

# THE BURDEN OF CKD IN HIGH RISK CONDITIONS IN THE AFRICAN CONTINENT: A SYSTEMATIC REVIEW

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## INTRODUCTION AND OBJECTIVES

The prevalence of chronic kidney disease (CKD) is growing in Africa and the disproportionately high risk for CKD in some African countries may depend on the high risk health profile within the same communities. While Africa now faces a double challenge of infectious illnesses and chronic diseases, the problem of CKD is still underestimated. This systematic review aims at assessing the burden of CKD among high risk groups in the whole African continent.

## METHODS

MEDLINE and PUBMED databases were searched for articles published between January 1995 to October 2014 without language restriction by sensitive search strategies focusing on CKD in high risk groups in African countries. Articles were independently assessed by two reviewers and were included if they were based on the assessment of the CKD burden among patients with HIV, diabetes, hypertension and Lupus. Studies including patients affected by acute kidney injury, renal carcinoma, end stage renal disease and surveys on the African general population were excluded

## RESULTS

5363 references were initially retrieved. 5307 articles were excluded because they did not meet the inclusion and exclusion criteria. Thus, 56 studies were included in the final analysis. The diagnosis of CKD was based on KDOQI guidelines (eGFR<60/ ml/ min /1.73m<sup>2</sup>) in 53% of the studies, while the remaining studies (47%) depended on the assessment of proteinuria (either dipstick or 24 hours proteinuria). Twenty-six studies focused on HIV patients, seventeen on diabetics, seven on lupus patients and six among hypertensive patients. The pooled prevalence of these diseases and the corresponding prevalence of CKD among these high risk groups in African countries is reported in the Table.

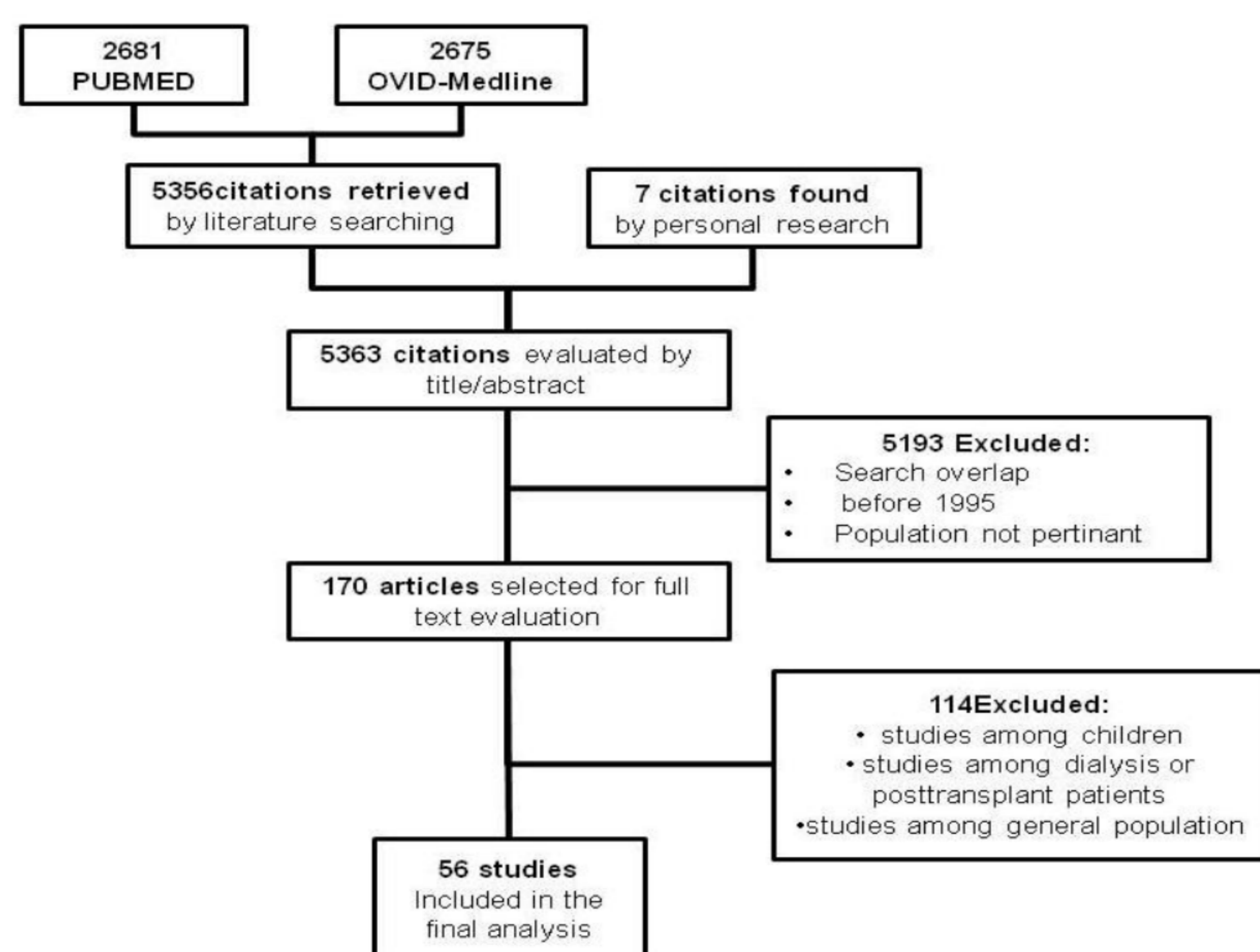


Figure1: Study selection flow chart

Table 1: pooled prevalence of CKD among high risk groups

	Number of patients, age (range), males % in surveys performed in African countries	Disease prevalence	CKD prevalence
Diabetes	N=3550, age 14-95 years, 51%	1%-13%	42%
Hypertension	N= 3072, age 12-90 years, 52%	>40%	35%
Lupus	N=663, age 16-55 years, 17%	-	65%
HIV infection	N=30768; 13-74 years, 32 %	0.5%-26.5%	25%

## CONCLUSIONS

In Africa the burden of CKD attributable to high risk conditions like hypertension and diabetes is of the same order or greater than that in economically developed western countries. HIV is a main cause of CKD in countries with a high prevalence of this disease like Swaziland

## REFERENCES

- Levey AS, Atkins R, Coresh J, Cohen EP, Collins AJ, Eckardt KU, et al. Chronic kidney disease as a global public health problem: approaches and initiatives - a position statement from Kidney Disease Improving Global Outcomes. *Kidney international*. 2007;72(3):247-59.
- Zoccali C, Kramer A, Jager KJ. Epidemiology of CKD in Europe: an uncertain scenario. *Nephrology dialysis transplantation*. 2010;25(6):1731-3.

