 3 (n= 55)	Quartile 4 (n=55)
PF <sup>a</sup>	-14.2 (-24.6, -3.7)	-14.8 (-26.7, -2.9)	-17.6 (-28.2, -7.0)
RF <sup>b</sup>	-16.1 (-28.0, -4.1)	-13.3 (-25.7, -1.0)	-13.8 (-25.8, -1.8)
BP <sup>c</sup>	-16.7 (-29.8, -3.7)	-13.8 (-27.0, -0.7)	-27.9 (-41.4, -14.4)
GH	-7.9 (-15.8, 0.1)	-20.4 (-29.2, -11.7)	-23.6 (-31.2, -16.1)
PCS <sup>a</sup>	-14.2 (-22.6, -5.8)	-16.2 (-25.1, -7.3)	-21.5 (-30.4, -12.5)
VT <sup>d</sup>	-17.1 (-26.1, -8.1)	-14.3 (-24.1, -4.4)	-26.6 (-35.7, -17.5)
SF <sup>a</sup>	-12.1 (-23.9, -3.0)	-15.4 (-27.5, -3.2)	-12.0 (-24.3, 0.4)
RE <sup>e</sup>	-30.8 (-48.1, -13.4)	-28.5 (-45.6, -11.3)	-21.2 (-39.3, -3.2)
MH <sup>a</sup>	-6.1 (-13.6, 1.5)	-12.7 (-21.7, -3.6)	-13.7 (-22.1, -5.4)
MCS <sup>f</sup>	-16.9 (-25.0, -8.7)	-18.3 (-27.2, -9.4)	-19.3 (-28.1, -10.5)

Quartile 1 (n= 58) is the reference category.

PDRT, postdialysis recovery time; PF, physical functioning; RF, role limitations due to physical health; BP, bodily pain; GH, general health; PCS, physical component summary; VT, vitality; SF, social functioning; RE, role limitations due to emotional problems; MH, mental health; MCS, mental component summary. Values represent regression coefficient (95% confidence interval).

<sup>a</sup>Adjusted for age, gender, BMI, education level, employment status, residential area, and number of comorbidities. <sup>b</sup>Adjusted for BMI, residential area, and number of comorbidities. <sup>c</sup>Adjusted for age, gender, BMI, education level, employment status, and residential area. <sup>d</sup>Adjusted for BMI and education level. <sup>e</sup>Adjusted for employment status, residential area, and number of comorbidities. <sup>f</sup>Adjusted for BMI, education level, employment status, residential area, and number of comorbidities.

## CONCLUSIONS

- The findings revealed strong inverse associations between PDRT and HRQOL among patients with ESRD undergoing regular HD.
- Administering a single PDRT question is straightforward in clinical settings.
- Given the cross-sectional nature of these associations, further longitudinal research is needed to examine whether PDRT is causally linked with HRQOL.
- These findings have important implications for clinical trials evaluating new HD interventions to improve clinical and HRQOL outcomes among patients with ESRD.

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## Conflicts of Interest

The authors have no conflict of interest to declare.

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