Pain, Sleep Disturbance and Depression in Chronic Kidney Disease Patients

Thesis

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قَالُوا

سُبْحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

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✎ *Diana Danial Lamee*

Contents

List of Abbreviations

ESKD	:	**End – stage kidney diaease**
ACEIs	:	Angiotensin converting enzyme inhibitors
ADA	:	American Diabetes Association
ADPKD	:	Autosomal dominant polycystic kidney disease
ARBs	:	Angiotensin receptor blockers
AVF	:	Arteriovenous fistula
AVG	:	Arteriovenous graft
BDI-II	:	Beck Depression Inventory -II
BMI	:	Body mass index
Bp	:	Blood pressure
CHD	:	Chronic hemodialysis
CKD	:	Chronic kidney disease
CKD-MBD	:	Chronic kidney disease-mineral bone disease
CVD	:	Cardiovascular disease
DFO	:	Desferrioxamine test
DM	:	Diabetes Mellitus
DSM-IV	:	The Diagnostic and Statistical Manuel of Mental Disorders -IV
eGFR	:	Estimated glomerular filtration rate
EMA	:	European Medicine Agency
EpiFunD Study	:	Epidemiology of functional disorders study

ESA	:	Erythrocyte-stimulating agents
ESRD	:	End- stage renal disease
FDA	:	Food and Drug Administration
GCKD study	:	German Chronic kidney disease
HB	:	Hemoglobin
HMG-CoA	:	3-hydroxy-3-methyl-glutaryl- CoA
HRQOL	:	Health related quality of life
HT	:	Hypertension
IV	:	Intravenous
KDIGO	:	The Kidney Disease: Improving Global Outcomes
KDOQI	:	The Kidney Disease Outcomes Quality Initiative
MDD	:	Major depressive disorder
MDRD	:	Modification of Diet Renal Disease
NICE	:	National Institue for Clinical Excllence
Non-REM	:	Non- rapid eye movement
NSAID	:	Non steroidal anti inflammatory
OSA	:	Obstructive sleep apnea
OTC	:	Over the counter
PLM	:	Periodic limb movement
PSGN	:	Post-streptococcal glomerular nephritis
PSQI	:	Pittsburgh Sleep Quality Index
PTH	:	Parathyroid hormone
QOL	:	Quality of life

RA	**:**	Rheumatoid Arthritis
REM	**:**	Rapid eye movement
RLS	**:**	Restless legs syndrome
RRT	**:**	Renal Replacement Therapy
RTA	**:**	Renal tubular acidosis
S. Ca	**:**	Serum calcium
S. Po4	**:**	Serum phosphorus
SC	**:**	Subcutaneous
SLE	**:**	Systemic lupus erytheromatosis
UAE	**:**	Urinary albumin excretion

List of Tables

List of Figures

Introduction

Chronic kidney disease (CKD) is a term that encompasses all degrees of decreased renal function, and is considered a worldwide public health problem *(Levey et al., 2012).*

The kidney Disease: Improving Global Outcomes (KDIGO) established a definition and classification of CKD. The KDIGO defines CKD as abnormalities of kidney structure or function, present for > 3 months, with implications for health and CKD is classified based on cause, GFR category, and albuminuria category (CGA) *(Stevens and Levin 2013).*

Pain is a multidimensional phenomenon with physical, psychological, and social components. Failure to treat pain adequately could be expected to lead to disruption in many aspects of life, such as functional status, mood and sleep *(Cohen et al., 2007).*

Body pain is one of the most important qualitative parameters for evaluating patients' quality of life. To improve quality of care provided to CKD patients, it is important to understand and relieve body pain *(Pham et al., 2010).*

It has been reported that 82% of CKD patients undergoing dialysis had chronic pain and 35-70% of patients had moderate to severe pain. Chronic pain is common in CKD patients, especially in patients with end stage renal disease. Few studies have focused on chronic pain in early stage CKD patients (***Golan et al., 2009).***

Chronic muscloskeletal pain was indpendetly and significantly associated with hyperuricemia as co-morbidity, and with the (calcium x phosphate) product levels in early and late stage CKD patients who were not on dialysis *(**Heng et al., 2014).***

Sleep disturbance is common and bothersome to patients with chronic kidney disease (CKD) including those on long term dialysis. The natural history of sleep disturbance in these patients has not been adequately studied *(**De Santo et al., 2010).***

Patients with CKD not on dialysis had disruption of sleep that was independent of several risk factors. However those on hemodialysis had sleep disruption that was of much greater severity than that found amoung those with CKD not on dialysis *(**Agarwal et al., 2011).***

Clinical depression and subthreshold depressive symptoms are associated with increased mortality rate in

dialysis patients. However, little is known about the association between elevated depressive symptoms with a decline in kidney function in patients who are not on dialysis *(Willem et al., 2011).*