

Renal Replacement Therapy Access, Utilization, and Maternal Mortality in Pregnancy-Related Acute Kidney Injury in Africa: A Systematic Review and Meta-Analysis

Research Questions

1. Among pregnant and postpartum women (up to 12 weeks) with acute kidney injury in Africa, what is the association between patient-level receipt of renal replacement therapy (among those with a clinical indication) and maternal mortality?
2. Among pregnant and postpartum women (up to 12 weeks) with acute kidney injury in Africa, what is the association between facility-level availability of renal replacement therapy and maternal mortality?

PubMed: 114 Searched on 8/13/2026

Search	Actions	Details	Query	Results	Time
#13			Search: #11 AND #12	113	06:57:14
#12			Search: ("2015"[Date - Publication] : "2026"[Date - Publication])	16,303,385	06:52:39
#11			Search: #9 AND #10	141	06:46:15
#10			Search: Africa OR African OR sub-Saharan OR sub Saharan OR North Africa OR West Africa OR East Africa OR Central Africa OR Southern Africa OR Algeria OR Angola OR Benin OR Botswana OR Burkina Faso OR Burundi OR Cabo Verde OR Cape Verde OR Cameroon OR Central African Republic OR Chad OR Comoros OR Congo OR Democratic Republic of the Congo OR Democratic Republic of Congo OR Djibouti OR Egypt OR Equatorial Guinea OR Eritrea OR Eswatini OR Swaziland OR Ethiopia OR Gabon OR Gambia OR Ghana OR Guinea OR Guinea-Bissau OR Ivory Coast OR Cote d'Ivoire OR Côte d'Ivoire OR Kenya OR Lesotho OR Liberia OR Libya OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Morocco OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Sao Tome and Principe	1,334,106	06:45:50

Search	Actions	Details	Query	Results	Time
			OR São Tomé and Príncipe OR Senegal OR Seychelles OR Sierra Leone OR Somalia OR South Africa OR South Sudan OR Sudan OR Tanzania OR Togo OR Tunisia OR Uganda OR Zambia OR Zimbabwe OR "Africa"[Mesh]		
#9			Search: #3 AND #4 AND #7 AND #8	1,775	06:43:11
#8			Search: maternal mortality OR maternal death OR maternal deaths OR in-hospital mortality OR hospital mortality OR survival OR died OR death OR fatality OR case fatality OR maternal survival OR obstetric mortality OR pregnancy-related death OR pregnancy related death OR pregnancy-associated death OR "Maternal Mortality"[Mesh]	4,191,466	06:42:45
#7			Search: #5 OR #6	9,084,333	06:42:09
#6			Search: utilization OR utilisation OR received OR receipt OR "received dialysis" OR "underwent dialysis" OR "initiated dialysis" OR "dialysis indicated" OR "missed dialysis" OR dialyzed OR dialysed OR "on dialysis" OR "required dialysis" OR "received RRT" OR "RRT initiated"	7,100,985	06:41:44
#5			Search: "Health Services Accessibility"[Mesh] OR "Healthcare Disparities"[Mesh] OR access OR availability OR available OR "dialysis unit" OR "dialysis centre" OR "dialysis center" OR "dialysis facility" OR "dialysis facilities" OR "dialysis services" OR "nephrology service" OR "nephrology unit" OR "dialysis machines" OR "dialysis machine" OR nephrologist available OR "dialysis capacity" OR "dialysis infrastructure"	2,844,746	06:41:11

Search	Actions	Details	Query	Results	Time
#4			Search: "Renal Replacement Therapy"[Mesh] OR "Renal Dialysis"[Mesh] OR "Peritoneal Dialysis"[Mesh] OR "Continuous Renal Replacement Therapy"[Mesh] OR renal replacement therapy OR RRT OR dialysis OR haemodialysis OR hemodialysis OR peritoneal dialysis OR continuous renal replacement therapy OR CRRT OR continuous venovenous hemofiltration OR continuous venovenous haemofiltration OR kidney replacement therapy OR KRT OR haemofiltration OR hemofiltration OR ultrafiltration	408,203	06:38:07
#3			Search: #1 AND #2	18,712	04:56:36
#2			Search: pregnant OR pregnancy OR postpartum OR post-partum OR puerperium OR puerperal OR obstetric OR obstetrics OR perinatal OR antenatal OR prenatal OR maternal OR gestation OR gestational OR parturition OR delivery OR childbirth OR labour OR labor OR miscarriage OR abortion OR termination OR ("Pregnancy/blood"[Mesh] OR "Pregnancy/drug effects"[Mesh] OR "Pregnancy/physiology"[Mesh] OR "Pregnancy/psychology"[Mesh] OR "Pregnancy/statistics and numerical data"[Mesh]) OR ("Postpartum Period/blood"[Mesh] OR "Postpartum Period/drug effects"[Mesh] OR "Postpartum Period/physiology"[Mesh])	6,056,644	04:55:59
#1			Search: acute kidney injury OR acute renal failure OR acute renal injury OR acute renal insufficiency OR acute kidney failure OR acute kidney insufficiency OR AKI OR ARF OR kidney injury, acute OR renal failure, acute OR renal injury, acute OR renal insufficiency, acute OR PRAKI OR pregnancy-related acute kidney injury OR pregnancy associated acute kidney injury OR pregnancy-associated acute kidney injury OR	155,255	04:55:19

Search	Actions	Details	Query	Results	Time
			obstetric acute kidney injury OR obstetric AKI OR ("Acute Kidney Injury/complications"[Mesh] OR "Acute Kidney Injury/diagnosis"[Mesh] OR "Acute Kidney Injury/epidemiology"[Mesh] OR "Acute Kidney Injury/mortality"[Mesh] OR "Acute Kidney Injury/pathology"[Mesh] OR "Acute Kidney Injury/physiopathology"[Mesh] OR "Acute Kidney Injury/prevention and control"[Mesh] OR "Acute Kidney Injury/therapy"[Mesh])		

AJOL - 21

+("acute kidney injury" OR AKI OR "acute renal failure" OR PRAKI OR "obstetric acute kidney injury") + (pregnant OR pregnancy OR postpartum OR obstetric OR maternal) + (dialysis OR haemodialysis OR hemodialysis OR RRT OR "renal replacement therapy") + (access OR availability OR utilization OR utilisation OR receipt OR "received dialysis" OR "required dialysis" OR "missed dialysis" OR "dialysis unit" OR "dialysis facility" OR "nephrology service") + ("maternal mortality" OR mortality OR death) + (Africa OR "sub-Saharan Africa" OR Nigeria OR Kenya OR Tanzania OR South Africa OR Ghana OR Ethiopia OR Uganda)

SCOPUS = 8 from 2015

Pregnancy

TITLE-ABS-KEY(pregnancy OR pregnancies OR pregnant OR gestation OR gestational OR obstetric* OR puerper* OR postpartum OR "post-partum" OR peripartum OR "peri-partum" OR antenatal OR prenatal OR intrapartum OR postnatal OR "post-natal")

Acute Kidney Injury

TITLE-ABS-KEY("acute kidney injury" OR "acute kidney injuries" OR AKI OR "acute renal injury" OR "acute renal injuries" OR "acute kidney failure" OR "acute renal failure" OR "acute renal insufficiency" OR "acute kidney insufficiency")

RRT

TITLE-ABS-KEY("renal replacement therapy" OR "renal replacement therapies" OR RRT OR dialysis OR hemodialysis OR haemodialysis OR "hemo dialysis" OR "haemo dialysis" OR peritoneal dialysis OR "renal dialysis" OR "kidney replacement therapy" OR "kidney replacement therapies")

Africa

TITLE-ABS-KEY(Africa OR "Sub-Saharan Africa" OR "Sub Saharan Africa" OR Algeria OR Angola OR Benin OR Botswana OR "Burkina Faso" OR Burundi OR Cabo Verde OR "Cape Verde" OR Cameroon OR "Central African Republic" OR Chad OR Comoros OR Congo OR "Democratic Republic of the Congo" OR Djibouti OR Egypt OR "Equatorial Guinea" OR Eritrea OR Eswatini OR Ethiopia OR Gabon OR Gambia OR Ghana OR Guinea OR "Guinea-Bissau" OR Kenya OR Lesotho OR Liberia OR Libya OR Madagascar OR Malawi OR Mali OR Mauritania OR Mauritius OR Morocco OR Mozambique OR Namibia OR Niger OR Nigeria OR Rwanda OR Senegal OR Seychelles OR "Sierra Leone" OR Somalia OR "South Africa" OR "South Sudan" OR Sudan OR Tanzania OR Togo OR Tunisia OR Uganda OR Zambia OR Zimbabwe)

CINAHL = 6

(MH "Pregnancy+" OR TI pregnancy OR AB pregnancy OR TI pregnancies OR AB pregnancies OR TI pregnant OR AB pregnant OR TI gestation OR AB gestation OR TI gestational OR AB gestational OR TI obstetric* OR AB obstetric* OR TI puerper* OR AB puerper* OR TI postpartum OR AB postpartum OR TI "post-partum" OR AB "post-partum" OR TI peripartum OR AB peripartum OR TI "peri-partum" OR AB "peri-partum" OR TI antenatal OR AB antenatal OR TI prenatal OR AB prenatal OR TI intrapartum OR AB intrapartum OR TI postnatal OR AB postnatal OR TI "post-natal" OR AB "post-natal")

AKI

(MH "Acute Kidney Injury+" OR TI "acute kidney injury" OR AB "acute kidney injury" OR TI "acute kidney injuries" OR AB "acute kidney injuries" OR TI AKI OR AB AKI OR TI "acute renal injury" OR AB "acute renal injury" OR TI "acute renal injuries" OR AB "acute renal injuries" OR TI "acute kidney failure" OR AB "acute kidney failure" OR TI "acute renal failure" OR AB "acute renal failure" OR TI "acute renal insufficiency" OR AB "acute renal insufficiency" OR TI "acute kidney insufficiency" OR AB "acute kidney insufficiency")

RRT

(MH "Renal Replacement Therapy+" OR TI "renal replacement therapy" OR AB "renal replacement therapy" OR TI "renal replacement therapies" OR AB "renal replacement therapies" OR TI RRT OR AB RRT OR TI dialysis OR AB dialysis OR TI hemodialysis OR AB hemodialysis OR TI haemodialysis OR AB haemodialysis OR TI "hemo dialysis" OR AB "hemo dialysis" OR TI "haemo dialysis" OR AB "haemo dialysis" OR TI "peritoneal dialysis" OR AB "peritoneal dialysis" OR TI "renal dialysis" OR AB "renal dialysis" OR TI "kidney replacement therapy" OR AB "kidney replacement therapy" OR TI "kidney replacement therapies" OR AB "kidney replacement therapies")

AFRICA

(MH "Africa+" OR TI Africa OR AB Africa OR TI "Sub-Saharan Africa" OR AB "Sub-Saharan Africa" OR TI "Sub Saharan Africa" OR AB "Sub Saharan Africa" OR TI Algeria OR AB Algeria OR TI Angola OR AB Angola OR TI Benin OR AB Benin OR TI Botswana OR AB Botswana OR TI "Burkina Faso" OR AB "Burkina Faso" OR TI Burundi OR AB Burundi OR TI "Cabo Verde" OR AB "Cabo Verde" OR TI "Cape Verde" OR AB "Cape Verde" OR TI Cameroon OR AB Cameroon OR TI "Central African Republic" OR AB "Central African Republic" OR TI Chad OR AB Chad OR TI Comoros OR AB Comoros OR TI Congo OR AB Congo OR TI "Democratic Republic of the Congo" OR AB "Democratic Republic of the Congo" OR TI Djibouti OR AB Djibouti OR TI Egypt OR AB Egypt OR TI "Equatorial Guinea" OR AB "Equatorial Guinea" OR TI Eritrea OR AB Eritrea OR TI Eswatini OR AB Eswatini OR TI Ethiopia OR AB Ethiopia OR TI Gabon OR AB Gabon OR TI Gambia OR AB Gambia OR TI Ghana OR AB Ghana OR TI Guinea OR AB Guinea OR TI "Guinea-Bissau" OR AB "Guinea-Bissau" OR TI Kenya OR AB Kenya OR TI Lesotho OR AB Lesotho OR TI Liberia OR AB Liberia OR TI Libya OR AB Libya OR TI Madagascar OR AB Madagascar OR TI Malawi OR AB Malawi OR TI Mali OR AB Mali OR TI Mauritania OR AB Mauritania OR TI Mauritius OR AB Mauritius OR TI Morocco OR AB Morocco OR TI Mozambique OR AB Mozambique OR TI Namibia OR AB Namibia OR TI Niger OR AB Niger OR TI Nigeria OR AB Nigeria OR TI Rwanda OR AB Rwanda OR TI Senegal OR AB Senegal OR TI Seychelles OR AB Seychelles OR TI "Sierra Leone" OR AB "Sierra Leone" OR TI Somalia OR AB Somalia OR TI "South Africa" OR AB "South Africa" OR TI "South Sudan" OR AB "South Sudan" OR TI Sudan OR AB Sudan OR TI Tanzania OR AB Tanzania OR TI Togo OR AB Togo OR TI Tunisia OR AB Tunisia OR TI Uganda OR AB Uganda OR TI Zambia OR AB Zambia OR TI Zimbabwe OR AB Zimbabwe)

EMBASE = 65

pregnancy

('pregnancy'/exp OR pregnancy:ti,ab,kw OR pregnancies:ti,ab,kw OR pregnant:ti,ab,kw OR gestation:ti,ab,kw OR gestational:ti,ab,kw OR obstetric*:ti,ab,kw OR puerper*:ti,ab,kw OR postpartum:ti,ab,kw OR 'post-partum':ti,ab,kw OR peripartum:ti,ab,kw OR 'peri-partum':ti,ab,kw OR antenatal:ti,ab,kw OR prenatal:ti,ab,kw OR intrapartum:ti,ab,kw OR postnatal:ti,ab,kw OR 'post-natal':ti,ab,kw)

AKI

('acute kidney injury'/exp OR 'acute kidney injury':ti,ab,kw OR 'acute kidney injuries':ti,ab,kw OR AKI:ti,ab,kw OR 'acute renal injury':ti,ab,kw OR 'acute renal injuries':ti,ab,kw OR 'acute kidney failure':ti,ab,kw OR 'acute renal failure':ti,ab,kw OR 'acute renal insufficiency':ti,ab,kw OR 'acute kidney insufficiency':ti,ab,kw)

RRT

('renal replacement therapy'/exp OR 'renal replacement therapy':ti,ab,kw OR 'renal replacement therapies':ti,ab,kw OR RRT:ti,ab,kw OR dialysis:ti,ab,kw OR hemodialysis:ti,ab,kw OR haemodialysis:ti,ab,kw OR 'hemo dialysis':ti,ab,kw OR 'haemo dialysis':ti,ab,kw OR 'peritoneal dialysis':ti,ab,kw OR 'renal dialysis':ti,ab,kw OR 'kidney replacement therapy':ti,ab,kw OR 'kidney replacement therapies':ti,ab,kw)

ARICA

('Africa'/exp OR Africa:ti,ab,kw OR 'Sub-Saharan Africa':ti,ab,kw OR 'Sub Saharan Africa':ti,ab,kw OR Algeria:ti,ab,kw OR Angola:ti,ab,kw OR Benin:ti,ab,kw OR Botswana:ti,ab,kw OR 'Burkina Faso':ti,ab,kw OR Burundi:ti,ab,kw OR 'Cabo Verde':ti,ab,kw OR 'Cape Verde':ti,ab,kw OR Cameroon:ti,ab,kw OR 'Central African Republic':ti,ab,kw OR Chad:ti,ab,kw OR Comoros:ti,ab,kw OR Congo:ti,ab,kw OR 'Democratic Republic of the Congo':ti,ab,kw OR Djibouti:ti,ab,kw OR Egypt:ti,ab,kw OR 'Equatorial Guinea':ti,ab,kw OR Eritrea:ti,ab,kw OR Eswatini:ti,ab,kw OR Ethiopia:ti,ab,kw OR Gabon:ti,ab,kw OR Gambia:ti,ab,kw OR Ghana:ti,ab,kw OR Guinea:ti,ab,kw OR 'Guinea-Bissau':ti,ab,kw OR Kenya:ti,ab,kw OR Lesotho:ti,ab,kw OR Liberia:ti,ab,kw OR Libya:ti,ab,kw OR Madagascar:ti,ab,kw OR Malawi:ti,ab,kw OR Mali:ti,ab,kw OR Mauritania:ti,ab,kw OR Mauritius:ti,ab,kw OR Morocco:ti,ab,kw OR Mozambique:ti,ab,kw OR Namibia:ti,ab,kw OR Niger:ti,ab,kw OR Nigeria:ti,ab,kw OR Rwanda:ti,ab,kw OR Senegal:ti,ab,kw OR Seychelles:ti,ab,kw OR 'Sierra Leone':ti,ab,kw OR Somalia:ti,ab,kw OR 'South Africa':ti,ab,kw OR 'South Sudan':ti,ab,kw OR Sudan:ti,ab,kw OR Tanzania:ti,ab,kw OR Togo:ti,ab,kw OR Tunisia:ti,ab,kw OR Uganda:ti,ab,kw OR Zambia:ti,ab,kw OR Zimbabwe:ti,ab,kw)