

INVITED REVIEW ARTICLE AND CALL FOR ACTION
/ ПРЕГЛЕДНИ РАД ПО ПОЗИВУ И АКЦИОНИ ПЛАН

Women's health in Serbia – past, present, and future

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Received • Примљено:

September 8, 2021

Accepted • Прихваћено:

December 23, 2021

Online first: December 27, 2021

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SUMMARY

Cardiovascular and reproductive health of women have been going hand in hand since the dawn of time, yet links have been poorly studied. Still, once basis of their connections started to be established, it depended on local regional abilities and level of progressive thinking to afford women comprehensive care beyond the “bikini medicine”.

Further research identified different associations rendering more conditions sex-specific and launching therefore a slow, yet initial turn around in clinical trials’ concept as the majority of global cardiovascular guidelines rely on the results of research conducted on a very modest percentage of women and even less on the women of color.

Currently, the concept of women’s heart centers varies depending on the local demographics’ guided needs, available logistics driven by budgeting and societal support of a broad-minded thinking environment, free of bias for everyone: from young adults questioning their gender identity, via women of reproductive age both struggling to conceive or keep working part time when healthy and line of work permits it during pregnancy, up to aging and the elderly.

Using “Investigate-Educate-Advocate-Legislate” as the four pillars of advancing cardiovascular care of women, we aimed to summarize standing of women’s health in Serbia, present ongoing projects and propose actionable solutions for the future.

Keywords: COVID-19; sex differences; pregnancy; women in cardiology; discrimination; diversity; inclusion

INTRODUCTION

Women’s health has traditionally been following the “bikini medicine” concept making women live in a delusion that breast cancer is their biggest enemy, when in fact it is heart disease that claims more lives than all cancers combined. Not only do we see these disparities in cardiovascular care in the United States, the beacon of modern democracy and global leader in technologically savvy healthcare, but worldwide also, where women’s access to care and policies vary extensively rendering all implementation of innovative ways more challenging [1, 2]. The ongoing black maternal crisis in the United States, sadly, confirmed that, even in most affluent settings, black mothers suffer more than other women during childbirth and the “fourth and fifth trimester”, so care offered to women has to become void of all bias [3, 4]. The bias-free care is taught in medical schools in different forms, however, sex-specific pathologies and racial disparities in a world whose landscape changes due to migrations of all kinds, demand our attention to the most vulnerable to meet the demand of the patients we tend to treat to the best of our knowledges [5]. The women’s heart centers (WHC) and programs in Northern America have been established over the past three decades, however, their concept and structure remain a work in progress globally [6, 7].

DEMOGRAPHICS

Per last available 2019 edition of the “Health Statistical Yearbook of the Republic of Serbia”, published by the Institute of Public Health of Serbia, “Dr Milan Jovanović Batut”, showed a 3.4% population decline from the 2011 census with a total of 3,561,503 women representing 51.3% of the population [8]. Same source reports that the women of childbearing age (15–49 years) make 21.7% of the population, while the aging and the elderly (over 65 years of age) make 20.7%. Steady decline in birth rates was noted over the past decade, while an additional 2.3% drop was registered when comparing January to July of 2020 and 2021, the two COVID-19 pandemic years [9].

SEX-SPECIFIC MORBIDITY AND MORTALITY IN SERBIA

At the primary healthcare level 5731 women over 15 years of age are assigned to one gynecologist, and in 2019, 43% of the visits represented first time ever visits and the prevailing reasons of visits were disease of the genitourinary tract (36%), pregnancy (6%) and tumors (4%) [8].

Currently, approximately half of the women of reproductive age struggle with some fertility issue from dysmenorrhea, polycystic ovary syndrome via infertility [8, 9] necessitating repeated assisted reproductive technology, known to increase cardiovascular risk long term [10, 11], besides a myriad of different acute complications of the procedure.

ACTIONABLE SOLUTIONS

Using the “Investigate-Educate-Advocate-Legislate” as the four pillars of advancing cardiovascular care of women [12], we aimed to summarize both the standing of women’s reproductive and cardiovascular health Serbia and actionable solutions

Investigate

Reviewing currently available sex-specific research dedicated to women’s health in Serbia, a pattern itself is absent and reported results come mainly from a moderate number of centers and research groups: whether from basic research standpoint [13–16], or clinical ones dedicated to women’s cardiometabolic health [17–21], cardio-obstetrics [14, 22, 23, 24], peri-/menopause [25, 26, 27], different cardiovascular outcomes [28, 29], cancer [30, 31, 32] or mental health [33, 34] including the vulnerable and underserved populations [35].

Underrepresentation of women in recruitment practices and delayed invasive strategy in Serbia – *per local, in press and unpublished results of ongoing research projects* – are detrimental as anywhere else in the world, however day-to-day re-evaluation of our changes of clinical practices remain of critical importance. The COVID-19 pandemic opened an additional Pandora’s box of suboptimal care for women [36] and women frontline healthcare workers in



Figure 1. The first “Dr Nanette Kass Wenger” International Conference on CVD in Women (Dec 2018): Program, snapshot of the article dedicated to the event in the Serbian Medical Chamber’s journal “Glasnik” and pictures from the event

particular [36, 37, 38], here proposed Serbian model of a WHC offers also a possible solution to the problem.

Also, more comprehensive registry-oriented and epidemiological research of different population strata should ameliorate long term research and, consequently, improve outcomes for women in Serbia at all levels of care currently offered both in nationally budgeted institutions (primary, secondary and tertiary), as well as privately-owned ones (primary mainly, secondary in a small number of selected procedures).

Educate

The road to providing sex-specific education for medical students is seemingly a long and winding one, even in countries where budgeting is not an issue and multiple sources of funding are available. However, before the new generations of physicians reach the workforce, continuing medical education for sub-specialties beyond endocrinology, gynecology and obstetrics, and urology, is sorely needed together with implicit bias trainings along with recertification. Although dedicated WHC culturally, worldwide, are staffed with women, teaching male doctors that “women are not small men”, but that their presentation of the same diseases can be different, as well as that with current migration rates, women of different ethnic [39] carry different burden of disease is of a growing importance.

Furthermore, educating women as patients of their symptoms and risks for different outcomes is equally important.

Advocate

Aiming to promote awareness and advance cardiovascular care of women in Serbia, the “Dr Nanette Kass Wenger” International Conference on Cardiovascular Disease in Women, was born as an idea to help bridge the gaps in available regional knowledges in the least judgmental way and help existing local teams build bonds.

The launch of the conference series started in 2018 supported by the current Presidents of the American Heart Association, Dr Robert A. Harrington and the American College of Cardiology’s Dr Michael Valentine and both associations’ CEOs, Ms Nancy Brown and Ms Cathy Gates.

International speakers: Drs Sandra Lewis, Annabelle Santos Volgman and Martha Gulati were welcomed by the ACC Chapter Governor of Serbia and Republika Srpska Professor Milan Nedeljković, Belgrade University’s School of Medicine Dean Academician Nebojša Lalić, the Serbian Medical Chamber’s Director Dr Milan Dinić and Academician Vladimir Kanjuh, president of the Serbian Academy’s Science and Arts’ Board for Cardiovascular Pathology who was one of the co-organizers (Figure 1). The newly confirmed Government, led by Ms Ana Brnabić, voiced its support to formation of a WHC under the roof of the leading country’s healthcare institution, the University Clinical Center of Serbia, in an appeal sent out to needed medical and scientific entities by the Minister for Population Policy and Demographics Dr Slavica Đukić-Dejanović – *a professor of Psychiatry and fervent advocate of equitable healthcare for the underserved populations, besides formal engagement with the national UN’s Generation Equality initiative* – who stressed the importance of timely management of healthcare issues of women and girls, and the first to confirm support was Academician Vladimir Kostić, President of the Serbian Academy of Sciences and Arts.

The second conference took place in December 2019 where besides sustained local and international support, the launch of the THEMIS foundation announced partnership with American Heart Association’s GoRedForWomen for Serbia and additional support from the Royal Medical Board was offered, while Professor Wenger was hosted by the Crown Princes Alexander and Katherine. During her working visit, Dr Wenger participated in multiple meetings with local opinion leaders in the field, addressed a reunion of national nursing leadership and also met with the representative of the National’s Gender Equity office that reaffirmed Government support in providing equitable care (Figure 2). The existing support of the Minister of Health, Associate Professor Dr Zlatibor Lončar, was confirmed once more and Dr Wenger toured the entire campus of the University Clinical Center of Serbia under heavy reconstruction at the time, while the idea of offering virtual telemedicine visits was emerging already.

As the world came to a standstill that delayed all care to all other patients with the emerging SARS-CoV2 pandemic in Europe in late 2019 and early 2020 in Serbia, the physical opening of the WHC planned for later that year suffered



Figure 2. The second "Dr Nanette Kass Wenger" International Conference on CVD in Women (Dec 2019):

(a) Professor Gordana Teofilovski-Parapid (Member of the Board for cardiovascular pathology of the Serbian Academy of Sciences and Arts), together with Academician Professor Dragan Micić and Professor Snežana Polovina hosting Professor Wenger at the Serbian Academy of Sciences and Arts

(b) Program of the event

(c) Professor Wenger with the Crown Princes' Alexander and Katherine and Ms Danijela Šegan, representative of the Gender equity office of the Serbian government (sitting) with Professor Gordana Teofilovski-Parapid, Dr Biljana Parapid and Professor Lukas Rasulić (standing) during the THEMIS Foundation launch and presentation of the GRFW program for Serbia



Figure 3. The third "Dr Nanette Kass Wenger" International Conference on CVD in Women (Dec 2020): Program and invite, while link of the event is available in the references

a delay, as well. However, the pilot telemedicine projects with the one of the oldest Belgrade's Primary Healthcare Physician's Office Centers, led by Dr Branka Lazić in collaboration with Dr Parapid, went as planned with minimal modifications for the benefit of the patients. So, the third conference amidst pandemic was held in December 2020 and hosted virtually [40] courtesy of the International Society of Telemedicine and eHealth, Working Group for Telecardiology President Dr Alexandru Mischie and Co-Chaired by ESC's Board Member Professor Dan Gaita, Professor Aleksandar Nešković as Cardiology Fellowship Program Director of the University of Belgrade, Faculty of Medicine and Dr Parapid as founder of the Conference series and WHC. Faculty of previous two conferences were joined by Dean Emeritus of the Georgetown University School of Medicine Professor S. Ray Mitchell that couldn't be hosted live for the Belgrade University's 100th birthday as planned and also by growing number of global allies of the "Dr Nanette Kass Wenger" WHC in Belgrade who together confirming the toll of the SARS-CoV2 pandemic and its influence on women's health on both sides of the frontline that was noted earlier [36] and that later reconfirmed in Serbia as well [37] only increased the need of such Center. Also, the 2020 conference gained another important global ally in the *Women As One* think tank whose team helped promote the event and committed to further partnership

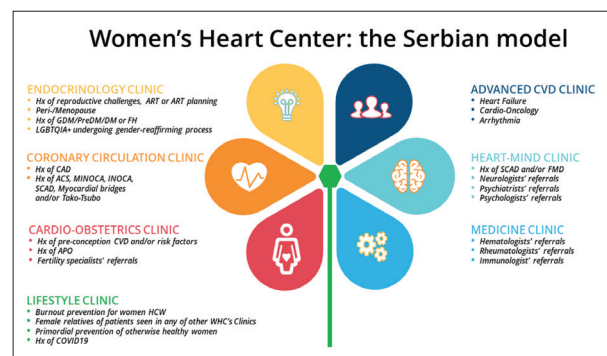


Figure 4. The "Dr Nanette Kass Wenger" Women's Heart Program and Women's Heart Center (Belgrade, Serbia) outline; Hx – history; GDM – gestational diabetes mellitus; DM – diabetes mellitus; FH – family hypercholesterolemia; LGBTQIA+ – lesbian, gay, bisexual, transgender, queer/questioning (one's sexual or gender identity), intersex, asexual/aromantic/agender and allies; CAD – coronary artery disease; ACS – acute coronary syndrome; MINOCA – myocardial infarction with non-obstructive coronary arteries; INOCA – ischemia and no obstructive coronary artery disease; SCAD – spontaneous coronary artery dissection; CVD – cardiovascular disease; APO – adverse pregnancy outcomes; HCW – healthcare workers; WHC – Women's Heart Center; FMD – fibromuscular dysplasia

in all equity-dedicated endeavors of the conference and “Dr Nanette Kass Wenger” WHC team (Figure 3).

The fourth conference planned for December 2021 should be a hybrid one: local limited seating event aiming to support the fully vaccinated COVID-19 pandemic healthcare workforce that is attempting to re-prioritize care of all patients beyond the SARS-CoV2 and virtual involvement of all interested, but mainly foreign faculty with travel restrictions.

As shown in Figure 4, we propose a model of a women's heart center most suiting the needs of a country on the road of financial recovery, encompassing multiple clinics:

Endocrinology clinic

Endocrinology and Reproductive Endocrinology play an important role in cardiovascular risk factors' management of women of different ages and life stages [41]: from safe peri-conception counselling of apparently healthy women, via assisted reproductive techniques (ART) management [42], menopause/hormone replacement therapy [43] and in sex-reaffirming process due to described risks for accelerated development of heart disease [44]. Existing teams of the Division of endocrinology, diabetes and metabolic disorders of the University Clinical Center of Serbia would continue its collaboration with the WHC's team.

Medicine Clinic

Hematologists', Rheumatologists', Immunologists' and Geriatrics' referrals locally constitute the second largest group of women patients necessitating cardiologists' follow up at least during a short period of the treatment received in respective sub-specialty clinics or as hospitalized patients whose management is beyond the usual inter-departmental cardiology consult offered by the Division of Cardiology. Formalization of existing collaboration between research groups of other teaching hospitals of the University of Belgrade, Faculty of Medicine was delayed due to COVID-19 pandemic, but is on the way.

Coronary Circulation Clinic

It is well established [45] that non-obstructive coronary disease is more common in women, including myocardial infarction with no obstructed coronary arteries (MINOCA) [46], ischaemia without obstructed coronaries (INOCA) [47], spontaneous coronary artery dissection (SCAD) [48], fibromuscular dysplasia (FMD) [49, 50], myocardial bridges [51, 52] and Takotsubo (stress-induced) cardiomyopathy [53]. Eventually, when hospitalized [54, 55], women receive far less invasive treatment strategies [56], guidelines directed medical therapy and physical rehabilitation post-discharge with almost immediate return to full activities of daily life in sharp contrast to male patients. Well known gaps in diagnostics [57, 58], care [59] and treatment short- and long-term, need to be bridged [60] and become the standard of care to avoid women being denied timely management for chest pain syndromes.

Heart-Mind Clinic

Diagnoses such as SCAD and FMD are under-diagnosed in Serbia, and when migraine and mental health issues as risk factors for heart disease are added, all remain under-studied and consequently, patients under-treated. The Clinic would offer an umbrella for nation-wide programs with pre-existing partners, as the relationship of these clinical entities remains subject of ongoing research worldwide [61–66].

Cardio-Obstetrics Clinic

Cardio-Obstetrics as a new field, aims to join Cardiologists and Gynecology & Obstetrics specialists in a collaborative care for women, particularly important where Maternal-Fetal Medicine specialists as such do not exist and where Neonatologists and Pediatricians help the best they can. The clinic is dedicated to women with pre-existing heart disease pre-conception and women who developed an adverse pregnancy outcome (APO) (post-partum cardiomyopathy, preeclampsia, gestational diabetes, premature delivery or infant of low birth weight) during a previous or ongoing pregnancy, but can accept other referrals (Figure 4), in particular from pediatricians aware of the risks children conceived via ART carry, once they reach adolescence [10, 11, 67] and harnessing power of the digital world should become an everyday tool for both children and young adults [68].

Advanced Cardiovascular Disease Clinic

The clinic should see patients of all age groups who present with refractory heart failure of various origins (including non-recovered peri-partum cardiomyopathy, ischemic cardiomyopathy, cancer patients *en lieu* of a separate Cardio-Oncology clinic (if regional needs demand it, an independent one should be opened, taking in consideration overall risks for cancer patient post-procedurally, in general [69]), arrhythmia patients and aging and elderly patients whose pharmacotherapy needs more caution [70–73].

Lifestyle Clinic

Lifestyle intervention for apparently healthy women is a growing global demand irrelevant of patients' age group [70, 74–77], while shift work – even before COVID-19 pandemic – has been confirmed as a risk factor for both cardiovascular disease and infertility [78], however, besides existing [79], specific regional guidance is lacking, while the stratifying cardiovascular risk landscape keeps evolving [80], especially in light of cardiovascular damage post-COVID [81]. The female workforce has additionally faced burnout during the ongoing SARS-CoV2 pandemic [36, 38, 79, 82, 83, 84] emphasizing a rising global need for the institution of a Diversity, Inclusion & Wellbeing Officers or Vice-Deans existing in North America, chiefly. With local governmental efforts and participation in #GenerationEquality initiative of the United Nations – both by former Minister Dr. Slavica Đukić-Dejanović and

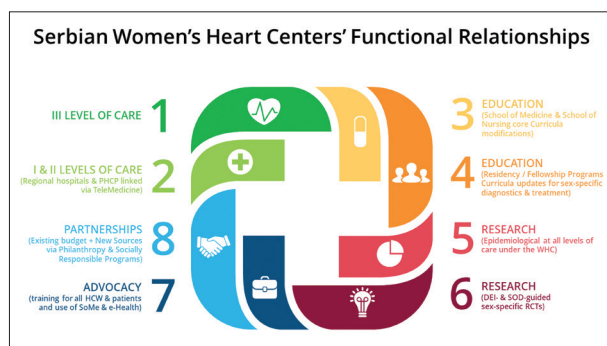


Figure 5. The “Dr Nanette Kass Wenger” Women’s Heart Program and Women’s Heart Center (Belgrade, Serbia) and its collaborative network outline; PHCP – primary healthcare physician; HCW – healthcare workers; SoMe – social media; WHC – Women’s Heart Center; DEI – Diversity, Equity and Inclusion; SOD – social determinants of health; RCT – randomized clinical trial

current Minister Ms. Zorana Mihajlović – only being amplified, while aforementioned position still not devised, the Lifestyle Clinic may provide women healthcare workers i.e., doctors, nurses and allied professions, a safe haven to seek medical and self-care advice in collaboration with the existing Safety at Work & Occupational Medicine Department of the University Clinical Center of Serbia.

As any WHC worldwide isn’t and shouldn’t be a solitary formation lacking interactions, for it can only perpetuate the existing stigma of a “female cult”-like self-sufficient formation, that it genuinely is not, aiming to summarize our proposal for its relationships, we have created the Figure 5.

In a country as Serbia, where allocation of national resources must be highly cost-effective, the WHC is advised to be based in a tertiary University hospital setting and represent an umbrella for all proposed activities.

Besides care offered at the Tertiary level – on both in hospital and face to face clinic-based manner – it should be linked to regional Secondary and Primary healthcare centers via telemedicine [85] that turned to be the “silver lining” of the SARS-CoV2 pandemic and its gaining of momentum should be compliant in forms acceptable for each country and local regulatory settings (including reimbursement options for services rendered).

From an educational perspective, WHC should help bridge the gaps in both core teaching curricula of Schools of Medicine and Nursing, as well as residency and fellowship programs, raising awareness in new generations of healthcare providers on sex-specific diagnostics and therapy beyond the traditional concept.

Research following clinical care provided to women in Primary, Secondary and Tertiary healthcare levels should be adopted. Epidemiological research and registries conducted on all three levels of care, while randomized clinical trials guided by racial and social determinants of health criteria should be designed and conducted at the tertiary level and offered to all interested to participate both nationally and internationally.

Advocacy as a tool for both patients and doctors has been growing worldwide and as such a WHC should offer advocacy tools tailored to needs of any patient within their

reach: from in-person guidance by MDs and allied professions on site (Research Nurse are not widespread globally and may take another decade to be utilized more widely), via use of simple brochures/pamphlets/themed pad notes or more epidemiological measures-friendly downloading from a website or an app.

Legislate

Legislation pertaining to new modalities of promotion of healthcare and healthy lifestyle is still somewhat vague, as the healthcare providing part of the private sector has flourished immensely over the past two decades and advertising depends mainly on the core ethical values of the owner. Fortunately, among the oldest ones, “VIZIM” primary healthcare physicians’ office as the oldest private system of the kind is a good example of appropriate health-related messages both on their walls nation-wide and on their website and both in caring for patients and for their employees.

Currently, global legislative efforts in providing adequate and timely healthcare for women are still meek [2, 86] and although Serbia’s laws provides generous paid maternity and paternity leaves, cover ART for couples struggling with infertility and the entire country’s population enjoys universal coverage employed or not, access to care due to cultural habits and logistical management, render the fine line between health and social issues, rather blurry, hence hard to help advance healthcare where needed the most.

In Serbia nowadays, the role of progressive, bias-free and equity-promoting experts’ groups, East-West Bridge [87] in particular, has been shown effective in working with all stakeholders aiming to implement global initiatives that can also help re-establish Serbia as a leader in region. A country that never knew slavery even in the XIV century (*per Dušan’s Code, Constitution written by Serbia’s mediaval Emperor Stefan Dušan in 1349*) and formally banned all feudal relationships as such in the XIX century (*the Candlemas Constitution of 1835*), should at least live up to the expectations of its broad-minded ancestors who granted freedom to any slave stepping on mediaval Serbia’s soil. In that regard, the core team of the “Dr Nanette Kass Wenger” WHC takes special pride in the fact that the initiative has gained multi-partisan support despite all societal complexities where #HeForShe advocacy [88, 89, 90] is usually encountered where you least expect it.

CONCLUSION

Growing popularity of women’s cardiovascular and reproductive health, created a flood of reports on outcomes of women derived from protocols designed with other aims, but targeted sex-specific research that endorses substantial changes in local practices and legislation is still pending – not only in Serbia, but worldwide, which emphasizes need for equitable care for all. The concept of WHC’s remains sorely needed wherever healthcare provided for women is in any way unsatisfactory, while the proposed Serbian model is adaptable to local, country-specific needs

and should be tailored accordingly. As the “Dr Nanette Kass Wenger” WHC awaits its opening in function of the COVID-19 pandemic that keeps derailing all endeavors, despite stellar home team ones, as long as there remains a will a way shall be made for advancing healthcare of the most fragile.

ACKNOWLEDGMENTS

Dr Parapid would like to express special thanks to her WIC and #HeForShe Mentors: Professors Biljana Obrenović-Kirćanski (University of Belgrade, Faculty of Medicine, Belgrade, Serbia), Cynthia Tracy (George Washington University, Washington DC, USA), Angela Maas (Radboud University, the Netherlands), Isabelle Durand-Zaleski (Paris XII University, Paris, France), Professors Patrick Nataf & Nicolas Danchin (University of Paris, Paris, France), Professor Mamas A. Mamas (University of Keele, United Kingdom), as well as her first alma mater's Belgrade University's own stellar #HeForShe, Professors Lukas Rasulić, Vladimir Đukić, Arsen Ristić and Milika Ašanin together with members of the Serbian Academy of Sciences and Arts, Professors Nebojša Lalić, Ljubiša Rakić, Nebojša Radunović, Jovan Hadži-Đokić, Dragan Micić, Vasilije Krešić and the late Milorad Mitković (1950–2021) gone too soon due to SARS-CoV2 during the COVID-19 pandemic.

Similarly, Dr Parapid owes singular gratitude to global WIC, Professors of Cardiology who helped her build the program and WHC from her over a decade long clinic: Dr Malissa Wood (Corrigan's Women's Heart Center, Harvard University), Dr C. Noel Bairey-Merz (Barbra Streisand Women's Heart Center, Cedars Sinai), Drs Jennifer Mieres, Stacey Rosen and Eugenia Gianos (Northwell Health System's Center for Equity of Care, Katz Institute for Women's Health & Women's Heart Health at Lenox Hill Hospital, respectively) and Dr Roxana Mehran (Zena and Michael A. Wiener Cardiovascular Institute at Mount Sinai School of Medicine and *WomenAsOne* think tank) whose over the years' informal mentorship and guidance on advocacy, hospital management, leadership and negotiation skills turned out to be nonetheless important than her entire medical training so far.

The exemplary #SheForShe advocacy of both American Heart Association's and American College of Cardiology's CEOs, Ms Nancy Brown and Ms Cathy Gates for an emerging leader as Dr Parapid is something the “Dr Nanette Kass Wenger” Conference on Cardiovascular Disease in Women faculty and collaborators want to applaud again,

as their selfless investment during the preparatory years and onwards have, obviously, not been in vain.

Authors of this manuscript also wish to express additional gratitude to companies who have actively supported the program and the conference series from its launch:

INFORMATIKA a.d. and the Srećković family for their singular philanthropy: providing their employees regular annual checkups over three decades under the same roof as their workplace, their female employees in particular over the past two years of GRFW announcement of arrival in Serbia through the THEMIS foundation, covering processing fees enabling speedy publication of this manuscript in the Serbia's oldest national medical journal and ongoing investing in the launch and the opening of the “Dr Nanette Kass Wenger” Women's Heart Center under the roof the University Clinical Center of Serbia.

FashionLab by Ms Zorana Vujanić, for providing the monogrammed red and navy capes Ms Vujanić designed with Dr Parapid's guidance, as a small token of heartfelt investment of her then startup company to the idea of the GRFW program in Serbia all faculty of the 1st “Dr Nanette Kass Wenger” conference are wearing in the pictures.

HYATT Regency Belgrade, its entire staff and its two General Managers, Mr Hom Parviz for wholehearted support that started with special heart healthy & vegan menu for the 2018 “Dr Nanette Kass Wenger” conference and has grown fast into a socially responsible campaign to provide the oldest employees of the company, on demand Cardiologist visits beside scheduled ones for all women employed needing any medical advice (a program paused due to the COVID-19 pandemic) and to Mr Zafiris Lampadaridis for helping the existing partnership grow.

Conflict of interest: **ASV:** Grant/Research Support (Novartis Clinical, Trial NIH Clinical Trials) and Stock Ownership (Apple Inc Stock); **RW:** Abbott Vascular (Advisory Board, Consultant), AstraZeneca (Speakers Bureau, Grant Support), Biotronik (Consultant, Grant Support), Boston Scientific (Advisory Board, Consultant, Grant Support), Chiesi (Grant Support), Cordis (Consultant), MedAlliance (Investor), Medtronic (Advisory Board, Consultant, Grant Support), Philips IGT (Advisory Board, Consultant, Grant Support), Pi-Cardia LTD (Advisory Board, Consultant), Swiss Interventional Systems / Sis Medical AG (Consultant), Transmural Systems, Inc. (Consultant, Investor), Venous MedTech (Consultant); **BP:** Boston Scientific EMEA (DE&I, The First Female Cardiologist Advisory Board, position accepted Nov 30, 2021).

REFERENCES

- Virani SS, Alonso A, Aparicio HJ, Benjamin EJ, Bittencourt MS, Callaway CW, et al. Heart Disease and Stroke Statistics-2021 Update: A Report From the American Heart Association. *Circulation*. 2021;143(8):e254–e743.
- Kouvari M, Souliotis K, Yannakoulia M, Panagiotakos DB. Cardiovascular Diseases in Women: Policies and Practices Around the Globe to Achieve Gender Equity in Cardiac Health. *Risk Manag Healthc Policy*. 2020;13:2079–94.
- Bond RM, Gaither K, Nasser SA, Albert MA, Ferdinand KC, Njoroge JN, et al. Working Agenda for Black Mothers: A Position Paper From the Association of Black Cardiologists on Solutions to Improving Black Maternal Health. *Circ Cardiovasc Qual Outcomes*. 2021;14(2):e007643.
- Association of Black Cardiologists' Women and Children Committee Table Talk Series: 1-4. <https://abccardio.org/abc-webinars/> (2021). Accessed.

5. United Nations High Commissioner for Refugees. USA office: <https://www.unhcr.org/en-us/women.html> (2021). Accessed 2021.
6. Lundberg GP, Mehta LS, Sanghani RM, Patel HN, Aggarwal NR, Aggarwal NT, et al. Heart Centers for Women: Historical Perspective on Formation and Future Strategies to Reduce Cardiovascular Disease. *Circulation*. 2018;138(11):1155–65.
7. Aggarwal NR, Mulvagh SL. Women's Heart Programs. In: Aggarwal NR, Wood MJ, editors. *Sex Differences in Cardiac Disease*. Elsevier; 2021.
8. HEALTH STATISTICAL YEARBOOK OF REPUBLIC OF SERBIA 2019. In: Verica Jovanovic M, PhD, Associate Professor, editor. Dr Subotica 5, Beograd: INSTITUTE OF PUBLIC HEALTH OF SERBIA "Dr Milan Jovanovic Batut"; 2020.
9. Statistical Office of the Republic of Serbia. Live births and deaths by sex - 2011-2021 data.: <https://www.stat.gov.rs/en-US/oblasti/stanovnistvo/rodeni-i-umrli> (2021). Accessed Sep 07, 2021 2021.
10. Meister TA, Rimoldi SF, Soria R, von Arx R, Messerli FH, Sartori C, et al. Association of Assisted Reproductive Technologies With Arterial Hypertension During Adolescence. *J Am Coll Cardiol*. 2018;72(11):1267–74.
11. Perak AM, Ning H, Khan SS, Bundy JD, Allen NB, Lewis CE, et al. Associations of Late Adolescent or Young Adult Cardiovascular Health With Premature Cardiovascular Disease and Mortality. *J Am Coll Cardiol*. 2020;76(23):2695–707.
12. Wenger N. Perspective: A heartfelt plea. *Nature*. 2017;550(7674):S9–S9.
13. Tomanović-Koković J, Teofilovski-Parapid G, Oklobdzija M, Kanjuh V, Kovacević S, Parapid B, et al. [Influence of the myocardial bridging phenomenon on the myocardial structure and the coronary arteries wall structure changes]. *Vojnosanit Pregl*. 2006;63(2):148–52.
14. Radunovic N, Kuczynski E, Kontic O, Kanjuh V, Lockwood CJ. Chorionic villus sampling significantly affects fetal cardiovascular function. *J Matern Fetal Neonatal Med*. 2007;20(4):285–8.
15. Teofilovski-Parapid G, Kanjuh V, Parapid B. Myocardial bridging phenomenon and myocardial ischemia. *Med Data Rev*. 2009;1(3):15–20.
16. Teofilovski-Parapid G, Jankovic R, Kanjuh V, Virmani R, Danchin N, Prates N, et al. Myocardial bridges, neither rare nor isolated—Autopsy study. *Annals of Anatomy - Anatomischer Anzeiger*. 2017;210:25–31.
17. Macut D, Micić D, Parapid B, Cvijović G, Sumarac M, Kendereski A, et al. Age and body mass related changes of cardiovascular risk factors in women with polycystic ovary syndrome. *Vojnosanit Pregl*. 2002;59(6):593–9.
18. Parapid B, Saponjski J, Ostojić M, Vukcević V, Stojković S, Obrenović-Kirčanski B, et al. [The degree of coronary atherosclerosis as a marker of insulin resistance in non-diabetics]. *Srp Arh Celok Lek*. 2010;138(7–8):436–43.
19. Parapid B, Milic N, Lalic N, Lalic K, Ostojic MC, Micic D, et al. Hypertriglyceridemic waist carries a greater risk for coronary artery disease in Serbian women. *European Heart Journal*. 2012;33(Supplement_1):608–9.
20. Nedeljkovic-Arsenovic O, Banovic M, Radenkovic D, Rancic N, Polovina S, Micic D, et al. Five-Year Outcomes in Bariatric Surgery Patients. *Medicina (Kaunas)*. 2020;56(12).
21. Bjekić-Macut J, Vukašin T, Velija-Ašimi Z, Bureković A, Zdravković M, Andrić Z, et al. Polycystic ovary syndrome: a contemporary clinical approach. *Curr Pharm Des*. 2021.
22. Stanojević D, Stanojević M, Zamurović M, Cirović A, Hajrić A, Rakić S, et al. Uterine compression suture technique in the management of severe postpartum haemorrhage as an alternative to hysterectomy. *Srp Arh Celok Lek*. 2009;137(11–12):638–40.
23. Mirkovic L, Tulic I, Stankovic S, Soldatovic I. Prediction of adverse maternal outcomes of early severe preeclampsia. *Pregnancy Hypertens*. 2020;22:144–50.
24. Dobrosavljević A, Rakic S. Risk of gestational hypertension in pregnancies complicated with ovarian hyperstimulation syndrome. *J Pak Med Assoc*. 2020;70(11):1897–900.
25. Stojanovic M, Nisic T, Ciric J, Stojkovic M, Savic S, Beleslin B, et al. Role of ambulatory blood pressure monitoring in screening for secondary hypertension. [PP2.09]. *Journal of Hypertension*. 2017;35:e313–e4.
26. Polovina SP, Miljic D, Zivojinovic S, Milic N, Micic D, Brkic VP. The impact of thyroid autoimmunity (TPOAb) on bone density and fracture risk in postmenopausal women. *Hormones (Athens)*. 2017;16(1):54–61.
27. Stojanovic M, Ivovic M, Tancic M, Miletic M, Marina L, Arizanovic Z, et al. Altered HRT and ABPM in menopausal woman. *Journal of Hypertension*. 2018;36:e276.
28. Obrenović-Kirčanski B, Mikić A, Parapid B, Djukić P, Kanjuh V, Milić N, et al. A 30-year-single-center experience in atrial myxomas: from presentation to treatment and prognosis. *Thorac Cardiovasc Surg*. 2013;61(6):530–6.
29. Macut D, Ognjanović S, Ašanin M, Krljanac G, Milenković T. Metabolic syndrome and myocardial infarction in women. *Curr Pharm Des*. 2021.
30. Đoković DD, Jović JJ, Đoković JD, Knežević M, Djukić-Dejanović S, Ristić-Ignjatović DI. Effects of hormone replacement therapy on depressive and anxiety symptoms after oophorectomy. *Med Glas (Zenica)*. 2015;12(1):79–85.
31. Jeremic K, Stefanovic A, Dotlic J, Kadija S, Kontic O, Gojnic M, et al. Cancer during pregnancy - clinical characteristics, treatment outcomes and prognosis for mothers and infants. *J Perinat Med*. 2018;46(1):35–45.
32. Tadic D, Djukic Dejanovic S, Djokovic Z, Janjic V. The impact of structured education of breast cancer patients receiving capecitabine on mental disorders. *J buon*. 2020;25(1):141–51.
33. Djukić-Dejanović S, Lečić-Toševski D, Mihajlović G, Borovčanin M, Simić-Vukomanović I. [Pharmacotherapeutical possibilities in mental disorders: current status in Serbia]. *Srp Arh Celok Lek*. 2011;139 Suppl 1:10–3.
34. Simić-Vukomanović I, Mihajlović G, Kocić S, Djonović N, Banković D, Vukomanović V, et al. The prevalence and socioeconomic correlates of depressive and anxiety symptoms in a group of 1,940 Serbian university students. *Vojnosanit Pregl*. 2016;73(2):169–77.
35. Tiosavljević D, Djukić-Dejanović S, Turza K, Jovanović A, Jeremić V. Prostitution as a Psychiatric Situation: Ethical Aspects. *Psychiatr Danub*. 2016;28(4):349–56.
36. Parapid B, Alasnag M, Hayes SN, Samargandy S, Banerjee S, Alasnag M, et al. COVID-19 impact on women on both sides of the frontline – the American College of Cardiology Women in Cardiology Section's International Working Group perspective. *Srpski Arhiv za Celokupno Lekarstvo*. 2020;148(9–10):637–42.
37. Dinić M, Šantrić Miličević M, Mandić-Rajčević S, Tripković K. Health workforce management in the context of the COVID-19 pandemic: A survey of physicians in Serbia. *Int J Health Plann Manage*. 2021;36(5):92–111.
38. Parapid B, Bond RM. COVID-19: An Insult to Injury on Equity. *International Journal of Cardiovascular Sciences*. 2021;34(4):342–3.
40. 3rd "Dr Nanette Kass Wenger" International Conference on Cardiovascular Disease in Women. 2020.
41. Elder P, Sharma G, Gulati M, Michos ED. Identification of female-specific risk enhancers throughout the lifespan of women to improve cardiovascular disease prevention. *American Journal of Preventive Cardiology*. 2020;2:100028.
42. Maas A, Rosano G, Cifkova R, Chieffo A, van Dijken D, Hamoda H, et al. Cardiovascular health after menopause transition, pregnancy disorders, and other gynaecologic conditions: a consensus document from European cardiologists, gynaecologists, and endocrinologists. *Eur Heart J*. 2021;42(10):967–84.
43. Shufelt CL, Manson JE. Menopausal Hormone Therapy and Cardiovascular Disease: The Role of Formulation, Dose, and Route of Delivery. *J Clin Endocrinol Metab*. 2021;106(5):1245–54.
44. Dutra E, Lee J, Torbati T, Garcia M, Merz CNB, Shufelt C. Cardiovascular implications of gender-affirming hormone treatment in the transgender population. *Maturitas*. 2019;129:45–9.
45. Vogel B, Acevedo M, Appelman Y, Bairey Merz CN, Chieffo A, Figtree GA, et al. The Lancet women and cardiovascular disease Commission: reducing the global burden by 2030. *Lancet*. 2021;397(10292):2385–438.
46. Alasnag M, Jelani Q-u-a, Johnson TW, Parapid B, Balghaith M, Al-Shaibi K. The Role of Imaging for MINOCA (Myocardial Infarction with No Obstructive Coronary Artery Disease): a Review of Literature and Current Perspectives. *Current Cardiovascular Imaging Reports*. 2020;13(7):21.
47. Kunadian V, Chieffo A, Camici PG, Berry C, Escaned J, Maas A, et al. An EAPCI Expert Consensus Document on Ischaemia with Non-Obstructive Coronary Arteries in Collaboration with European Society of Cardiology Working Group on Coronary Pathophysiology & Microcirculation Endorsed by Coronary Vasomotor Disorders International Study Group. *EuroIntervention*. 2021;16(13):1049–69.
48. Hayes SN, Tweet MS, Adlam D, Kim ESH, Gulati R, Price JE, et al. Spontaneous Coronary Artery Dissection: JACC State-of-the-Art Review. *J Am Coll Cardiol*. 2020;76(8):961–84.

49. Maas A, Bouatia-Naji N, Persu A, Adlam D. Spontaneous coronary artery dissections and fibromuscular dysplasia: Current insights on pathophysiology, sex and gender. *Int J Cardiol.* 2019;286:220–5.
50. Pappaccogli M, Prejbisz A, Ciuricà S, Bruno RM, Aniszczuk-Hybiak A, Bracalente I, et al. Pregnancy-Related Complications in Patients With Fibromuscular Dysplasia: A Report From the European/International Fibromuscular Dysplasia Registry. *Hypertension.* 2020;76(2):545–53.
51. Boyd JH, Pargaonkar VS, Scoville DH, Rogers IS, Kimura T, Tanaka S, et al. Surgical Unroofing of Hemodynamically Significant Left Anterior Descending Myocardial Bridges. *Ann Thorac Surg.* 2017;103(5):1443–50.
52. Jubran A, Schnittger I, Tremmel J, Pargaonkar V, Rogers I, Becker HC, et al. Computed Tomographic Angiography-Based Fractional Flow Reserve Compared With Catheter-Based Dobutamine-Stress Diastolic Fractional Flow Reserve in Symptomatic Patients With a Myocardial Bridge and No Obstructive Coronary Artery Disease. *Circ Cardiovasc Imaging.* 2020;13(2):e009576.
53. Agdamag AC, Patel H, Chandra S, Rao A, Suboc TM, Marinescu K, et al. Sex Differences in Takotsubo Syndrome: A Narrative Review. *J Womens Health (Larchmt).* 2020;29(8):1122–30.
54. Wei J, Henry TD, Bairey Merz CN. Biology and bias: do we have the will to improve cardiovascular disease outcomes for women? *Heart.* 2019;105(7):503–5.
55. Preciado SM, Sharp AL, Sun BC, Baecker A, Wu YL, Lee MS, et al. Evaluating Sex Disparities in the Emergency Department Management of Patients With Suspected Acute Coronary Syndrome. *Ann Emerg Med.* 2021;77(4):416–24.
56. Chieffo A, Buchanan GL, Mehili J, Capodanno D, Kunadian V, Petronio AS, et al. Percutaneous coronary and structural interventions in women: a position statement from the EAPCI Women Committee. *EuroIntervention.* 2018;14(11):e1227–e35.
57. Bucciarelli-Ducci C, Ostenfeld E, Baldassarre LA, Ferreira VM, Frank L, Kallianos K, et al. Cardiovascular disease in women: insights from magnetic resonance imaging. *Journal of Cardiovascular Magnetic Resonance.* 2020;22(1):71.
58. Velagapudi P, Altin SE, Schneider MD, Alasnag M. Sex Differences in Intracoronary Imaging and Functional Evaluation of Coronary Arteries. *Current Cardiovascular Imaging Reports.* 2021;14(7):7.
59. Alasnag M, Jones TL, Hanfi Y, Ryan N. Sex-based outcomes in contemporary antiplatelet therapy trials. *Open Heart.* 2021;8(2). doi: 10.1136/openhrt-2021-001761.
60. Manfrini O, Cenko E, Bugiardin R. Gender Differences in Residual Risk Factors for Major Adverse Cardiovascular Events Following ACS and How to Bridge the Gap. *Curr Atheroscler Rep.* 2020;22(11):65.
61. Volgman AS, Bairey Merz CN, Aggarwal NT, Bittner V, Bunch TJ, Gorelick PB, et al. Sex Differences in Cardiovascular Disease and Cognitive Impairment: Another Health Disparity for Women? *J Am Heart Assoc.* 2019;8(19):e013154.
62. Wells BJ, Modi RD, Gu X, Bumpus SM, Swan K, Froehlich JB, et al. Clinical associations of headaches among patients with fibromuscular dysplasia: A Report from the US Registry for Fibromuscular Dysplasia. *Vasc Med.* 2020;25(4):348–50.
63. Edwards KS, Hekler AC, Baum J, Nejedly M, Tsai S, Khandelwal A, et al. Psychological Distress Among Female Cardiac Patients Presenting to a Women's Heart Health Clinic. *Am J Cardiol.* 2019;123(12):2026–30.
64. Eghtesadi M, Marquis-Gravel G. Rethinking Our Cardiovascular Risk Assessment in the Younger Female Migraine Population. *Headache.* 2020;60(5):994–7.
65. Kok SN, Hayes SN, Cutrer FM, Raphael CE, Gulati R, Best PJM, et al. Prevalence and Clinical Factors of Migraine in Patients With Spontaneous Coronary Artery Dissection. *J Am Heart Assoc.* 2018;7(24):e010140.
66. Kurth T, Rist PM, Ridker PM, Kotler G, Bubes V, Buring JE. Association of Migraine With Aura and Other Risk Factors With Incident Cardiovascular Disease in Women. *JAMA.* 2020;323(22):2281–9.
67. Miliku K, Moraes TJ, Becker AB, Mandhane PJ, Sears MR, Turvey SE, et al. Breastfeeding in the First Days of Life Is Associated With Lower Blood Pressure at 3 Years of Age. *J Am Heart Assoc.* 2021:e019067.
68. Harrington RA, Gray M, Jani A. Digitally enabled social prescriptions: adaptive interventions to promote health in children and young people. *J R Soc Med.* 2020;113(7):270–3.
69. Chazal RA, Valentine CM. Cancer Patient Risk After Coronary Intervention: Words of Caution in Complicated Patients. *JACC Cardiovasc Interv.* 2021;14(16):1848.
70. Wenger NK, Williams OO, Parashar S. SMARTWOMAN™: Feasibility assessment of a smartphone app to control cardiovascular risk factors in vulnerable diabetic women. *Clin Cardiol.* 2019;42(2):217–21.
71. Bilen O, Wenger NK. Hypertension management in older adults. *F1000Res.* 2020;9.
72. Krishnaswami A, Beavers C, Dorsch MP, Dodson JA, Masterson Creber R, Kitsiou S, et al. Gerotechnology for Older Adults With Cardiovascular Diseases: JACC State-of-the-Art Review. *J Am Coll Cardiol.* 2020;76(22):2650–70.
73. Volgman AS, Benjamin EJ, Curtis AB, Fang MC, Lindley KJ, Naccarelli GV, et al. Women and atrial fibrillation. *J Cardiovasc Electrophysiol.* 2020.
74. Williams KA. Introduction to the "A plant-based diet and cardiovascular disease" special issue. *J Geriatr Cardiol.* 2017;14(5):316.
75. Pfaller B, Siu SC, D'Souza R, Wichert-Schmitt B, Kumar Nair GK, Haberer K, et al. Impact of Obesity on Outcomes of Pregnancy in Women With Heart Disease. *J Am Coll Cardiol.* 2021;77(10):1317–26.
76. Murugappan G, Li S, Leonard S, Winnm VD, Druzin M, Eisenberg ML. Association of Preconception Paternal Health and Adverse Maternal Outcomes among Healthy Mothers. *Am J Obstet Gynecol.* 2021;100384.
77. Ferdinand KC, Reddy TK, Vo TN. Global interventions in hypertension: new and emerging concepts. *Curr Opin Cardiol.* 2021;36(4):436–43.
78. Sponholtz TR, Bethea TN, Ruiz-Narváez EA, Boynton-Jarrett R, Palmer JR, Rosenberg L, et al. Night Shift Work and Fecundability in Late Reproductive-Aged African American Women. *J Womens Health (Larchmt).* 2021;30(1):137–44.
79. Mehta LS, Elkind MSV, Achenbach S, Pinto FJ, Poppas A. Clinician Well-Being: Addressing Global Needs for Improvements in the Health Care Field A Joint Opinion From the American College of Cardiology, American Heart Association, European Society of Cardiology, and the World Heart Federation. *J Am Coll Cardiol.* 2021.
80. Harrington RA, Ohman EM. Risk Stratification Science Goes to a New Level. *JAMA Cardiol.* 2021;6(3):314–5.
81. Case BC, Abramowitz J, Shea C, Rappaport H, Yerasi C, Forrestal BJ, et al. Evolution of Management and Outcomes of Patients with Myocardial Injury During the COVID-19 Pandemic. *Am J Cardiol.* 2021;157:42–7.
82. Mehta LS, Lewis SJ, Duvernoy CS, Rzeszut AK, Walsh MN, Harrington RA, et al. Burnout and Career Satisfaction Among U.S. Cardiologists. *J Am Coll Cardiol.* 2019;73(25):3345–8.
83. Harries AJ, Lee C, Jones L, Rodriguez RM, Davis JA, Boysen-Osborn M, et al. Effects of the COVID-19 pandemic on medical students: a multicenter quantitative study. *BMC Med Educ.* 2021;21(1):14.
84. Khan N, Palepu A, Dodek P, Salmon A, Leitch H, Ruzyski S, et al. Cross-sectional survey on physician burnout during the COVID-19 pandemic in Vancouver, Canada: the role of gender, ethnicity and sexual orientation. *BMJ Open.* 2021;11(5):e050380.
85. Barrios V, Cosin-Sales J, Bravo M, Escobar C, Gámez JM, Huelmos A, et al. [Telemedicine consultation for the clinical cardiologists in the era of COVID-19: present and future. Consensus document of the Spanish Society of Cardiology]. *Rev Esp Cardiol.* 2020;73(11):910–8.
86. Wenger NK, Lorell BH, Bairey Merz CN. Recent Legislation, Public Policy Changes, and Women's Cardiovascular Health: Disproportionate Burden. *Circulation.* 2018;138(11):1082–4.
87. East West Bridge. <http://www.ewb.rs/> (2021). Accessed 2021.
88. Pinto FJ. Gender Equity: Time to Act. *International Journal of Cardiovascular Sciences.* 2021;34(4):340–1.
89. Emerging Solutions for Gender Equality 2018 - UN WOMEN: HeForShe. <https://www.heforshe.org/sites/default/files/2018-10/HeForShe%20Emerging%20Solutions%20Report%202018%20-%20Full%20Report.pdf> (2018). Accessed 2021.
90. HeForShe Summit. <https://www.heforshe.org/en/summit> (2021). Accessed 2021.

Здравље жена у Србији – некад, сада и сутра

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САЖЕТАК

Кардиоваскуларно и репродуктивно здравље жена су нераздвојни кроз историју, међутим, њихова повезаност је била мало проучавана. Тек када су основи њихових веза почели да бивају утврђени, пружање свеобухватног лечења и неге жена даље од „бикини медицине“, зависило је од регионалних могућности и степена прогресивног размишљања.

Даља истраживања су идентификовала различите удружености које су различита медицинска стања учинила специфичним, чиме је започет спор, али ипак заокрет у концепцији клиничких студија, што је од посебног значаја имајући у виду да се већина светских кардиоваскуларних препорука базира на резултатима истраживања спроведеним на јако мало броју жена и, још мање процентуално, на женама различитих етничких група.

Тренутно, концепт центара за женско срце зависи од локалних демографских потреба, доступне логистике условљене

како финансијском, тако и друштвеном подршком окружења лишеног предрасуда према целом спектру могућих пацијенткиња: од младих који преиспитују свој родни идентитет, преко жена репродуктивног узраста које покушавају да реализују своју жељу за потомством или су пак здраве, али желе током трудноће да наставе да раде скраћено радно време ако то природа њиховог посла дозвољава, до старијих и оних позног животног доба.

Користећи принцип „Истражи-Образуй-Заложите се-Озакони“ као четири стуба напретка кардиоваскуларног лечења и неге жена, настојали смо да пружимо пресек здравственог стања жена у Србији, да представимо текуће пројекте и пружимо предлоге за даља, одржива и изводљива решења за будућност.

Кључне речи: ковид 19; сексуалне разлике; трудноћа; жене у кардиологији; дискриминација; инклузија