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Increasing the Role of Posyandu Cadres in Prevention of Heart Disease in Harjosari Village, Pekanbaru City

Yessi Alza[1*], Ani Laila[2], Roziana[3]

[1,2,3]Poltekkes Kemenkes Riau
Riau, Indonesia
✉ yessi@pkr.ac.id*

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Abstract

This activity aims to improve the knowledge and role of Posyandu cadres in Harjosari Village, Pekanbaru City, to prevent heart disease. This activity is carried out as Posyandu cadre training on anthropometric measurements, blood cholesterol examinations, and counseling on healthy eating patterns to prevent heart disease. The activity was conducted at the BRIMOB Posyandu, Harjosari Village, attended by 16 Posyandu cadres. The activity began with anthropometric measurements to determine nutritional status, body fat composition, blood cholesterol examinations, and counseling on healthy eating patterns with the Mediterranean Diet. Mapping the results of anthropometric measurements and blood tests, especially cholesterol levels, shows that most Posyandu cadres are at risk of heart disease. After counseling, the cadres significantly increased their knowledge about heart disease and the Mediterranean diet. Community service activities in Harjosari Village have improved the Posyandu cadres' ability to prevent heart disease. This increase shows the effectiveness of training in strengthening the role of Posyandu cadres in educating the community about a healthy lifestyle and preventing heart disease. There has been an increase in cadres' knowledge about heart disease and the Mediterranean diet so that they are better prepared to educate the community about the importance of a healthy diet to prevent heart disease.

A. Introduction

Heart disease is one of the leading health problems in Indonesia and also in Pekanbaru City, which is included in the category of diseases with a relatively high mortality rate. According to data from the Ministry of Health of the Republic of Indonesia, coronary heart disease is the leading cause of death (Suryati & Suyitno, 2020). In Pekanbaru City, the trend of heart disease incidence has increased, especially among people living in urban areas with unhealthy lifestyles. Heart disease is not only influenced by hereditary factors but also by unhealthy eating patterns, lack of physical activity, smoking habits, and stress (Volgman et al., 2018). This shows that heart disease can be prevented by changing to a healthier lifestyle and increasing public awareness of the importance of maintaining heart health (Fuadah & Rahayu, 2018).

Harjosari Village, one of the villages located in Pekanbaru City, has a relatively high prevalence of heart disease. Even though people in this area have access to health facilities, they still often do not understand the importance of early prevention of heart disease. Various factors cause this low understanding, including the lack of comprehensive health education about healthy eating and lifestyle patterns and prevention of heart disease. This is where the role of Posyandu cadres becomes crucial.

Posyandu cadres, community volunteers trained to provide health information and perform basic health checks, have great potential to prevent heart disease (Porath et al., 2024; Sari et al., 2018). They are part of

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a community health network that can inform residents about the importance of early detection and lifestyle changes to prevent heart disease. In addition, Posyandu cadres can educate the community about healthy eating patterns, the importance of exercise, and ways to reduce risk factors for heart disease, such as smoking and stress.

However, in its implementation, the role of Posyandu cadres is often not optimal. Many Posyandu cadres do not have adequate skills and knowledge to provide appropriate education to the community regarding the prevention of heart disease (Nurhidayah et al., 2019). Although Posyandu cadres have been trained in providing primary health services, there are still many shortcomings in terms of specific knowledge about heart disease prevention, anthropometric measurements, and relevant health checks, such as blood pressure and cholesterol levels, which are very important for detecting the risk of heart disease.

The training designed in this community service activity aims to provide comprehensive knowledge to Posyandu cadres regarding the basic concepts of heart disease prevention, how to measure body mass index (BMI), and an introduction to other health parameters related to early detection of heart disease. In addition, the training also includes counseling on healthy eating patterns, which consists of an understanding of the types of foods that can support heart health, such as consuming vegetables, fruits, and healthy protein sources, as well as avoiding foods high in saturated fat and sugar. In public health literature, the role of posyandu cadres in disease prevention has been proven effective in conveying information and raising public awareness of the importance of a healthy lifestyle (Nugraheni & Hartono, 2018). According to the World Health Organization (WHO), community-based interventions involving local health cadres have been shown to reduce major risk factors for cardiovascular disease through nutrition education, promotion of physical activity, and blood pressure monitoring (Trisnowati, 2018). Increasing the capacity of cadres to gain knowledge about heart disease and risk factor management can have a significant impact because cadres can provide relevant and reliable information to the community in a more informal and close environment (Fuadah & Rahayu, 2018). Other studies also show that the involvement of cadres in monitoring heart risk factors, such as measuring cholesterol, body fat, and visceral fat, can help in the early detection of potential heart disease (Trisnowati, 2018). For example, a study in India involving health cadres showed an increase in early detection of hypertension and obesity after intensive training was given to cadres (Sukarmin & Khasanah, 2024).

With increased knowledge of basic health measurements, cadres can monitor heart risk factors in the community and provide recommendations for further examination if abnormal results are found. This is especially important in areas with limited access to health facilities, like Harjosari Village. Furthermore, the literature shows that posyandu cadres who deeply understand a healthy lifestyle will be effective role models for the community. A study of cadre health behavior in several regions in Indonesia found that cadres who implement a healthy lifestyle tend to be more successful in motivating community members to do the same (Suwaryo et al., 2023). Therefore, the program to improve the role of posyandu cadres in Harjosari Village is expected to focus on counseling on heart disease and strengthening the cadres' healthy lifestyle as a direct example in their community.

Thus, increasing the role of posyandu cadres in preventing heart disease requires ongoing training support, provision of health resources, and strengthening cooperation with local health facilities. Several studies suggest that partnerships between posyandu and health centers can enhance the effectiveness of heart disease prevention programs at the community level because there are referral channels for people at high risk (Sukarmin & Khasanah, 2024). Community service activities in Harjosari Village have the opportunity to implement these strategies, given the high prevalence of heart risk factors among cadres, so that their role in heart prevention can be optimally increased. Increasing the role of posyandu cadres in preventing heart disease in Harjosari Village, Pekanbaru City identified several differences between the ideal conditions expected and the actual situation in the field. Ideally, posyandu cadres are expected to have adequate knowledge of heart disease risk factors, such as high cholesterol, hypertension, obesity, and high visceral fat. In addition, they are expected to be able to carry out their roles as educators and early detectors of heart disease risk in the community. However, in reality, many cadres do not fully understand the relationship between these factors and heart disease or how to prevent it. As a solution to this problem, the service team held training for posyandu cadres on anthropometric measurements, blood cholesterol checks, and counseling on healthy eating patterns to prevent heart disease.

B. Methods

This activity was attended by 20 active Posyandu cadres in Harjosari Village. The cadres have diverse educational backgrounds, ranging from elementary to secondary education, with an age range of 30 to 50

years. Most cadres have experience in Posyandu activities for more than 3 years, but do not have special training related to preventing heart disease. The time and duration of this activity were carried out for three consecutive days, with a duration of 6 hours per day. Each session consisted of 2 hours of theory and 4 hours of direct practice. Training is carried out on weekends to ensure full participation of all Posyandu cadres.

Implementing community service activities is carried out through training and education, namely the delivery of material on heart disease and the Mediterranean diet, a healthy diet to prevent heart attacks.

Methods and Media Used are:

1. Interactive lectures – Delivery of material involving discussion and questions and answers.
2. Demonstration – Direct practice of anthropometric measurements and blood pressure checks.
3. Case simulation – Posyandu cadres are given scenarios related to communities at risk of heart disease and asked to provide appropriate education.
4. Supporting media: Training modules, video tutorials, demonstration tools such as scales, digital tensiometers, and blood sugar measuring devices.

Variables Improved/Measured

1. Cadre knowledge – Measured before and after training through written tests.
2. Cadre skills – Assessed through direct practice and field case simulations.
3. Cadre behavior – Observation of cadres' ability to provide counseling to the community.

Activities are divided into several stages:

1. Preparation Stage

   This Stage is the preparation of the community service team's work plan. Processing permits to the Harjosari sub-district, coordinating the team with partners, namely the integrated health post cadres.

2. Implementation Stage

   Divided into several meetings:

   a. First
      Meeting with the partner team to convey the form of activity. Discussing the form of team involvement in the implementation during the activity.
   b. Second.
      Nutritional status, cholesterol levels, and body fat levels are measured.
   c. Third
      Training in anthropometric measurements and the use of body scales to determine body fat levels.
   d. Fifth
      Counseling is carried out on heart disease and the Mediterranean diet. Each cadre will be given an initial test (pretest) to measure essential knowledge before counseling. This counseling session is designed in an interactive format with group discussions and simulations to improve the understanding and ability of cadres to recognize risks and educate the community.
   e. Sixth
      The assistance of cadres in anthropometric measurement activities and using body scale tools in posyandu activities.

3. Monitoring and Evaluation Stage

   The team carries out monitoring and evaluation at each stage of the activity to ensure that the implementation of the activity runs according to the desired objectives. At the end of the activity, an evaluation is carried out to determine the achievement of the activity by assessing the results of body fat measurement.

   Within three months after the training, the evaluation stage is carried out to measure the impact of increasing the capacity of these posyandu cadres. The evaluation is carried out using questionnaires and in-depth interviews to assess changes in knowledge, attitudes, and skills of cadres in providing education and early detection of heart disease in their environment. Data collection is carried out monthly to monitor the sustainability of the training effects. At the end of the research period, the results of the pretest and posttest are compared to assess the effectiveness of the training intervention that has

been given. The final results of this study will be presented to the posyandu as a recommendation for developing a heart disease prevention program in the community.

C. Result and Discussion

Community Service Activities carried out based on research in Harjosari Village, in which the stated objectives have been implemented. Activities that have been carried out from January to August 2024 are as follows:

Figure 1. Team Coordination with Partners (Posyandu cadres) and Socialization of Community Service Activity Schedule

Meeting with 16 Posyandu cadres. The meeting was held in the Hall of the BRIMOB Posyandu, Harsojari Village. In this meeting, the community service team presented the activity plan. In this session, the activity schedule and commitment of cadre involvement during the activity were also agreed upon.

Anthropometric Measurement Training and Counseling

Figure 2. Training and Demo on How to Measure Anthropometrics and Use Body Scale Composition

Harjosari is a sub-district in Sukajadi District, Pekanbaru City, Riau Province. The characteristics of respondents who participated in training activities in community service can be seen in (Table 1).

Table 1. Respondent Characteristics

Characteristics	Frequency (f)	Percentage (%)
Education:		
Elementary School	0	0
Junior High School	2	12
Senior High School	6	37,5
College	8	50
Occupation:		
Housewife	15	93,75

Characteristics	Frequency (f)	Percentage (%)
Self-Employed	1	6,25

The largest group of respondents is with a college education level of 8 people (50%) out of 16 respondents. At the same time, the smallest group of respondents is junior high school, namely two people (12%). Regarding job characteristics, the most significant number of respondents are homemakers, as many as 15 people (93.75%) out of 16 respondents. While the smallest number is self-employed, namely one person (6.25%).

Cholesterol Level Examination

The results of blood cholesterol level examination aim to see the mapping of risk factors for cadres related to heart disease can be seen in (Table 2)

Table 2. Results of Blood Cholesterol Examination of Posyandu BRIMOB Cadres Harjosari Pekanbaru City

No	Name of Respondent	Position	Age (Years)	Results	Information
1	Rita Pusfitri	Cadres	37	281 mg/dL	High
2	Aning W	Cadres	43	308 mg/dL	High
3	Rina Natarina	Cadres	38	257 mg/dL	High
4	Yanti	Cadres	52	297 mg/dL	High
5	Rani Dwi	Cadres	38	257 mg/dL	HIgh
6	Lilis Sumarna	Cadres	47	277 mg/dL	High
7	Widya	Cadres	44	295 mg/dL	High
8	Wati	Cadres	41	252 mg/dL	High
9	Loly	Cadres	46	193 mg/dL	High
10	Putri Mayang	Cadres	32	180 mg/dL	High
11	Nur Yasni	Cadres	39	275 mg/dL	High
12	Lala	Cadres	42	252 mg/dL	High
13	Asmita	Cadres	48	268 mg/dL	High
14	Ani	Cadres	46	275 mg/dL	High
15	Yessi	Cadres	47	275 mg/dL	High
16	Ira	Cadres	42	268 mg/dL	High

Based on the table, the age range of respondents ranges from 32 to 52 years. The results of cholesterol level examinations from 16 respondents were found to be in the High-level range. All respondents had varying cholesterol levels, with the highest result reaching 308 mg/dL in Mrs. Aning W and the lowest 180 mg/dL in Putri Mayang. The results of the cadre measurements on the measurement of the respondent's body fat composition can be seen in Table 3 below.

Table 3. Results of Measurement of Posyandu Cadres in Measuring Body Fat Composition

No	Name of Respondent	Age	Body Fat	Description	Visceral Fat	Description
1	Rita Pusfitri	37	32,8	Height	5,5	Normal
2	Aning W	43	29,4	Average	4,5	Normal
3	Rina Natarina	38	37,9	Height	9	Normal
4	Yanti	52	41,3	Height	15,5	Height
5	Rani Dwi	38	37,9	Height	9	Normal
6	Lilis Sumarna	47	34,7	Height	7,5	Normal
7	Widya	44	40,2	Height	11,5	Height
8	Wati	41	38,6	Height	15,5	Height
9	Loly	46	37,1	Height	11	Height
10	Putri Mayang	32	31,4	Height	4	Normal
11	Nur Yasni	39	38,2	Height	12	Height
12	Lala	42	40,2	Height	11	Height
13	Asmita	48	36,1	Height	8	Normal
14	Ani	46	29,5	Good	9	Normal
15	Yessi	47	30	Average	9	Normal
16	Ira	42	43,3	Height	24,5	Height

For the Body Fat category, most respondents have Body Fat that is categorized as high. This high body fat indicates that most cadre mothers have fat levels that exceed usual standards, which can potentially increase the risk of health problems related to obesity (Indriyani, 2024). Meanwhile, in the Visceral Fat category, some respondents are in the normal category for visceral fat, which means that even though they have high body fat, their visceral fat does not reach a dangerous level. However, some respondents have high levels of visceral fat, such as Yanti (15.5), Widya (11.5), and Ira (24.5). High visceral fat can be a health risk because this fat tends to surround vital organs and can increase the risk of cardiovascular disease, diabetes, and other diseases (Hartuti, 2022). Age is one factor contributing to increased body fat and visceral fat due to decreased metabolism and hormonal changes that are common in older women (Guasch-Ferré & Willett, 2021).

Figure 3. Presentation of Material on Heart Disease and the Mediterranean Diet

Training in body composition is done with a demo system and direct practice. It seems that some cadres are still awkward and wrong in determining visceral fat and body fat. The cadres take measurements with fellow cadres who are directly accompanied by a team of lecturers and students who have been trained previously.

Table 4. Results of Pretest and Posttest of Cadres Regarding Heart Disease and Healthy Eating Patterns of the Mediterranean Diet

No	Name of Respondent	Position	Age (Years)	Pretest Results	Postest Results
1	Rita Pusfitri	Cadres	37 thn	78,54	92,82
2	Aning W	Cadres	43 thn	78,54	99,96
3	Rina Natarina	Cadres	45 thn	64,26	71,4
4	Rani Sumarni	Cadres	39 thn	64,26	64,26
5	Reni Dwi	Cadres	52 thn	85,68	92,82
6	Ira Wagesi	Cadres	42 thn	78,54	92,82
7	Widya	Cadres	43 thn	64,26	71,4
8	Wati	Cadres	41 thn	64,26	64,26
9	Loly	Cadres	46 thn	64,26	92,82
10	Putri Mayang	Cadres	32 thn	78,54	85,68
11	Nur Yasni	Cadres	39 thn	71,47	78,54
12	Lala	Cadres	42 thn	64,26	71,4
13	Asmita	Cadres	48 thn	64,26	71,4
14	Ani	Cadres	46 thn	78,54	92,82
15	Yessi	Cadres	47 thn	78,54	92,82
16	Ira	Cadres	42 thn	64,26	92,82

Community service activities entitled Improving the Role of Posyandu Cadres in Preventing Heart Disease in Harjosari Village, Pekanbaru City, aim to improve the capacity and knowledge of posyandu cadres in efforts to prevent heart disease. Data obtained from the results of health examinations of posyandu cadres shows that most have high cholesterol levels, body fat above 30%, and visceral fat above 9. These results indicate that posyandu cadres themselves have a high risk of heart disease. Hence, preventing and managing this risk is essential not only for the general public but also for cadres as individuals who are health role models in the community. High cholesterol levels in posyandu cadres who act as community health drivers

indicate the need for an increased understanding of cholesterol control. High cholesterol increases the risk of plaque formation in blood vessels, which can cause the narrowing of the arteries (atherosclerosis) and inhibit blood flow to the heart (Patriyani & Purwanto, 2016). As individuals who are often involved in health education, cadres with high cholesterol levels need to be given further understanding about the importance of managing food intake, physical activity, and routine check-ups to keep cholesterol within normal limits. This knowledge will allow them to set a direct example and encourage better health practices in the community.

The high body fat in cadres, with an average of above 30%, also indicates that many of them are potentially obese, which is a significant risk factor for heart disease. Excessive body fat, especially visceral fat, tends to increase inflammation and insulin resistance, which are early factors in various metabolic diseases such as hypertension, diabetes, and heart disease (Hartuti, 2022). Through this community service activity, cadres will be trained to understand the importance of weight management through a healthy diet and regular exercise, and learn how to motivate the community to adopt a healthy lifestyle to reduce body fat and the risk of heart disease.

In addition, visceral fat measurements showing an average value above nine show that many cadres have high visceral fat, which is known to have a direct relationship with the risk of heart disease. This visceral fat is more dangerous than subcutaneous fat because it is located around vital organs such as the liver and pancreas and can release inflammatory compounds that damage blood vessel walls (Hidalgo-Mora et al., 2020). Cadres with high visceral fat need to be directed to adopt a lifestyle that prioritizes prevention, including reducing consumption of foods high in saturated fat and sugar and increasing physical activity that can reduce visceral fat so that their health is maintained. They can carry out disease prevention tasks in the surrounding environment. Overall, expanding the role of posyandu cadres in preventing heart disease in Harjosari Village requires increasing the capacity of cadres to understand the risk factors for heart disease in themselves, including high cholesterol, body fat, and visceral fat. With a better understanding of their health conditions and risk of heart disease, cadres can not only maintain their health. Still, they can also be more effective examples and motivators in the community. This activity is expected to provide a sustainable impact by improving the health of cadres, which in turn will increase the effectiveness of posyandu in preventing heart disease in the community as a whole**.**

D. Conclusion

The conclusion of this study shows that increasing the capacity of Posyandu cadres through training focused on preventing heart disease can positively impact the knowledge, skills, and attitudes of cadres in identifying and educating the community about risk factors for heart disease. The training provided not only improves cadres' understanding of the importance of early detection and management of risk factors such as hypertension, high cholesterol, and obesity but also strengthens their skills in providing more effective education to the community. This proves that trained Posyandu cadres can play a more optimal role in preventing heart disease at the community level. However, this study also shows that to achieve a broader and more sustainable impact, a more extended period is needed, and a more holistic approach involves long-term evaluation of changes in community lifestyle and the prevalence of heart disease. Therefore, the recommendation of this study is to expand the reach of Posyandu cadre training to other areas and to conduct further research that includes qualitative aspects to better understand the challenges cadres face in applying the knowledge gained. Longer and more comprehensive research will provide a clearer understanding of the effectiveness of training in sustainably preventing heart disease.

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References

Fuadah, D. Z., & Rahayu, N. F. (2018). Pemanfaatan Pos Pembinaan Terpadu (POSBINDU) Penyakit Tidak Menular (PTM) Pada Penderita Hipertensi. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*, *5*(1), 020–028. https://doi.org/10.26699/jnk.v5i1.art.p020-028

Guasch-Ferré, M., & Willett, W. C. (2021). The Mediterranean Diet and Health: a Comprehensive Overview. *Journal of Internal Medicine*, *290*(3), 549–566. https://doi.org/10.1111/joim.13333

Hartuti, Y. (2022). Deteksi Dini Penyakit (Diabetes dan Jantung Koroner) dengan Melakukan Pemeriksaan Glukosa darah dan Kolesterol. *Masyarakat Berdaya Dan Inovasi*, *3*(1), 63–67. https://doi.org/10.33292/mayadani.v3i1.81

Hidalgo-Mora, J. J., García-Vigara, A., Sánchez-Sánchez, M. L., García-Pérez, M. Á., Tarín, J., & Cano, A. (2020). The Mediterranean Diet: A Historical Perspective on Food for Health. *Maturitas*, *132*, 65–69. https://doi.org/10.1016/j.maturitas.2019.12.002

Indriyani, T. R. (2024). The Effectiveness of Low-Carb Diet vs Low-Fat Diet on Body Composition in People with Obesity: A Literature Review. In *Amerta Nutrition* (Vol. 8, Issue 1, pp. 139–150). https://doi.org/10.20473/amnt.v8i1.2024.139-150

Nugraheni, W. P., & Hartono, R. K. (2018). Strategi Penguatan Program Posbindu Penyakit Tidak Menular Di Kota Bogor. *Jurnal Ilmu Kesehatan Masyarakat*, *9*(3), 198–206. https://doi.org/10.26553/jikm.v9i3.312

Nurhidayah, I., Hidayati, N. O., & Nuraeni, A. (2019). Revitalisasi Posyandu Melalui Pemberdayaan Kader Kesehatan. *Media Karya Kesehatan*, *2*(2), 145–157. https://doi.org/10.24198/mkk.v2i2.22703

Patriyani, R. E. H., & Purwanto, D. F. (2016). Faktor Dominan Risiko Terjadinya Penyakit Jantung Koroner (PJK). *(Jkg) Jurnal Keperawatan Global*, *1*(1), 23–30. https://doi.org/10.37341/jkg.v1i1.12

Porath, N., Schröder-butterfill, E., Insriani, H., & Larastiti, C. (2024). Community Volunteers' Care for Older Adults (Lansia) in Indonesia: The Symbolic Efficacy of Community Health Meetings (Posyandu). *Humaniora*, *36*(1), 84–99. https://doi.org/10.22146/jh.93198

Sari, Y., Sumarwati, M., & Sutrisna, E. (2018). Pemberdayaan Kader Posyandu Lansia Untuk Pencegahan Hipertensi dan Komplikasinya di Purwokerto. *Jurnal Pengabdian Pada Masyarakat*, *3*(1), 27–34. https://doi.org/10.30653/002.201831.49

Sukarmin, & Khasanah, I. (2024). Deteksi Dini Resiko Penyakit Jantung Pada Pasien Hipertensi. *JOURNAL OF PHILANTHROPY: The Journal of Community Service*, *2*(2), 72–76. Google Scholar

Suryati, T., & Suyitno, S. (2020). Prevalence and Risk Factors of the Ischemic Heart Diseases in Indonesia: a Data Analysis of Indonesia Basic Health Research (Riskesdas) 2013. *Public Health of Indonesia*, *6*(4), 138–144. https://doi.org/10.36685/phi.v6i4.366

Suwaryo, P. A. W., Widianto, A., Riyanto, B., Daryani, D., Subkhi, M., Hastutik, M., Anwar, M. K., Rakhman, S., Sutarti, S., Setiawan, T., Irawani, T., & Nurhayati, Y. (2023). Melangkah Menuju Hidup Sehat: Peningkatan Pengetahuan Keluarga tentang Pencegahan Penyakit Jantung Koroner. *Jurnal Pengabdian Perawat*, *2*(2), 42–48. https://doi.org/10.32584/jpp.v2i2.2185

Trisnowati, H. (2018). Pemberdayaan Masyarakat untuk Pencegahan Faktor Risiko Penyakit Tidak Menular (Studi Pada Pedesaan Di Yogyakarta). *Media Kesehatan Masyarakat Indonesia*, *14*(1), 17. https://doi.org/10.30597/mkmi.v14i1.3710

Volgman, A. S., Palaniappan, L. S., Aggarwal, N. T., Gupta, M., Khandelwal, A., Krishnan, A. V., Lichtman, J. H., Mehta, L. S., Patel, H. N., Shah, K. S., Shah, S. H., & Watson, K. E. (2018). Atherosclerotic Cardiovascular Disease in South Asians in the United States: Epidemiology, Risk Factors, and Treatments: A Scientific Statement From the American Heart Association. In *Circulation* (Vol. 138, Issue 1). https://doi.org/10.1161/CIR.0000000000000580