

# PREVALENCE OF MAJOR DEPRESSION IN DIALYSIS PATIENTS AND ITS RELATIONSHIP WITH LABORATORY DATA



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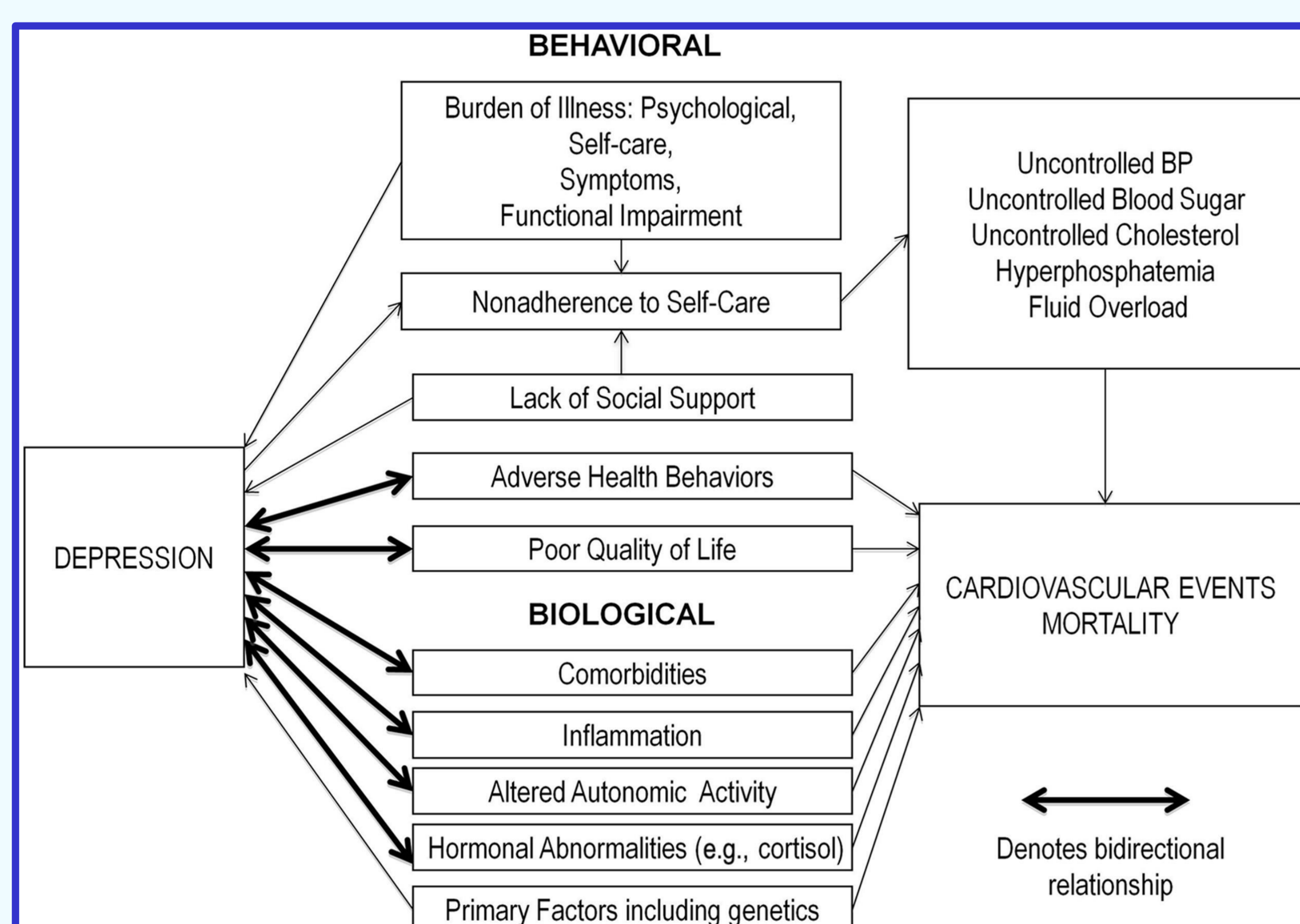


## INTRODUCTION AND OBJECTIVES:

Depression is the most common psychiatric disorder in long-term dialysis patient and a risk factor for morbidity and mortality. Recent data by Palmer S. et al. reported a prevalence in dialysis population ranging from 22.8% to 39.3% depending on the adopted depression screening questionnaires. These figures are several times higher than prevalence found in the general population, i.e. 2%-4%. Despite relevance of depression in the dialysis setting, we still know little about possible relationships between depression and uraemia-related biochemical abnormalities. Our aims were to evaluate 1) the prevalence of depression in our dialysis population using a validated assessment tool and 2) the association between depression and the main uremia-related changes in laboratory parameters.

## RESULTS:

Out of 146 patients, as many as 135 agreed to participate in the study, while only 11 denied consent. In participants (55% males, mean age 65.4 years  $\pm$  27.3 SD, dialysis vintage 65 months  $\pm$  76, 37 patients in peritoneal dialysis and 98 in haemodialysis) the prevalence of depression was 34%. There was no difference between hemodialysis and peritoneal patients. Patients' prevalence across stratification score was: 34% without depressive symptoms (score from 0 to 4) 31.9% with minimal symptoms (score from 5 to 9) 20% with minor depression (score from 10 to 14) 11.9% with moderate-major depression (score from 15-19) 2.2% with severe depression (score >20). The linear regression model is reported in Table 1. We found that increasing severity of depression was related directly with blood levels of phosphorus and indirectly with dialysis efficiency (URR and Kt/V) ( $p < 0.05$ ). A statistically significant direct relationship with age was found also; none of the other demography and laboratory covariates tested were related with depression.



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Costant	t	CI 95%		p
		Lower	Upper	
Age	2.02	.001	.125	.047
URR*	-2.69	-1.07	-0.16	.009
Kt/V	-2.88	-5.84	-32.2	.005
Phosphate	6.62	1.27	2.36	.000

\*For hemodialysis patients

## METHODS:

We asked all patients of our Centre with at least three months of dialysis to undergo PHQ-9, a self-administered depression-screening questionnaire. Accuracy and efficiency of this test have already been validated for dialysis patients. Each of the nine questions of this test rates severity of depression from 0 to 3, with 10 being the summed threshold value of depression and 27 the greatest severity degree. As statistics, we presented data as mean  $\pm$  standard deviation (SD) or as percentages (%). We applied Student t-test or chi-square test, when appropriate. We applied linear regression model with depression as dependent variable; covariates tested included demographic variables (sex, age, months of dialysis), laboratory values (haemoglobin, potassium, sodium, bicarbonate, calcium, phosphorus, PTH, ferritin, albumin) and a proxy of dialysis efficiency for small molecules (URR and KT/V).

## CONCLUSIONS:

Using a simple and fast tool, we assessed the depressive status in our population and found that depression affects one in three of dialysis patients. Severity of depression seems to be related to inadequate dialysis efficiency, possibly because depression affects also the noncompliance to therapy as shown from higher level of phosphorus in depressed patient's blood.

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