

## RECOMENDACIÓN 11

### BÚSQUEDA Y SÍNTESIS DE EVIDENCIA DE EFECTOS DESEABLES E INDESEABLES

#### Guía de Práctica Clínica Hipertensión arterial primaria o esencial en personas de 15 años y más - 2018

##### A. PREGUNTA CLÍNICA

Para el seguimiento de personas mayores de 15 años con diagnóstico de hipertensión arterial, ¿Debe preferirse realizar toma de presión arterial en domicilio en comparación con toma de presión arterial en consulta?

##### Análisis y definición de los componentes de la pregunta en formato PICO

**Población:** Personas mayores de 15 años con diagnóstico de hipertensión arterial

**Intervención:** Seguimiento con toma de presión arterial en domicilio o Automedida de la Presión Arterial (AMPA)

**Comparación:** Seguimiento con toma de presión arterial en consulta

**Desenlace (outcome):** Paciente controlado (presión arterial bajo 140/90 o 130/80 en diabéticos)

##### B. BÚSQUEDA DE EVIDENCIA

Se realizó una búsqueda general de revisiones sistemáticas asociadas al tema de “Hypertension”. Las bases de datos utilizadas fueron: Cochrane database of systematic reviews (CDSR); Database of Abstracts of Reviews of Effectiveness (DARE); HTA Database; PubMed; LILACS; CINAHL; PsychINFO; EMBASE; EPPI-Centre Evidence Library; 3ie Systematic Reviews and Policy Briefs Campbell Library; Clinical Evidence; SUPPORT Summaries; WHO institutional Repository for information Sharing; NICE public health guidelines and systematic reviews; ACP Journal Club; Evidencias en Pediatría; y The JBI Database of Systematic Reviews and implementation Reports. No se aplicaron restricciones en base al idioma o estado de publicación. Dos revisores de manera independiente realizaron la selección de los títulos y los resúmenes, la evaluación del texto completo y la extracción de datos. Un investigador experimentado resolvió cualquier discrepancia entre los distintos revisores. En caso de considerarse necesario, se integraron estudios primarios<sup>1</sup>.

Seleccionadas las revisiones sistemáticas o estudios primarios asociadas a la temática, se clasificaron en función de las potenciales preguntas a las que daban respuesta. Al momento de definir la pregunta la evidencia ya se encontraba previamente clasificada según intervenciones comparadas. Los resultados se encuentran alojadas en la plataforma Living Overview of the Evidence (L-OVE), sistema que permite la actualización periódica de la evidencia.

##### C. SÍNTESIS DE EVIDENCIA

<sup>1</sup> Para revisar la metodología, las estrategias y los resultados de la búsqueda, favor revisar el informe “Búsqueda sistemática de evidencia de los efectos deseables e indeseables” en la sección de método de la Guía de Práctica Clínica respectiva.

## Resumen de la evidencia identificada

En las preguntas que comparan diagnósticos, el equipo metodológico consideró necesario distinguir dos enfoques para abordar su respuesta: *impacto diagnóstico* y *exactitud diagnóstica*. Se estableció priorizar estudios que evaluarán el *impacto diagnóstico del test*, es decir aquellos que comparan los resultados en salud de los pacientes diagnosticados/tratados en función a un test versus los resultados de pacientes diagnosticados/tratados en función a otro test. En caso de no encontrar este tipo de estudios, se utilizarían estudios que evaluaran la *exactitud diagnóstica del test*, es decir aquellos que evalúan qué tan bien el test clasifica a los pacientes respecto a si tienen o no una condición.<sup>2</sup>

Se identificaron 9 revisiones sistemáticas que incluyen 107 estudios primarios, de los cuales 75 corresponden a ensayos aleatorizados que responden la pregunta de *impacto diagnóstico*, por lo que se decidió omitir la exactitud diagnóstica del test. Para más detalle ver “*Matriz de evidencia*”<sup>3</sup>, en el siguiente link: [Monitorización en domicilio de presión arterial \(24 horas\) comparado con monitorización en consulta de hipertensión arterial](#)

Tabla 1: Resumen de la evidencia seleccionada

Revisión Sistemática	9 [1-9]
Estudios primarios	75 ensayos aleatorizados [10-84] y 32 observacionales [85-116]

## Estimador del efecto

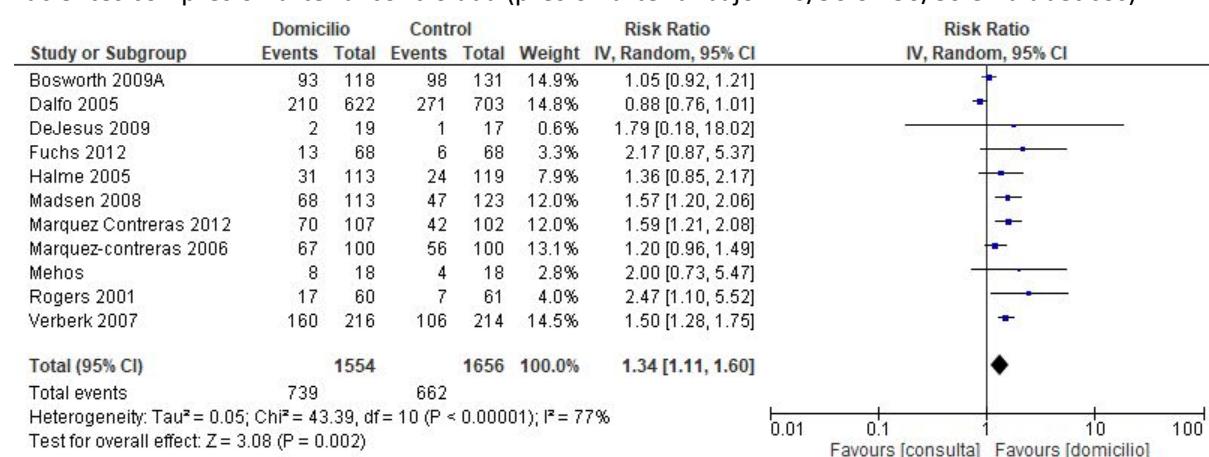
Se realizó un análisis de la matriz de evidencia, identificándose que una revisión sistemática [7] que incluye todos los ensayos aleatorizados relevantes [10-84] (o existen razones explícitas de exclusión de algunos ensayos tales como telemonitorización, utilización de estrategia de automanejo de fármacos utilizando medición de presión arterial en domicilio o utilización como estrategia complementaria) dando finalmente se decidió rehacer el metanálisis a partir de 11 ensayos [14, 20, 22, 26, 32, 41, 46, 52, 53, 64, 76] relevantes que entregaban datos suficientes.

<sup>2</sup> Schünemann HJ, Schünemann AHJ, Oxman AD, Brozek J, Glasziou P, Jaeschke R, et al. Grading quality of evidence and strength of recommendations for diagnostic tests and strategies. BMJ [Internet]. 2008 May 17 [cited 2018 Aug 1];336(7653):1106–10.

<sup>3</sup> **Matriz de Evidencia**, tabla dinámica cuyas filas representan las revisiones sistemática y en las columnas los estudios primarios que responden una misma pregunta. Los recuadros en verde corresponden a los estudios incluidos en las respectivas revisiones. La matriz se actualiza periódicamente, incorporando nuevas revisiones sistemáticas pertinentes y los respectivos estudios primarios.

## Metanálisis

Pacientes con presión arterial controlada (presión arterial bajo 140/90 o 130/80 en diabéticos)



## Tabla de Resumen de Resultados (Summary of Findings)

SEGUIMIENTO DE PERSONAS MAYORES DE 15 AÑOS CON DIAGNÓSTICO DE HIPERTENSIÓN ARTERIAL, CON TOMA DE PRESIÓN ARTERIAL EN DOMICILIO EN COMPARACIÓN CON TOMA DE PRESIÓN ARTERIAL EN CONSULTA						
Población	Personas mayores de 15 años con diagnóstico de hipertensión arterial					
Intervención	Seguimiento con toma de presión arterial en domicilio o Automedida de la Presión Arterial (AMPA)					
Comparación	Seguimiento con toma de presión arterial en consulta					
Desenlaces	Efecto relativo (IC 95%) -- Estudios/ pacientes	Efecto absoluto estimado*			Certeza de la evidencia (GRADE)	Mensajes clave en términos sencillos
		consulta	domicilio	Diferencia (IC 95%)		
Personas con presión arterial controlada (presión arterial bajo 140/90 o 130/80 en diabéticos)	RR: 1,34 (1,11 a 1,6) -- 11 ensayos/ 3.210 pacientes [14, 20, 22, 26, 32, 41, 46, 52, 53, 64, 76]	400 por 1000	536 por 1000	Diferencia: 136 pacientes más por 1000 (44 a 240 más)	⊕⊕⊕○ <sup>1,2</sup> Moderada	El seguimiento con toma de presión arterial en domicilio probablemente aumenta las personas con hipertensión arterial controlados comparado con seguimiento con toma de presión arterial en consulta.

RR: Riesgo relativo /IC 95%: Intervalo de confianza del 95%  
GRADE: Grados de evidencia Grading of Recommendations Assessment, Development and Evaluation.  
\* El riesgo CON seguimiento con toma de presión en domicilio está basado en el riesgo del grupo control en los estudios. El riesgo CON seguimiento con toma de presión en consulta (y su intervalo de confianza) está calculado a partir del efecto relativo (y su intervalo de confianza).  
<sup>1</sup> Se disminuyó en un nivel la certeza de la evidencia por riesgo de sesgo por razones variadas en los ensayos: algunos no era clara la secuencia de aleatorización ni el ocultamiento de ésta [14, 20, 22, 46, 64, 76].  
Fecha de elaboración de la tabla: Julio, 2018

## Referencias

- Agarwal R, Bills JE, Hecht TJ, Light RP. Role of home blood pressure monitoring in overcoming therapeutic inertia and improving hypertension control: a systematic review and meta-analysis. *Hypertension*. 2011;57(1):29-38.

2. Bray EP, Holder R, Mant J, McManus RJ. Does self-monitoring reduce blood pressure? Meta-analysis with meta-regression of randomized controlled trials. *Annals of medicine*. 2010;42(5):371-86.
3. Cappuccio FP, Kerry SM, Forbes L, Donald A. Blood pressure control by home monitoring: meta-analysis of randomised trials. *BMJ (Clinical research ed.)*. 2004;329(7458):145.
4. Fletcher BR, Hartmann-Boyce J, Hinton L, McManus RJ. The Effect of Self-Monitoring of Blood Pressure on Medication Adherence and Lifestyle Factors: A Systematic Review and Meta-Analysis. *American journal of hypertension*. 2015;28(10):1209-21.
5. Glynn LG, Murphy AW, Smith SM, Schroeder K, Fahey T. Self-monitoring and other non-pharmacological interventions to improve the management of hypertension in primary care: a systematic review. *The British journal of general practice : the journal of the Royal College of General Practitioners*. 2010;60(581):e476-88.
6. Ogedegbe G, Schoenthaler A. A systematic review of the effects of home blood pressure monitoring on medication adherence. *Journal of clinical hypertension (Greenwich, Conn.)*. 2006;8(3):174-80.
7. Uhlig K, Patel K, Ip S, Kitsios GD, Balk EM. Self-Measured Blood Pressure Monitoring in the Management of Hypertension: A Systematic Review and Meta-analysis. *Annals of internal medicine*. 2013;159(3):185-94.
8. Verberk WJ, Kroon AA, Kessels AG, de Leeuw PW. Home blood pressure measurement: a systematic review. *Journal of the American College of Cardiology*. 2005;46(5):743-51.
9. Tucker KL, Sheppard JP, Stevens R, Bosworth HB, Bove A, Bray EP, Earle K, George J, Godwin M, Green BB, Hebert P, Hobbs FDR, Kantola I, Kerry SM, Leiva A, Magid DJ, Mant J, Margolis KL, McKinstry B, McLaughlin MA, Omboni S, Ogedegbe O, Parati G, Qamar N, Tabaei BP, Varis J, Verberk WJ, Wakefield BJ, McManus RJ. Self-monitoring of blood pressure in hypertension: A systematic review and individual patient data meta-analysis. *PLoS medicine*. 2017;14(9):e1002389.
10. Artinian NT, Washington OG, Templin TN. Effects of home telemonitoring and community-based monitoring on blood pressure control in urban African Americans: a pilot study. *Heart & lung : the journal of critical care*. 2001;30(3):191-9.
11. Bailey B, Carney SL, Gillies AA, Smith AJ. Antihypertensive drug treatment: a comparison of usual care with self blood pressure measurement. *Journal of human hypertension*. 1999;13(2):147-50.
12. Baque A, Capillas PR, Guarch RM, Figueras SM, Ylla-Catala PA, Balana VM, et al. [Effectiveness of self-measurement of blood pressure in patients with hypertension: the Dioampa study]. *Aten Primaria*. 2005;35:233-7..
13. Binstock ML, Franklin KL. A comparison of compliance techniques on the control of high blood pressure. *American journal of hypertension*. 1988;1(3 Pt 3):192S-194S.
14. Bosworth HB, Olsen MK, Grubber JM, Neary AM, Orr MM, Powers BJ, Adams MB, Svetkey LP, Reed SD, Li Y, Dolor RJ, Oddone EZ. Two self-management interventions to improve hypertension control: a randomized trial. *Annals of internal medicine*. 2009;151(10):687-95.
15. Bosworth HB, Olsen MK, Neary A, Orr M, Grubber J, Svetkey L, Adams M, Oddone EZ. Take Control of Your Blood Pressure (TCYB) study: a multifactorial tailored behavioral and educational intervention for achieving blood pressure control. *Patient education and counseling*. 2008;70(3):338-47.

16. Brennan T, Spettell C, Villagra V, Ofili E, McMahill-Walraven C, Lowy EJ, Daniels P, Quarshie A, Mayberry R. Disease management to promote blood pressure control among African Americans. *Population health management*. 2010;13(2):65-72.
17. Broege PA, James GD, Pickering TG. Management of hypertension in the elderly using home blood pressures. *Blood pressure monitoring*. 2001;6(3):139-44.
18. Carnahan JE, Nugent CA. The effects of self-monitoring by patients on the control of hypertension. *The American journal of the medical sciences*. 1975;269(1):69-73.
19. Cheltsova A, Patel S, Young H. A Structured Program for Hypertension Control in an Urban, High Risk Population: A Randomized Trial. *Hypertension*. 2010;56(5):e109.
20. Dalfó i Baqué A, Capillas Peréz R, Guarch Rocarias M, Figueras Sabater M, Ylla-Català Passola A, Balañá Vilanova M, Vidal Taboada J, Cobos Carbó A. [Effectiveness of self-measurement of blood pressure in patients with hypertension: the Dioampa study]. *Atencion primaria / Sociedad Española de Medicina de Familia y Comunitaria*. 2005;35(5):233-7.
21. Dawes MG, Kaczorowski J, Swanson G, Hickey J, Karwalajtys T. The effect of a patient education booklet and BP 'tracker' on knowledge about hypertension. A randomized controlled trial. *Family practice*. 2010;27(5):472-8.
22. Dejesus RS, Chaudhry R, Leutink DJ, Hinton MA, Cha SS, Stroebel RJ. Effects of efforts to intensify management on blood pressure control among patients with type 2 diabetes mellitus and hypertension: a pilot study. *Vascular health and risk management*. 2009;5:705-11.
23. Düsing R, Handrock R, Klebs S, Tousset E, Vrijens B. Impact of supportive measures on drug adherence in patients with essential hypertension treated with valsartan: the randomized, open-label, parallel group study VALIDATE. *Journal of hypertension*. 2009;27(4):894-901.
24. Earp JA, Ory MG, Strogatz DS. The effects of family involvement and practitioner home visits on the control of hypertension. *American journal of public health*. 1982;72(10):1146-54.
25. Friedman RH, Kazis LE, Jette A, Smith MB, Stollerman J, Torgerson J, Carey K. A telecommunications system for monitoring and counseling patients with hypertension. Impact on medication adherence and blood pressure control. *American journal of hypertension*. 1996;9(4 Pt 1):285-92.
26. Fuchs SC, Ferreira-da-Silva AL, Moreira LB, Neyeloff JL, Fuchs FC, Gus M, Wiehe M, Fuchs FD. Efficacy of isolated home blood pressure monitoring for blood pressure control: randomized controlled trial with ambulatory blood pressure monitoring - MONITOR study. *Journal of hypertension*. 2012;30(1):75-80.
27. Girvin BG, Johnston GD. Comparison of the effects of a 7-day period of non-compliance on blood pressure control using three different antihypertensive agents. *Journal of hypertension*. 2004;22(7):1409-14.
28. Godwin M, Lam M, Birtwhistle R, Delva D, Seguin R, Casson I, MacDonald S. A primary care pragmatic cluster randomized trial of the use of home blood pressure monitoring on blood pressure levels in hypertensive patients with above target blood pressure. *Family practice*. 2010;27(2):135-42.
29. Green BB, Anderson ML, Cook AJ, Catz S, Fishman PA, McClure JB, Reid RJ. e-Care for heart wellness: a feasibility trial to decrease blood pressure and cardiovascular risk. *American journal of preventive medicine*. 2014;46(4):368-77.
30. Green BB, Cook AJ, Ralston JD, Fishman PA, Catz SL, Carlson J, Carrell D, Tyll L, Larson EB, Thompson RS. Effectiveness of home blood pressure monitoring, Web communication, and

- pharmacist care on hypertension control: a randomized controlled trial. *JAMA : the journal of the American Medical Association*. 2008;299(24):2857-67.
31. Green BB, Ralston JD, Fishman PA, Catz SL, Cook A, Carlson J, Tyll L, Carrell D, Thompson RS. Electronic communications and home blood pressure monitoring (e-BP) study: design, delivery, and evaluation framework. *Contemporary clinical trials*. 2008;29(3):376-95.
  32. Halme L, Vesalainen R, Kaaja M, Kantola I. Self-monitoring of blood pressure promotes achievement of blood pressure target in primary health care. *American journal of hypertension*. 2005;18(11):1415-20.
  33. Haynes RB, Sackett DL, Gibson ES, Taylor DW, Hackett BC, Roberts RS, Johnson AL. Improvement of medication compliance in uncontrolled hypertension. *Lancet*. 1978;1(7972):1265-8.
  34. Hebert PL, Sisk JE, Tuzzio L, Casabianca JM, Pogue VA, Wang JJ, Chen Y, Cowles C, McLaughlin MA. Nurse-led disease management for hypertension control in a diverse urban community: a randomized trial. *Journal of general internal medicine*. 2012;27(6):630-9.
  35. Hosseiniinasab M, Jahangard-Rafsanjani Z, Mohagheghi A, Sarayani A, Rashidian A, Javadi M, Ahmadvand A, Hadjibabaie M, Gholami K. Self-monitoring of blood pressure for improving adherence to antihypertensive medicines and blood pressure control: a randomized controlled trial. *American journal of hypertension*. 2014;27(11):1339-45.
  36. Johnson AL, Taylor DW, Sackett DL, Dunnett CW, Shimizu AG. Self-recording of blood pressure in the management of hypertension. *Canadian Medical Association journal*. 1979;119(9):1034-9.
  37. Kauric-Klein Z, Artinian N. Improving blood pressure control in hypertensive hemodialysis patients. *CANNT journal = Journal ACITN*. 2008;17(4):24-8, 31-6; quiz 29-30, 37-8.
  38. Kerry SM, Markus HS, Khong TK, Cloud GC, Tulloch J, Coster D, Ibison J, Oakeshott P. Home blood pressure monitoring with nurse-led telephone support among patients with hypertension and a history of stroke: a community-based randomized controlled trial. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*. 2013;185(1):23-31.
  39. Kirscht JP, Kirscht JL, Rosenstock IM. A test of interventions to increase adherence to hypertensive medical regimens. *Health education quarterly*. 1982;8(3):261-72.
  40. Leiva A, Aguiló A, Fajó-Pascual M, Moreno L, Martín MC, Garcia EM, Duro RE, Serra F, Dagosto P, Iglesias-Iglesias AA, Company RM, Yañez A, Llobera J. Efficacy of a brief multifactorial adherence-based intervention in reducing blood pressure: a randomized clinical trial. *Patient preference and adherence*. 2014;8:1683-90.
  41. Madsen LB, Kirkegaard P, Pedersen EB. Health-related quality of life (SF-36) during telemonitoring of home blood pressure in hypertensive patients: a randomized, controlled study. *Blood pressure*. 2008;17(4):227-32.
  42. Magid DJ, Ho PM, Olson KL, Brand DW, Welch LK, Snow KE, Lambert-Kerzner AC, Plomondon ME, Havranek EP. A multimodal blood pressure control intervention in 3 healthcare systems. *The American journal of managed care*. 2011;17(4):e96-103.
  43. Margolius D, Bodenheimer T, Bennett H, Wong J, Ngo V, Padilla G, Thom DH. Health coaching to improve hypertension treatment in a low-income, minority population. *Annals of family medicine*. 2012;10(3):199-205.
  44. McKenney JM, Munroe WP, Wright JT. Impact of an electronic medication compliance aid on long-term blood pressure control. *Journal of clinical pharmacology*. 1992;32(3):277-83.

45. McManus RJ, Mant J, Roalfe A, Oakes RA, Bryan S, Pattison HM, Hobbs FD. Targets and self monitoring in hypertension: randomised controlled trial and cost effectiveness analysis. BMJ (Clinical research ed.). 2005;331(7515):493.
46. Mehos BM, Saseen JJ, MacLaughlin EJ. Effect of pharmacist intervention and initiation of home blood pressure monitoring in patients with uncontrolled hypertension. *Pharmacotherapy*. 2000;20(11):1384-9.
47. Mengden T, Binswanger B, Spühler T, Weisser B, Vetter W. The use of self-measured blood pressure determinations in assessing dynamics of drug compliance in a study with amlodipine once a day, morning versus evening. *Journal of hypertension*. 1994;11(12):1403-11.
48. Midanik LT, Resnick B, Hurley LB, Smith EJ, McCarthy M. Home blood pressure monitoring for mild hypertensives. *Public health reports (Washington, D.C. : 1974)*. 1991;106(1):85-9.
49. Migneault JP, Dedier JJ, Wright JA, Heeren T, Campbell MK, Morisky DE, Rudd P, Friedman RH. A culturally adapted telecommunication system to improve physical activity, diet quality, and medication adherence among hypertensive African-Americans: a randomized controlled trial. *Annals of behavioral medicine : a publication of the Society of Behavioral Medicine*. 2012;43(1):62-73.
50. Mulhauser I, Sawicki PT, Didjurheit U, Jorgens V, Trampisch HJ, Berger M.. Evaluation of a structured treatment and teaching programme on hypertension in general practice. *Clin Exp Hypertens*. 1993;15:125-42.
51. Márquez Contreras E, Martel Claros N, Gil Guillén V, Martín De Pablos JL, De La Figuera Von Wichman M, Casado Martínez JJ, Espinosa García J. [Control of therapeutic inertia in the treatment of arterial hypertension by using different strategies]. *Atencion primaria / Sociedad Española de Medicina de Familia y Comunitaria*. 2009;41(6):315-23.
52. Márquez Contreras E, Martín de Pablos JL, Espinosa García J, Casado Martínez JJ, Sanchez López E, Escribano J, Grupo de Trabajo sobre Cumplimiento de la Asociación de la Sociedad española de Hipertensión Arterial y Liga Española para la Lucha contra la Hipertensión Arterial (SEH-LELHA). [Prevention of therapeutic inertia in the treatment of arterial hypertension by using a program of home blood pressure monitoring]. *Atencion primaria*. 2012;44(2):89-96.
53. Márquez-Contreras E, Martell-Claros N, Gil-Guillén V, de la Figuera-Von Wichmann M, Casado-Martínez JJ, Martin-de Pablos JL, Figueras M, Galera J, Serra A. Efficacy of a home blood pressure monitoring programme on therapeutic compliance in hypertension: the EAPACUM-HTA study. *Journal of hypertension*. 2006;24(1):169-75.
54. Mühlhauser I, Sawicki PT, Didjurgeit U, Jörgens V, Trampisch HJ, Berger M. Evaluation of a structured treatment and teaching programme on hypertension in general practice. *Clinical and experimental hypertension (New York, N.Y. : 1993)*. 1993;15(1):125-42.
55. Neumann, C. L., Menne, J., Rieken, E. M., Fischer, N., Weber, M. H., Haller, H., Schulz, E. G.. Blood pressure telemonitoring is useful to achieve blood pressure control in inadequately treated patients with arterial hypertension. *Journal of Human Hypertension*. 2011;25(12):732-738.
56. Ogbuokiri JE. Self-monitoring of blood pressures in hypertensive subjects and its effects on patient compliance. *Drug intelligence & clinical pharmacy*. 1980;14(6):424-7.
57. Ogedegbe G, Tobin JN, Fernandez S, Cassells A, Diaz-Gloster M, Khalida C, Pickering T, Schwartz JE. Counseling African Americans to Control Hypertension: cluster-randomized clinical trial main effects. *Circulation*. 2014;129(20):2044-51.

58. Parati G, Omboni S, Albini F, Piantoni L, Giuliano A, Revera M, Illyes M, Mancia G, TeleBPCare Study Group. Home blood pressure telemonitoring improves hypertension control in general practice. The TeleBPCare study. *Journal of hypertension*. 2009;27(1):198-203.
59. Parati G, Omboni S, Compare A, Grossi E, Callus E, Venco A, Destro M, Villa G, Palatini P, Rosei EA, Scalvini S, Taddei S, Manfellotto D, Favale S, De Matteis C, Guglielmi M, TELEBPMET Study Group, Lonati L, Della Rosa F, Tosazzi E, Grandi AM, Maresca AM, Mongiardi C, Mare M, Ricci AR, Cagnoni F, Georgatos J, Besostri V, Ferrari V, Omodeo O, Dorigatti F, Bonso E, Guarneri C, Muiyesan L, Paini A, Stassaldi D, Cinelli A, Bernocchi P, Rocchi S, Magagna A, Ghiadoni L, Del Frate I, Boresi F, Guidi A, Re MA, Pellicciotti L, Florio A, Morani G, Di Lillo S, Ambrosio A, Casciello A, Quaglia M, Forleo C, Ardito MA, Gerunda S, Panunzio M. Blood pressure control and treatment adherence in hypertensive patients with metabolic syndrome: protocol of a randomized controlled study based on home blood pressure telemonitoring vs. conventional management and assessment of psychological determinants of adherence (TELEBPMET Study). *Trials*. 2013;14:22.
60. Park MJ, Kim HS, Kim KS. Cellular phone and Internet-based individual intervention on blood pressure and obesity in obese patients with hypertension. *International journal of medical informatics*. 2009;78(10):704-10.
61. Pierce JP, Watson DS, Knights S, Gliddon T, Williams S, Watson R. A controlled trial of health education in the physician's office. *Preventive medicine*. 1984;13(2):185-94.
62. Ragot S, Genès N, Vaur L, Herpin D. Comparison of three blood pressure measurement methods for the evaluation of two antihypertensive drugs: feasibility, agreement, and reproducibility of blood pressure response. *American journal of hypertension*. 2000;13(6 Pt 1):632-9.
63. Rinfret S, Lussier MT, Peirce A, Duhamel F, Cossette S, Lalonde L, Tremblay C, Guertin MC, LeLorier J, Turgeon J, Hamet P, LOYAL Study Investigators. The impact of a multidisciplinary information technology-supported program on blood pressure control in primary care. *Circulation. Cardiovascular quality and outcomes*. 2009;2(3):170-7.
64. Rogers MA, Small D, Buchan DA, Butch CA, Stewart CM, Krenzer BE, Husovsky HL. Home monitoring service improves mean arterial pressure in patients with essential hypertension. A randomized, controlled trial. *Annals of internal medicine*. 2001;134(11):1024-32.
65. Rudd P, Miller NH, Kaufman J, Kraemer HC, Bandura A, Greenwald G, Debusk RF. Nurse management for hypertension. A systems approach. *American journal of hypertension*. 2004;17(10):921-7.
66. Soghikian K, Casper SM, Fireman BH, Hunkeler EM, Hurley LB, Tekawa IS, Vogt TM. Home blood pressure monitoring. Effect on use of medical services and medical care costs. *Medical care*. 1992;30(9):855-65.
67. Souza WK, Jardim PC, Brito LP, Araújo FA, Sousa AL. Self measurement of blood pressure for control of blood pressure levels and adherence to treatment. *Arquivos brasileiros de cardiologia*. 2012;98(2):167-74.
68. Staessen JA, Den Hond E, Celis H, Fagard R, Keary L, Vandenhoven G, O'Brien ET, Treatment of Hypertension Based on Home or Office Blood Pressure (THOP) Trial Investigators. Antihypertensive treatment based on blood pressure measurement at home or in the physician's office: a randomized controlled trial. *JAMA : the journal of the American Medical Association*. 2004;291(8):955-64.
69. Stahl SM, Kelley CR, Neill PJ, Grim CE, Mamlin J. Effects of home blood pressure measurement on long-term BP control. *American journal of public health*. 1984;74(7):704-9.

70. Stergiou GS, Efstathiou SP, Skeva II, Baibas NM, Kalkana CB, Mountokalakis TD. Assessment of drug effects on blood pressure and pulse pressure using clinic, home and ambulatory measurements. *Journal of human hypertension*. 2002;16(10):729-35.
71. Stergiou GS, Skeva II, Zourbaki AS, Mountokalakis TD. Self-monitoring of blood pressure at home: how many measurements are needed?. *Journal of hypertension*. 1998;16(6):725-31.
72. Stewart K, George J, Mc Namara KP, Jackson SL, Peterson GM, Bereznicki LR, Gee PR, Hughes JD, Bailey MJ, Hsueh YA, McDowell JM, Bortoleto DA, Lau R. A multifaceted pharmacist intervention to improve antihypertensive adherence: a cluster-randomized, controlled trial (HAPPY trial). *Journal of clinical pharmacy and therapeutics*. 2014;39(5):527-34.
73. Stewart K, Mc Namara KP, George J. Challenges in measuring medication adherence: experiences from a controlled trial. *International journal of clinical pharmacy*. 2014;36(1):15-9.
74. Tobe SW, Hunter K, Geerts R, Raymond N, Pylypchuk G, Canadian Hypertension Society. IMPPACT: Investigation of Medical Professionals and Patients Achieving Control Together. *The Canadian journal of cardiology*. 2008;24(3):205-8.
75. Vaur L, Dubroca I, Dutrey-Dupagne C, Genès N, Chatellier G, Bouvier-d'Yvoire M, Elkik F, Ménard J. Superiority of home blood pressure measurements over office measurements for testing antihypertensive drugs. *Blood pressure monitoring*. 1998;3(2):107-114.
76. Verberk WJ, Kroon AA, Lenders JW, Kessels AG, van Montfrans GA, Smit AJ, van der Kuy PH, Nelemans PJ, Rennenberg RJ, Grobbee DE, Beltman FW, Joore MA, Brunenberg DE, Dirksen C, Thien T, de Leeuw PW, Home Versus Office Measurement, Reduction of Unnecessary Treatment Study Investigators. Self-measurement of blood pressure at home reduces the need for antihypertensive drugs: a randomized, controlled trial. *Hypertension*. 2007;50(6):1019-25.
77. Vetter W, Hess L, Brignoli R. Influence of self-measurement of blood pressure on the responder rate in hypertensive patients treated with losartan: results of the SVATCH Study. Standard vs Automatic Treatment Control of COSAAR in Hypertension. *Journal of human hypertension*. 2000;14(4):235-41.
78. Vrijens B, Goetghebeur E. Comparing compliance patterns between randomized treatments. *Controlled clinical trials*. 1997;18(3):187-203.
79. Weisser B, Grüne S, Burger R, Blickenstorfer H, Iseli J, Michelsen SH, Opravil R, Rageth S, Sturzenegger ER, Walker P. The Dübendorf Study: a population-based investigation on normal values of blood pressure self-measurement. *Journal of human hypertension*. 1994;8(4):227-31.
80. Zarnke KB, Feagan BG, Mahon JL, Feldman RD. A randomized study comparing a patient-directed hypertension management strategy with usual office-based care. *American journal of hypertension*. 1997;10(1):58-67.
81. Zillich AJ, Sutherland JM, Kumbera PA, Carter BL. Hypertension outcomes through blood pressure monitoring and evaluation by pharmacists (HOME study). *Journal of general internal medicine*. 2005;20(12):1091-6.
82. da Silva GV, de Barros S, Abensur H, Ortega KC, Mion D, Cochrane Renal Group Prospective Trial Register: CRG060800146. Home blood pressure monitoring in blood pressure control among haemodialysis patients: an open randomized clinical trial. *Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association*. 2009;24(12):3805-11.

83. van Onzenoort HA, Verberk WJ, Kroon AA, Kessels AG, Nelemans PJ, van der Kuy PH, Neef C, de Leeuw PW. Effect of self-measurement of blood pressure on adherence to treatment in patients with mild-to-moderate hypertension. *Journal of hypertension*. 2010;28(3):622-7.
84. Niiranen TJ, Leino K, Puukka P, Kantola I, Karanko H, Jula AM. Lack of impact of a comprehensive intervention on hypertension in the primary care setting. *American journal of hypertension*. 2014;27(3):489-96.
85. Bobrie G, Chatellier G, Genes N, Clerson P, Vaur L, Vaisse B, Menard J, Mallion JM. Cardiovascular prognosis of "masked hypertension" detected by blood pressure self-measurement in elderly treated hypertensive patients. *JAMA : the journal of the American Medical Association*. 2004;291(11):1342-9.
86. Campo C, Fernández G, González-Esteban J, Segura J, Ruilope LM. Comparative study of home and office blood pressure in hypertensive patients treated with enalapril/HCTZ 20/6 mg: the ESPADA study. *Blood pressure*. 2000;9(6):355-62.
87. Fernández-González R, Gómez-Pajuelo C, Gabriel R, de La Figuera M, Moreno E, of The Verapamil-Frequency Res None. Effect of verapamil on home self-measurement of blood pressure and heart rate by hypertensive patients. Verapamil-Frequency Research Group. *Blood pressure monitoring*. 2000;5(1):23-30.
88. Fitzgerald DJ, O'Callaghan WG, O'Brien E, Johnson H, Mulcahy R, Hickey N. Home recording of blood pressure in the management of hypertension. *Irish medical journal*. 1985;78(8):216-8.
89. García-Vera MP, Sanz J. How many self-measured blood pressure readings are needed to estimate hypertensive patients' "true" blood pressure?. *Journal of behavioral medicine*. 1999;22(1):93-113.
90. Gran B. Non-pharmacological methods reduce drug use in the treatment of hypertension. A two-year trial in general practice. *Scandinavian journal of primary health care*. 1991;9(2):121-8.
91. Hond ED, Celis H, Fagard R, Keary L, Leeman M, O'Brien E, Vandenhoven G, Staessen JA. Self-measured versus ambulatory blood pressure in the diagnosis of hypertension. *Journal of hypertension*. 2003;21(4):717-22.
92. Imai Y, Satoh H, Nagai K, Sakuma M, Sakuma H, Minami N, Munakata M, Hashimoto J, Yamagishi T, Watanabe N. Characteristics of a community-based distribution of home blood pressure in Ohasama in northern Japan. *Journal of hypertension*. 1994;11(12):1441-9.
93. Jula A, Puukka P, Karanko H. Multiple clinic and home blood pressure measurements versus ambulatory blood pressure monitoring. *Hypertension*. 1999;34(2):261-6.
94. Leeman MJ, Lins RL, Sternon JE, Huberlant BC, Fassotte CE. Effect of antihypertensive treatment on office and self-measured blood pressure: the Autodil study. *Journal of human hypertension*. 2000;14(8):525-9.
95. Mallion JM, Genès N, Vaur L, Clerson P, Väisse B, Bobrie G, Chatellier G. Blood pressure levels, risk factors and antihypertensive treatments: lessons from the SHEAF study. *Journal of human hypertension*. 2001;15(12):841-8.
96. Mancia G, Sega R, Bravi C, De Vito G, Valagussa F, Cesana G, Zanchetti A. Ambulatory blood pressure normality: results from the PAMELA study. *Journal of hypertension*. 1997;13(12 Pt 1):1377-90.
97. Mancia G, Sega R, Milesi C, Cesana G, Zanchetti A. Blood-pressure control in the hypertensive population. *Lancet*. 1997;349(9050):454-7.

98. Mengden T, Schwartzkopff B, Strauer BE. What is the value of home (self) blood pressure monitoring in patients with hypertensive heart disease?. *American journal of hypertension*. 1998;11(7):813-9.
99. Mulè G, Caimi G, Cottone S, Nardi E, Andronico G, Piazza G, Volpe V, Federico MR, Cerasola G. Value of home blood pressures as predictor of target organ damage in mild arterial hypertension. *Journal of cardiovascular risk*. 2002;9(2):123-9.
100. Nesbitt SD, Amerena JV, Grant E, Jamerson KA, Lu H, Weder A, Julius S. Home blood pressure as a predictor of future blood pressure stability in borderline hypertension. The Tecumseh Study. *American journal of hypertension*. 1998;10(11):1270-80.
101. Niiranen, Teemu J, Hänninen, Marjo-Riitta, Johansson, Jouni, Reunanen, Antti, Jula, Antti M. Home-measured blood pressure is a stronger predictor of cardiovascular risk than office blood pressure: the Finn-Home study. *Hypertension*. 2010;55(6):1346.
102. Ohkubo T, Imai Y, Tsuji I, Nagai K, Kato J, Kikuchi N, Nishiyama A, Aihara A, Sekino M, Kikuya M, Ito S, Satoh H, Hisamichi S. Home blood pressure measurement has a stronger predictive power for mortality than does screening blood pressure measurement: a population-based observation in Ohasama, Japan. *Journal of hypertension*. 1998;16(7):971-5.
103. Okumiya K, Matsubayashi K, Wada T, Fujisawa M, Osaki Y, Doi Y, Yasuda N, Ozawa T. A U-shaped association between home systolic blood pressure and four-year mortality in community-dwelling older men. *Journal of the American Geriatrics Society*. 1999;47(12):1415-21.
104. Parati. AUPRES. Unpublished study.
105. Sawicki PT, Mühlhauser I, Didjurgeit U, Baumgartner A, Bender R, Berger M. Intensified antihypertensive therapy is associated with improved survival in type 1 diabetic patients with nephropathy. *Journal of hypertension*. 1996;13(8):933-8.
106. Sega R, Facchetti R, Bombelli M, Cesana G, Corrao G, Grassi G, Mancia G. Prognostic value of ambulatory and home blood pressures compared with office blood pressure in the general population: follow-up results from the Pressioni Arteriose Monitorate e Loro Associazioni (PAMELA) study. *Circulation*. 2005;111(14):1777-83.
107. Shimada, Kazuyuki, Fujita, Toshiro, Ito, Sadayoshi, Naritomi, Hiroaki, Ogihara, Toshio, Shimamoto, Kazuaki, Tanaka, Heizo, Yoshiike, Nobuo. The importance of home blood pressure measurement for preventing stroke and cardiovascular disease in hypertensive patients: a sub-analysis of the Japan Hypertension Evaluation with Angiotensin II Antagonist Losartan Therapy (J-HEALTH) study, a prospectiv. *Hypertension research : official journal of the Japanese Society of Hypertension*. 2008;31(10):1903.
108. Stergiou GS, Baibas NM, Kalogeropoulos PG. Cardiovascular risk prediction based on home blood pressure measurement: the Didima study. *Journal of hypertension*. 2007;25(8):1590-6.
109. Stergiou GS, Thomopoulou GC, Skeva II, Mountokalakis TD. Home blood pressure normalcy: the Didima study. *American journal of hypertension*. 2000;13(6 Pt 1):678-85.
110. Thijs L, Staessen JA, Celis H, Fagard R, De Cort P, de Gaudemaris R, Enström I, Imai Y, Julius S, Ménard J, Mion D, Palatini P, Rosenfeld J, Shapiro D, Spence D, Stergiou G. The international database of self-recorded blood pressures in normotensive and untreated hypertensive subjects. *Blood pressure monitoring*. 1999;4(2):77-86.
111. Tsuji I, Imai Y, Nagai K, Ohkubo T, Watanabe N, Minami N, Itoh O, Bando T, Sakuma M, Fukao A, Satoh H, Hisamichi S, Abe K. Proposal of reference values for home blood pressure

- measurement: prognostic criteria based on a prospective observation of the general population in Ohasama, Japan. *American journal of hypertension*. 1997;10(4 Pt 1):409-18.
112. Tsunoda S, Kawano Y, Horio T, Okuda N, Takishita S. Relationship between home blood pressure and longitudinal changes in target organ damage in treated hypertensive patients. *Hypertension research : official journal of the Japanese Society of Hypertension*. 2002;25(2):167-73.
113. Verberk WJ, Thien T, Kroon AA, Lenders JW, van Montfrans GA, Smit AJ, de Leeuw PW. Prevalence and persistence of masked hypertension in treated hypertensive patients. *American journal of hypertension*. 2007;20(12):1258-65.
114. Zannad F, Vaur L, Dutrey-Dupagne C, Genès N, Chatellier G, Elkik F, Ménard J. Assessment of drug efficacy using home self-blood pressure measurement: the SMART study. *Self Measurement for the Assessment of the Response to Trandolapril*. *Journal of human hypertension*. 1997;10(6):341-7.
115. de Gaudemaris R, Chau NP, Mallion JM. Home blood pressure: variability, comparison with office readings and proposal for reference values. *Groupe de la Mesure, French Society of Hypertension. Journal of hypertension*. 1994;12(7):831-8.
116. Celis H, De Cort P, Fagard R, Thijs L, Staessen JA. For how many days should blood pressure be measured at home in older patients before steady levels are obtained?. *Journal of human hypertension*. 1998;11(10):673-7.