

May Measurement Month 2019: blood pressure screening results in Georgia, Europe

Bezhan Tsinamdzgvrishvili^{1,2,3}, Amiran Gamkrelidze⁴, Dali Trapaidze^{1,2,3,4}, Lela Sturua^{1,4,5}, Nino Grzelidze^{1,4}, Tamar Abesadze^{1,2}, Nana Mebonia^{1,4,6}, Lela Shengelia^{1,4}, Nia Giuashvili^{1,4,7}, Nino Gogilashvili^{1,2}, Nana Odisharia^{1,4}, Sophiko Alavidze^{1,4,6}, Thomas Beaney^{8,9}, Giles Partington⁸, and Neil R. Poulter⁸

¹Georgian Society of Hypertension, 2 Gudamakari Street, Tbilisi 0141, Georgia

²Tsinamdzgvrishvili Cardiology Center, 2 Gudamakari Street, Tbilisi 0141, Georgia

³Internal Diseases Department, Iv.Javakhishvili Tbilisi State University, 2 Chavchavadze Avenue, Tbilisi 0128, Georgia

⁴National Center for Disease Control and Public Health of Georgia, 99 Kakheti Highway, Tbilisi 0198, Georgia

⁵PetreShotadze Tbilisi Medical Academy, 51/2 KetevanTsamebuli Avenue, Tbilisi 0144, Georgia

⁶Tbilisi State Medical University, 33 Vazha-Pshavela Avenue, Tbilisi 0177, Georgia

⁷University of Georgia, 77a Kostava Street, Tbilisi 0171, Georgia

⁸Imperial Clinical Trials Unit, Imperial College London, Stadium House, 68 Wood Lane, London W12 7RH, UK; and

⁹Department of Primary Care and Public Health, Imperial College London, St Dunstan's Road, London W6 8RP, UK

KEYWORDS

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May Measurement Month is a global campaign aimed at raising public awareness of hypertension and to improve the management of hypertension—the main risk factor for cardiovascular diseases in the population. Screening was carried out at 400 sites on a national scale. More than 500 volunteers, including physicians (80%) and students of medical universities (20%) participated in the screening. To familiarize them with the research tools and standard blood pressure (BP) measurement method, they were trained by the members of the Georgian Society of Hypertension and the National Center for Disease Control and Public Health's staff. Medical societies, health-care professionals, public health workers, social mass media, and other stakeholders were actively involved in the recruitment process. A total of 13 267 (38.5% males and 61.5% females) individuals were screened. The mean age of participants was 54.7 years (SD 15.9). All participants were Caucasian. After imputation of missing BP readings, 8510 (64.1%) were found to have hypertension, out of whom 7269 (85.4%) were aware of their condition, 7232 (85.0%) were on medication, and 1278 (15.0%) were not taking any medication. Of those taking antihypertensive medication, 34.8% had their BP controlled (<140/90 mmHg). May Measurement Month detected a high proportion of participants with hypertension, with results indicating low rates of control in Georgia.

Introduction

According to the 2018 May Measurement Month (MMM) results,¹ prevalence of hypertension among those screened during the campaign was 56.1%. According to the Institute for Health Metrics and Evaluation (IHME)² in Georgia in 2019 stroke mortality accounted for 810.68 and ischaemic

*Corresponding author. Tel: +995 599 41 15 19, Email: dali.trapaidze@gmail.com

heart diseases (IHDs) mortality for 379.75 deaths per 100,000 inhabitants and the share of cardiovascular diseases (CVD) deaths of total deaths was 60.13%. The top three causes of death were IHD (28.17%), stroke (20.89%), and hypertension (7.81%). According to the National Statistics Office of Georgia (GeoStat), the share of CVD mortality in the country in 2019 was 46%.³

The Georgian Society of Hypertension (GSH) is an associated member of the International Society of Hypertension (ISH). Therefore, GSH accepted an offer to take part in the campaign. In the MMM 2017 and MMM 2018, 6144 and 10 756 adults were screened, respectively.^{1,4} The MMM 2017-18 revealed serious deficits in the hypertension treatment and control.

Methods

Dr D.T. is the national co-ordinator of the hypertension screening campaign in Georgia. Ethical approval was obtained in March 2019 [National Center for Disease Control and Public Health (NCDC) Institutional Review Board]. The screening was carried out at 400 sites (doubled from the previous campaign), on a national scale. More than 500 volunteers, including physicians (80%) and students of medical universities (20%) participated in the screening. To familiarize them with the research tools and standard blood pressure (BP) measurement method, they were trained by the members of the GSH and the NCDC's staff Medical societies; health-care professionals, public health workers, social/mass media, and other stakeholders were actively involved in the recruitment process. The MMM 2019 campaign started on 3 May and lasted for 40 days. Sources of funding: ISH, GSH, NCDC, and pharmaceutical companies.

Those presenting for BP measurement, who gave informed consent to participate in the screening were interviewed via a simple questionnaire that included questions on demographic and medical history and where it was possible, weight and height were measured and where it was not feasible, self-reported weight and height were collected.

Three BP measurements were taken at 1-min interval after the participant had been seated for 5 min, pulse rates were either measured by the BP device or manually between BP readings. In 99.9% of cases, BP was measured three times, in the sitting position, using Omron BP monitors. Hypertension was defined as a systolic BP ≥ 140 mmHg or diastolic BP ≥ 90 mmHg based on the mean of the 2nd and 3rd BP readings, or being on antihypertensive

medication. Data were collected on paper forms and later transferred to spreadsheets. The submitted data were cleaned centrally and multiple imputations were performed to impute BP readings where these were missing as described previously, based on global data.^{5,6}

Results

In total, 13 267 individuals were screened. The mean age of participants was 54.7 years (SD 15.9). Among the study population, 38.5% were men and 61.5% were women. All participants were Caucasian. Only 26 individuals (0.2%) reported never having had a BP measurement taken by medical personnel before. 19.0% of the respondents were taking aspirin and 9.8% were taking statins. After imputation of missing BP readings, the number of individuals with hypertension was 8510 (64.1%), 7269 (85.4%) of whom were aware of their condition and 7232 (85.0%) of whom were on antihypertensive medication, with 1278 (15.0%) not taking a medication. Of those on hypertensive medication, 34.8% had their BP controlled (BP $< 140/90$ mmHg), and of all hypertensive participants, 29.6% were controlled (*Table 1*).

In keeping with our previous studies, we found a significant association between higher BPs and being overweight/obese. In the present study, we highlight the association between higher BP and a previous history of hypertension during pregnancy (*Figure 1*).

Discussion

Arterial hypertension is a major public health problem in the Georgian population. This condition is common in the general population, as well as in high-risk groups, such as the Internally Displaced Persons, women who are pregnant or with a history of previous gestational hypertension. A history of gestational hypertension is associated with high cardiovascular risk in the future and therefore this female group requires special preventative approaches. In the overall cohort, the low prevalence of controlled hypertension (34.8%) is indicative of a problem of ineffective therapy, and potentially improperly selected regimen and dose. This may in part be a result of patients' self-medication and lack of communication with the doctor.

An increase in hypertension awareness in the population is worthy of mention. In 2018, such awareness was 77.9%, whereas in 2019, it was found to be 85.4%, which may indicate improved awareness as a result of the MMM campaign. iRoutine statistics in our country are based on information

Table 1 Total participants and proportions with hypertension, awareness, on medication and with controlled blood pressure

Total participants	Number (%) with hypertension	Number (%) of hypertensives aware	Number (%) of hypertensives on medication	Number (%) of those on medication with controlled BP	Number (%) of all hypertensives with controlled BP
13 267	8510 (64.1)	7269 (85.4)	7232 (85.0)	2518 (34.8)	2518 (29.6)

BP, blood pressure.

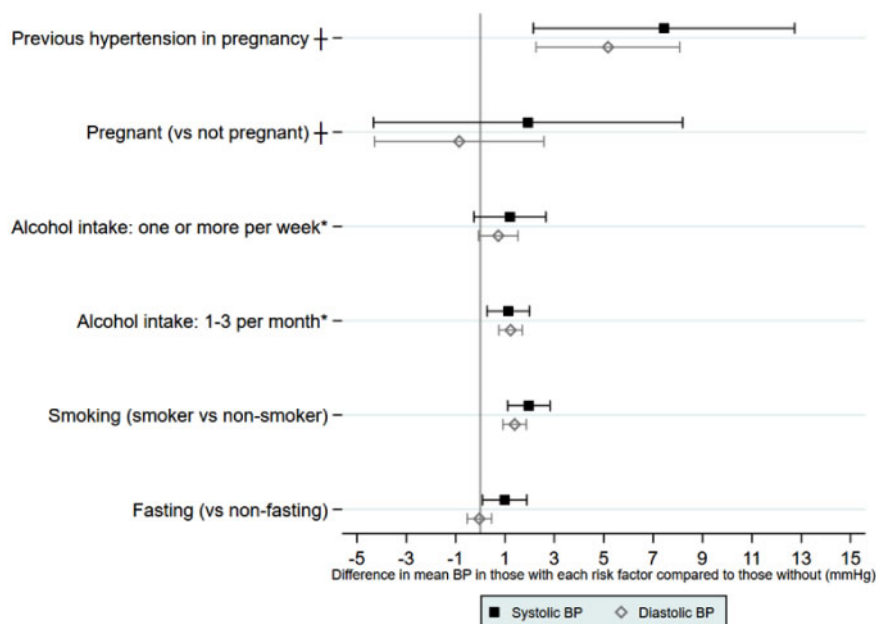


Figure 1 Difference in mean blood pressure with each risk factor compared with those without.

from medical facilities, therefore, are not comparable to the figures of a mass screening campaign such as MMM.

Despite the non-random selection of individuals surveyed under MMM, which means that the results may not be nationally representative, the findings of MMM in 2017-19 MMM, with low rates of control amongst hypertensive people, should be used to inform policymaking in future.

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Conflict of interest: none declared.

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