Study. J Epidemiol Community Health. 2022; 76(5):471–481. doi:10.1136/jech-2021-217480.

SUPPLEMENT 1

SCOPUS

(TITLE-ABS (hypertens* OR “high blood pressure” OR “elevated blood pressure” OR “increased blood pressure” OR HTN OR HT OR “high BP” OR “elevated BP” OR “increased BP”)) AND (TITLE-ABS (inflamm*)) AND (“South Africa*” OR “Southern Africa*”) AND PUBYEAR > 2015 AND PUBYEAR < 2027 AND (LIMIT-TO (DOCTYPE , “ar”)) AND PUBYEAR > 2015 AND PUBYEAR < 2027

PubMed

(hypertens* [tiab] OR “high blood pressure” [tiab] OR “elevated blood pressure” [tiab] OR “increased blood pressure” [tiab] OR HTN [tiab] OR HT [tiab] OR “high BP” [tiab] OR “elevated BP” [tiab] OR “increased BP” [tiab]) AND (inflamm* [tiab]) AND (“South Africa*” [All fields] OR “Southern Africa*” [All fields]) NOT (editorial [pt] OR comment [pt] OR review [pt])

WEB OF SCIENCE

(hypertens* OR “high blood pressure” OR “elevated blood pressure” OR “increased blood pressure” OR HTN OR HT OR “high BP” OR “elevated BP” OR “increased BP”) AND inflamm* AND (“South Africa*” OR “Southern Africa*”)

EBSCOhost

(TI (hypertens* OR “high blood pressure” OR “elevated blood pressure” OR “increased blood pressure” OR HTN OR HT OR “high BP” OR “elevated BP” OR “increased BP”) OR AB (hypertens* OR “high blood pressure” OR “elevated blood pressure” OR “increased blood pressure” OR HTN OR HT OR “high BP” OR “elevated BP” OR “increased BP”)) AND (TI (inflamm*) OR AB (inflamm*)) AND (“South Africa*” OR “Southern Africa*”) NOT AB(review OR editorial OR commentary) NOT TI(review OR editorial OR commentary)

SUPPLEMENT 2.

Summary of studies included in review

Publication details	Study design	Total sample size	Study setting and date of data collection	Sample characteristics Age, Sex, Ethnicity	BP assessment	Hypertension guidelines	Inflammatory markers included
Cronje *et al.*, 2020 (12)	Cross-sectional	120	Rural and Urban regions in the North West province 2015	45-88 years All male Black	Office BP	2018 ESC/ESH	hs-CRP, hs-IL-6, hs-TNF-α, hs-IL-10, hs-IFN-γ CpGs neutrophil, lymphocyte and monocyte counts to obtain mdNLRs and mdLMRs
Crouch *et al.*, 2020 (34)	Prospective cohort	358	In and around the Potchefstroom area, North West province 2013 - 2017	20-30 years Male and female Black and White	Office BP ABPM	2018 ESC/ESH	CRP, IL-6, TNF-α IL-10, IFN-γ, IL-1β, IL-2, IL-4, IL-5, IL-7, IL-8, IL-12, IL-13, IL-17A, IL-21, IL-23, Fractalkine, GM-CSF, I-TAC, MIP-1α, MIP-1β, MIP-3α (all high-sensitivity)
Crouch *et al.*, 2020 (24)	Cross-sectional	1189	In and around the Potchefstroom area, North West province 2013/2017 and 2018/2022	20-30 years Male and female Black and White	Office BP Central BP ABPM	2018 ESC/ESH	CRP, IL-6, TNF-α IL-10, IFN-γ, IL-1β, IL-2, IL-4, IL-5, IL-7, IL-8, IL-12, IL-13, IL-17A, IL-21, IL-23, Fractalkine, GM-CSF, I-TAC, MIP-1α, MIP-1β, MIP-3α (all high-sensitivity)
Degenaar *et al.*, 2025 (29)	Cross-sectional	1055	In and around the Potchefstroom area, North West province 2013 – 2017	20-30 years Male and female Black and White	ABPM	2018 ESC/ESH	hs-CRP, hs-IL-6
Dieden *et al.*, 2021 (23)	Cross-sectional	362	Dr Kenneth Kaunda Education District, North West province 2008 and 2009	Average age: 44.8 years Male and female Black and White	Office BP	2013 ESC/ESH	92 proteins with the Proseek Multiplex CVD III 96x96 reagents kit (OLINK proteomics)
Dlamini *et al.*, 2025 (36)	Randomised controlled trial	1162	Soweto, Johannesburg, Gauteng province June 2018 – June 2019	18–28 years All female Black	Office BP	-	366 proteins with the Explore Cardiometabolic Panel I Service (OLINK proteomics)
Du Plessis *et al.*, 2022 (26)	Cross-sectional	1995	Rural and Urban regions in the North West province 2010	Average age: 48.0 years Male and female Black	Office BP	2020 ISH	hs-CRP

Jacobs *et al.*, 2025 (16)	Cross-sectional	1196	In and around the Potchefstroom area, North West province 2013 – 2017	Average age: 24.5 years Male and female Black and White	Office BP	2020 ISH	hs-CRP, hs-IL-6 hs-IL-10, hs-GDF-15, MCP-1, fibrinogen
Jansen van Vuren *et al.*, 2019 (33)	Prospective cohort	338	Dr Kenneth Kaunda Education District, North West province 2008/2009 and 2011/2012	20-63 years Male and female Black and White	ABPM	2016 ESC prevention guideline	hs-CRP, hs-TNF-α
Mafuika *et al.*, 2021 (15)	Cross-sectional	72	Antenatal clinic of a large regional hospital, Durban, KwaZulu-Natal province -	Maternal age: 25.5 – 27.5 All female -	-	-	TN-C
Maharaj *et al.*, 2017 (30)	Cross-sectional	193	Maternity unit at large regional hospital, Durban, KwaZulu-Natal province July 2013 to September 2014	18–46 years All female Black	-	-	IL-6, TNF-α IL-2, IFN-γ
Maritz *et al.*, 2016 (35)	Prospective cohort	592	Rural and Urban regions in the North West province 2005 and 2010	Average age: 52.8 – 59.0 years Male and female Black	Office BP Central BP	2013 ESC/ESH	hs-CRP, hs-IL-6
Myburgh *et al.*, 2020 (18)	Cross-sectional	1569	Rural and Urban regions in the North West province 2005	>30 years Male and female Black	Office BP	-	hs-CRP Polymorphic sites and novel SNPs within the CRP gene
Norman *et al.*, 2016 (20)	Cross-sectional	683	Soweto, Johannesburg, Gauteng province -	Average age: 37.8 years Male and female Black	Office BP ABPM	-	hs-CRP
Palm *et al.*, 2024 (37)	Randomised controlled trial	183	Large regional hospital, Cape Town, Western Cape province April 2018 – March 2020	Average age: 22.9 – 29.5 years All female -	-	ISSHP	CRP, IL-6
Pillay *et al.*, 2020 (14)	Cross-sectional	240	Large regional hospital, Durban, KwaZulu-Natal province -	Average age: 26.2 – 28.2 years All female -	-	-	hs-TNF- α, hs-IL-10, hs-IL-2 Exosomal TNF-α, IL-2, IL-10

Sekokotla *et al.*, 2021 (38)	Case-control	76	Two high schools, Mthatha, KwaZulu-Natal province May – June 2012	Average age: 14.9 years All female Black	Office BP	-	hs-CRP
Soobryan *et al.*, 2024 (31)	Cross-sectional	60	Maternity unit at large regional hospital, Durban, KwaZulu-Natal province -	Average age: 25.1 – 30.0 All female Black	-	-	Inflammatory genes (nCounter Human Inflammation v2 Panel with raw cell counts of 255 genes)
Soobryan *et al.*, 2022 (32)	Cross-sectional	200	Maternity unit at large regional hospital, Durban, KwaZulu-Natal province -	Average age: 23.0 – 39.0 All female -	-	ISSHP	TGFβ -1
Thompson *et al.*, 2016 (22)	Cross-sectional	352	In and around the Potchefstroom area, NorthWest province -	20–30 years Male and female Black and White	Office BP ABPM	ESH ABPM position paper	hs-CRP, hs-IL-6, hs-TNF-α
van Niekerk *et al.*, 2024 (27)	Cross-sectional	1194	In and around the Potchefstroom area, North West province 2013 – 2017	20–30 years Male and female Black and White	Office BP ABPM	-	hs-CRP, hs-IL-6, hs-TNF-α hs-IL-10, hs-IL-8
van Niekerk *et al.*, 2021 (28)	Cross-sectional	216	Dr Kenneth Kaunda Education District, North West province February-May 2011 and 2012	Average age: 49.7 years Male and female Black and White	ABPM	-	hs-CRP, hs-IL-6 neutrophil, lymphocyte and monocyte counts
van Rooyen *et al.*, 2016 (17)	Cross-sectional	1534	Rural and Urban regions in the North West province 2005	Average age: 51.2 years Male and female Black	Office BP	-	hs-CRP, hs-IL-6
van Vuren *et al.*, 2016 (21)	Cross-sectional	339	Dr Kenneth Kaunda Education District, North West province February-May 2008 and 2009	20-65 years Male and female Black and White	ABPM	2016 ESC prevention guideline	hs-CRP, hs-IL-6, hs-TNF-α
van Zyl *et al.*, 2020 (25)	Cross-sectional	1004	Rural and Urban regions in the Free State province -	25-64 years Male and female -	Office BP	As defined by WHO in 2015	hs-CRP Full blood count

Vermeulen *et al.*, 2026 (19)	Cross-sectional	1189	In and around the Potchefstroom area, North West province 2013 – 2017	Average age: 24.5 years Male and female Black and White	Office BP ABPM	2024 ESC	hs-CRP
Vermeulen *et al.*, 2020 (13)	Cross-sectional	1189	In and around the Potchefstroom area, North West province 2013 – 2017	20–30 years Male and female Black and White	Office BP Central BP 24h ABPM	-	hs-CRP, hs-IL-6, hs-TNF-α hs-GDF-15

Abbreviations: ABPM, ambulatory blood pressure monitoring; BP, blood pressure; CpGs, genomic cytosine-phosphate-guanine sites; CRP, C-reactive protein; ESC, European Society of Cardiology; ESH, European Society of Hypertension; GM-CSF, granulocyte-macrophage colony-stimulating factor; GDF-15, Growth/differentiation factor 15; hs-, high-sensitivity; IFN-γ, interferon-gamma; IL, interleukin; ISH, International Society of Hypertension; ISSHP, International Society for the Study of Hypertension in Pregnancy; I-TAC, Interferon-inducible T-cell alpha chemoattractant; MCP-1, monocyte chemoattractant protein-1; mdNLR, methylation-derived neutrophil-to-lymphocyte ratio; mdLMR, methylation-derived lymphocyte-to-monocyte ratio; MIP, macrophage inflammatory protein; TGFβ -1, transforming growth factor-beta-1; TN-C, tenascin-C; TNF-α, tumor necrosis factor-alpha; WHO, World Health Organisation. The symbol "–" denotes that the relevant aspect was not explicitly mentioned in the article.