

Annual Working Group Report Form

Year/time period of report: 2023

Name of Working Group: Working Group on Lifestyle, Cardiovascular Therapy and Adherence

Name of Working Group Section (if applicable):

Composition of Working Group

Chair

Name: Michel Azizi

Email: michel.azizi@egp.aphp.fr

Term: 2022-2024

Vice-Chairs

Co-Vice-Chair 1: Jorie Versmissen, j.versmissen@erasmusmc.nl

Co-Vice-Chair 2: Veronique Cornelissen, veronique.cornelissen@kuleuven.be

Term: 2022-2024

Secretary

Aleksander Prejbisz, aprejbisz@ikard.pl

Term: 2022-2024

Working Group Members

Current number of members: 71

New members approved this year: 2

- Jin Ho Shin, Korea, jhs2003@hanyang.ac.kr
 - Rik Olde Engberink, The Netherlands, r.h.oldeengberink@amsterdamumc.nl
-

Activities of the year

Publications on behalf of the Working Group

Published this year:

1. **Burnier, Michel; Azizi, Michel; Persu, Alexandre; Prejbisz, Aleksander; Cunha, Vitoria; Gupta, Pankaj; Vaclavik, Jan; Versmissen, Jorie; Kreutz, Reinhold.** FREQUENCY OF MEDICAL OUT-PATIENT VISITS AND USE OF HOME BLOOD PRESSURE MONITORING IN HYPERTENSIVE PATIENTS IN FIVE EUROPEAN COUNTRIES. Journal of Hypertension. 41(Suppl 3):e68, June 2023.

2. **Prejbisz, Aleksander; Dobrowolski, Piotr; Burnier, Michel; Azizi, Michel; Cornelissen, Veronique; Cunha, Vitoria; Gupta, Pankaj; Persu, Alexandre; Vaclavik, Jan; Versmissen, Jorie; Kreutz, Reinhold; Januszewicz, Andrzej.** PATIENT'S PERSPECTIVES ON TREATMENT ADHERENCE IN HYPERTENSION: RESULTS OF AN ESH SURVEY IN POLAND. *Journal of Hypertension* 41(Suppl 3):p e80, June 2023.
3. Jenkins, Sian; Cross, Ainslea; Khunti, Kamlesh; **Gupta, Pankaj.** Novel targeted health psychology clinic referral improves blood pressure: preliminary results of a retrospective study. *Journal of Hypertension*. 41(Suppl 3):e299, June 2023.
4. Bernieh, Dennis; Larwood, Louise Ann; Gill, Henry; Lane, Dan; Jones, Don; **Gupta, Pankaj** DEVELOPMENT OF A MULTIANALYTE MASS SPECTROMETRY METHOD FOR QUANTITATION OF ANTIHYPERTENSIVES IN MILK. *Journal of Hypertension*. 41(Suppl 3):e288-e289, June 2023.
5. Mancia G, Kreutz R, Brunström M, **Burnier M**, Grassi G, Januszewicz A, Muiesan ML, Tsioufis K, Agabiti-Rosei E, Algharably EAE, **Azizi M**, Benetos A, Borghi C, Hitij JB, Cifkova R, Coca A, **Cornelissen V**, Cruickshank JK, Cunha PG, Danser AHJ, Pinho RM, Delles C, Dominiczak AF, Dorobantu M, Doumas M, Fernández-Alfonso MS, Halimi JM, Járαι Z, Jelaković B, Jordan J, Kuznetsova T, Laurent S, Lovic D, Lurbe E, Mahfoud F, Manolis A, Miglinas M, Narkiewicz K, Niiranen T, Palatini P, Parati G, Pathak A, Persu A, Polonia J, Redon J, Sarafidis P, Schmieder R, Spronck B, Stabouli S, Stergiou G, Taddei S, Thomopoulos C, Tomaszewski M, Van de Borne P, Wanner C, Weber T, Williams B, Zhang ZY, Kjeldsen SE. 2023 ESH Guidelines for the management of arterial hypertension The Task Force for the management of arterial hypertension of the European Society of Hypertension: Endorsed by the International Society of Hypertension (ISH) and the European Renal Association (ERA). *J Hypertens*. 2023 Dec 1;41(12):1874-2071. doi: 10.1097/HJH.0000000000003480. Epub 2023 Sep 26. PMID: 37345492.
6. **Burnier M.** The role of adherence in patients with chronic diseases. *Eur J Intern Med*. 2023 Jul 20:S0953-6205(23)00233-9. doi: 10.1016/j.ejim.2023.07.008. Epub ahead of print. PMID: 37479633.
7. **Burnier M**, Redon J, Volpe M. Single-Pill Combination with Three Antihypertensive Agents to Improve Blood Pressure Control in Hypertension: Focus on Olmesartan-Based Combinations. *High Blood Press Cardiovasc Prev*. 2023 Mar;30(2):109-121. doi: 10.1007/s40292-023-00563-8. Epub 2023 Jan 25. PMID: 36696054; PMCID: PMC10090015.
8. Schneider MP, **Burnier M.** Partnership between patients and interprofessional healthcare providers along the multifaceted journey to medication adherence. *Br J Clin Pharmacol*. 2023 Jul;89(7):1992-1995. doi: 10.1111/bcp.15325. Epub 2022 Apr 15. PMID: 35429015.
9. Peeters LEJ, Kappers MHW, Hesselink DA, van der Net JB, Hartong SCC, van de Laar R, Ezzahti M, van de Ven PJG, van der Meer IM, de Bruijne ELE, Kroon AA, Indhirajanti-Tomasoa S, van der Linde NAJ, Bahmany S, Boersma E, Massey EK, van Dijk L, van Gelder T, Koch BCP, **Versmissen J.** Antihypertensive drug

- concentration measurement combined with personalized feedback in resistant hypertension: a randomized controlled trial. *J Hypertens*. 2024 Jan 1;42(1):169-178. doi: 10.1097/HJH.0000000000003585. Epub 2023 Oct 18. PMID: 37796233.
10. Peeters LEJ, Hesselink DA, Lafeber M, Severs D, van den Hoogen MWF, Sonneveld MAH, Ramakers CRB, Bahmany S, van Gelder T, Koch BCP, **Versmissen J**. Monitoring antihypertensive drug concentrations to determine nonadherence in hypertensive patients with or without a kidney transplant. *J Hypertens*. 2023 Aug 1;41(8):1239-1244. doi: 10.1097/HJH.0000000000003459. Epub 2023 May 6. PMID: 37195099; PMCID: PMC10328507.
 11. van Doorn L, Visser WJ, van Dorst DCH, Mirabito Colafella KM, Koolen SLW, de Mik AVE, Garrelds IM, Bovée DM, de Hoop EO, Bins S, Eskens FALM, Hoorn EJ, Jan Danser AH, Mathijssen RHJ, **Versmissen J**. Dietary sodium restriction prevents vascular endothelial growth factor inhibitor-induced hypertension. *Br J Cancer*. 2023 Jan;128(2):354-362. doi: 10.1038/s41416-022-02036-6. Epub 2022 Nov 10. PMID: 36357702; PMCID: PMC9647750.
 12. Kreutz R, **Cornelissen V**, Mancia G. Tobacco smoking is unhealthy for both female and male persons. *J Hypertens*. 2024 Jan 1;42(1):186. doi: 10.1097/HJH.0000000000003616. Epub 2023 Nov 30. PMID: 38033256.
 13. Baffour-Awuah B, Man M, Goessler KF, **Cornelissen VA**, Dieberg G, Smart NA, Pearson MJ. Effect of exercise training on the renin-angiotensin-aldosterone system: a meta-analysis. *J Hum Hypertens*. 2023 Nov 28. doi: 10.1038/s41371-023-00872-4. Epub ahead of print. PMID: 38017087.
 14. Charchar FJ, Prestes PR, Mills C, Ching SM, Neupane D, Marques FZ, Sharman JE, Vogt L, Burrell LM, Korostovtseva L, Zec M, Patil M, Schultz MG, Wallen MP, Renna NF, Islam SMS, Hiremath S, Gyeltshen T, Chia YC, Gupta A, Schutte AE, Klein B, Borghi C, Browning CJ, Czesnikiewicz-Guzik M, Lee HY, Itoh H, Miura K, Brunström M, Campbell NRC, Akinnibossun OA, Veerabhadrapa P, Wainford RD, Kruger R, Thomas SA, Komori T, Ralapanawa U, **Cornelissen VA**, Kapil V, Li Y, Zhang Y, Jafar TH, Khan N, Williams B, Stergiou G, Tomaszewski M. Lifestyle management of hypertension: International Society of Hypertension position paper endorsed by the World Hypertension League and European Society of Hypertension. *J Hypertens*. 2024 Jan 1;42(1):23-49. doi: 10.1097/HJH.0000000000003563. Epub 2023 Sep 12. PMID: 37712135.
 15. Hansen D, Coninx K, Beckers P, **Cornelissen V**, Kouidi E, Neunhauserer D, Niebauer J, Spruit MA, Takken T, Dendale P; EXPERT Network working group. Appropriate exercise prescription in primary and secondary prevention of cardiovascular disease: why this skill remains to be improved among clinicians and healthcare professionals. A call for action from the EXPERT Network. *Eur J Prev Cardiol*. 2023 Jul 17:zwad232. doi: 10.1093/eurjpc/zwad232. Epub ahead of print. PMID: 37458001.
 16. Pedretti RFE, Hansen D, Ambrosetti M, Back M, Berger T, Ferreira MC, **Cornelissen V**, Davos CH, Doehner W, de Pablo Y Zarzosa C, Frederix I, Greco A, Kurpas D, Michal M, Osto E, Pedersen SS, Salvador RE, Simonenko M, Steca P,

- Thompson DR, Wilhelm M, Abreu A. How to optimize the adherence to a guideline-directed medical therapy in the secondary prevention of cardiovascular diseases: a clinical consensus statement from the European Association of Preventive Cardiology. *Eur J Prev Cardiol.* 2023 Jan 24;30(2):149-166. doi: 10.1093/eurjpc/zwac204. PMID: 36098041.
17. Korb-Savoldelli V, Tran Y, Perrin G, Touchard J, Pastre J, Borowik A, Schwartz C, Chastel A, Thervet E, **Azizi M**, Amar L, Kably B, Arnoux A, Sabatier B. Psychometric Properties of a Machine Learning-Based Patient-Reported Outcome Measure on Medication Adherence: Single-Center, Cross-Sectional, Observational Study. *J Med Internet Res.* 2023 Oct 16;25:e42384. doi: 10.2196/42384. PMID: 37843891; PMCID: PMC10616746.
18. **Azizi M**. Decreasing the Effects of Aldosterone in Resistant Hypertension - A Success Story. *N Engl J Med.* 2023 Feb 2;388(5):461-463. doi: 10.1056/NEJMe2216143. PMID: 36724333.
19. Lauder L, Mahfoud F, **Azizi M**, Bhatt DL, Ewen S, Kario K, Parati G, Rossignol P, Schlaich MP, Teo KK, Townsend RR, Tsioufis C, Weber MA, Weber T, Böhm M. Hypertension management in patients with cardiovascular comorbidities. *Eur Heart J.* 2023 Jun 20;44(23):2066-2077. doi: 10.1093/eurheartj/ehac395. PMID: 36342266.
20. Osman H, Lane D, Bernieh D, Seidu S, Patel P, Khunti K, Brunskill NJ, Xu G, **Gupta P**. An Innovative Chemical Adherence Test Demonstrates Very High Rates of Nonadherence to Oral Cardio-Metabolic Medications. *Kidney Int Rep.* 2023 Sep 29;8(12):2818-2821. doi: 10.1016/j.ekir.2023.09.033. PMID: 38106590; PMCID: PMC10719591.
21. **Lane D**, Beishon L, Sharma V, Salim F, Sze S, Timmins MA, Robinson T, Eveson D, Mistri A, Patel P, **Gupta P**. High non-adherence rates to secondary prevention by chemical adherence testing in patients with TIA. *J Stroke Cerebrovasc Dis.* 2022 Sep;31(9):106665. doi: 10.1016/j.jstrokecerebrovasdis.2022.106665. Epub 2022 Jul 25. PMID: 35901588.
22. Sheppard JP, Albasri A, **Gupta P**, Patel P, Khunti K, Martin U, McManus RJ, Hobbs FDR. Measuring adherence to antihypertensive medication using an objective test in older adults attending primary care: cross-sectional study. *J Hum Hypertens.* 2022 Dec;36(12):1106-1112. doi: 10.1038/s41371-021-00646-w. Epub 2021 Dec 7. PMID: 34876657; PMCID: PMC7613908.
23. **Cornelissen V**. Overcoming barriers to implement exercise in the management of hypertensive patients. *Blood Press.* 2023 Dec;32(1):2208232. doi: 10.1080/08037051.2023.2208232.

In preparation: /

Meetings organized/planned this year: None

ESH endorsement: yes/no

Participation to the ESH Annual Meeting 2023

Chairpersons: M. Azizi (Paris, FRANCE), V. Cornelissen (Leuven, BELGIUM)

- 1. Consensus document on improving adherence with focus on the lifestyle interventions**
V. Cornelissen (Leuven, BELGIUM)
 - 2. Challenges of performing RCTs on adherence in hypertension**
L. Peeters (Rotterdam, THE NETHERLANDS)
 - 3. Adherence to antihypertensive medications including basic knowledge of pharmacokinetics**
J. Versmissen (THE NETHERLANDS)
 - 4. The place of thiazides and thiazide-like diuretics in CKD**
M. Burnier (Lausanne, SWITZERLAND)
 - 5. ET1 antagonism and resistant HTN**
M. Schlaich (Perth, AUSTRALIA)
 - 6. Aldosterone synthase inhibition in resistant HTN**
M. Azizi (Paris, FRANCE)
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Scientific projects

Finalization of the Patients' Survey on Adherence. Extension to Poland, Czech Republic and Romania

Ongoing: Statistical analyses being terminated

In planning for next year: Main Publications

Educational projects

Completed this year: Video on how to interact with patients on adherence

Ongoing: /

In planning for next year: /

Collaborations with other WGs/Scientific Societies: Collaboration with the Working Group on HT in Older Adults with addition of questions on adherence in their survey

Other remarks: /

Filled by: Michel Azizi, Michel Burnier, Jorie Versmissen, Veronique Cornelissen

Date: 08/01/2024

Appendix:

List of all current WG members

Last Name	First name	Country	Email-address
Agabiti Rosei	Enrico	Italy	enrico.agabitirosei@unibs.it
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