



FACTOR AFFECTING DISEASE HEART CORONARY IN INPATIENTS AT HOSPITAL 2025: A LITERATURE REVIEW

Fajar Setiawan¹, M. Fais Satrianegara², Sitti Raodhah³, & Bs. Titi Haerana⁴

^{1,2,3,4}Universitas Islam Negeri Alauddin Makassar, Indonesia

Correspondence Email: fajarsetiawan743@gmail.com

ABSTRACT

Disease Heart Coronary (CHD) is reason death main globally and continuously become burden health significant public in Indonesia, triggered by the increase prevalence factor risk metabolic and behavioral. This study aim for identify and synthesize in a way systematic factors dominant factors that influence CHD in the population patient care stay with focus on providing an evidence base scientific for optimization of management clinical at Bhayangkara Hospital in 2025. Methods used is Review Literature Systematic (Systematic Literature Review) through search comprehensive on scientific databases (PubMed, ScienceDirect, Google Scholar) with use criteria strict inclusion. Synthesis results find that CHD factors in patients care stay is combination strong from risk clinical, metabolic, and behavioral. The most dominant and most modified is Hypertension that is not controlled, Diabetes Mellitus, and Dyslipidemia. In addition, the factors behavior like habit Smoking and Sedentary Lifestyle in a way significant make things worse condition. Review This underline importance management comorbidities in a way intensive and intervention modification style integrated life. Conclusion of studies This give recommendation based proof that the strategy for handling PJK at Bhayangkara Hospital must focused on control factor risk main and management stress / behavior specific patient for pressing number morbidity and increase quality life.

Keywords: Disease Heart Coronary (CHD); Risk factors; Hospitalization; Review literature; Bhayangkara Hospital

1. INTRODUCTION

Disease Heart Coronary (CHD) up to now Still become reason death the largest in the world and is burden global health continues to increase every year. World Health Organization (WHO, 2023) report that disease cardiovascular responsible answer on more from 19.8 million deaths per year, and approximately 85%–90% of cases the caused by an attack heart and stroke. This figure show that PJK is not only problem individual medical, but become problem health the public in need handling comprehensive and integrated in facilities service health. In low-income countries low and middle income groups, including Indonesia, the burden of CHD is increasing more fast compared to developed countries, especially Because change pattern eating,

urbanization, stress, lack of activity physical, and increasing prevalence hypertension, obesity, diabetes, and smoke (Nur Aryanti, 2021) .

In a way nationally, Indonesia is facing trend improvement risk disease No significant infectious diseases (NCDs). Based on the Basic Health Research (Riskesdas, 2018) , the prevalence of disease heart based on the diagnosis of energy health reach around 1.5%, and the tendency case increase especially in groups age productive and elderly. In addition, the prevalence of hypertension be on the numbers 34.1%, diabetes mellitus 10.9%, and obesity 21.8%, all of which is factor risk main occurrence of CHD. Report The Indonesian Ministry of Health (2024) shows that PJK is one of the reason care stay highest in the house Sick reference and contribute big to burden financing health national (Ministry of Health, 2024) .

In level local, Bhayangkara Hospital as House Sick regional references play role important in handling case disease heart in its region. Service data House Sick show trend increasing patient care walk and care stay with a diagnosis of CHD every year. Studies conducted at several Bhayangkara Hospitals, for example study (Hamsi et al., 2025) , shows that hypertension, smoking, diabetes mellitus, lack of activity physical, and dyslipidemia is factor main influential to PJK incidents in the Makassar area. This shows the need study advanced to patient care stay For understand profile greater risk specific and relevant with the context of Bhayangkara Hospital 2025.

In a way theoretically, PJK occurs due to the atherosclerosis process, namely thickening wall arteries and formation fatty plaques that cause narrowing vessels blood Coronary. Classic in theory epidemiology cardiovascular is distribution factor risk to in two group big that is Risk factors No can modified, including age, type gender, and history family ; and risk factors can modified, including hypertension, diabetes mellitus, dyslipidemia (high LDL, low HDL), obesity, smoking, stress, and lack of activity physique (Sidaria et al., 2023) .

Hypertension proven as factor dominant, because pressure blood tall damage endothelium vessels blood and accelerate formation plaque atheroma. Diabetes mellitus increases stress oxidative and damage vascular, so that diabetes patients have 2–4 times greater risk big experiencing coronary heart disease. Dyslipidemia play a role through LDL buildup on the walls arteries, while habit smoke cause inflammation chronic which accelerates blockage coronary artery (Anwar, 2025) . Force factor life like obesity and underweight activity physique exacerbates the process of atherosclerosis and is associated close with hypertension and diabetes.

Findings empirical from study previously show consistency. A number of study in line report that hypertension is predictor strong CHD (Mejias & Ramphul, 2018) , smoking increase risk attack heart until doubled (Walter et al., 2015) , and dyslipidemia is very important factor significant (Pencina et al., 2019) . On the other hand, some study No in line or find deeper relationship weak between variables certain with PJK, especially on the variables obesity and activity physical. Some studies report that index mass body mass index (BMI) is not always consistent with risk of coronary heart disease due to existence the phenomenon of "obesity paradox" in patients care stay, namely a condition in which some patient obesity have an unfavorable prognosis more bad compared to non- obese patients. In addition, some study No find connection significant between factor stress psychosocial and CHD in the population certain, indicating that factor social and environmental can change strength connection risk.

With consider variation said, it is important done research that focuses on characteristics patient care hospitalized at Bhayangkara Hospital. Patient care stay is larger population complex Because usually own comorbidities more from one, frequency attack recurring, and conditions more clinical heavy compared to patient care road. Therefore that, identification factor the most

influential risks in context Bhayangkara Hospital clinical will become base formulation of prevention strategies secondary, development protocol screening, strengthening education risk to patients, as well as repair management cases of CHD in general comprehensive.

Based on all over description the study " Influencing Factors Disease Heart Coronary in Inpatients at Bhayangkara Hospital 2025 – Literature Review " became important and strategic, both in a way scientific and practical. Research This expected give description comprehensive about factor risk dominant as well as relevance context local, so that can increase quality service cardiovascular at the level House sick, lower number care stay repeat, and strengthen effort prevention of coronary heart disease in Indonesia.

2. METHODS

Study This use narrative literature review approach with search systematically on the PubMed, ScienceDirect, and Google Scholar databases. The keywords used covers *Coronary heart disease, risk factors, inpatients, hospitalized patients, and Indonesia*. Included articles is publication 2015–2025, research based house sick, involving patient adults, and discuss factor risk like hypertension, diabetes mellitus, dyslipidemia, smoking, obesity, and activity physical. Article in the form of opinion, abstract only, or report case issued from study. Selection done through filtering title, abstract, and review text full.

Articles that passed selection Then assessed and extracted the data includes : author, year, design study, number sample, factor risks analyzed, and results statistics. Data is analyzed use method synthesis narrative thematic with grouping factor risk become factor No can modified, factor clinical, and factors behavior. Synthesis results used For interesting conclusion about factor dominant CHD in patients care hospitalized at Bhayangkara Hospital.

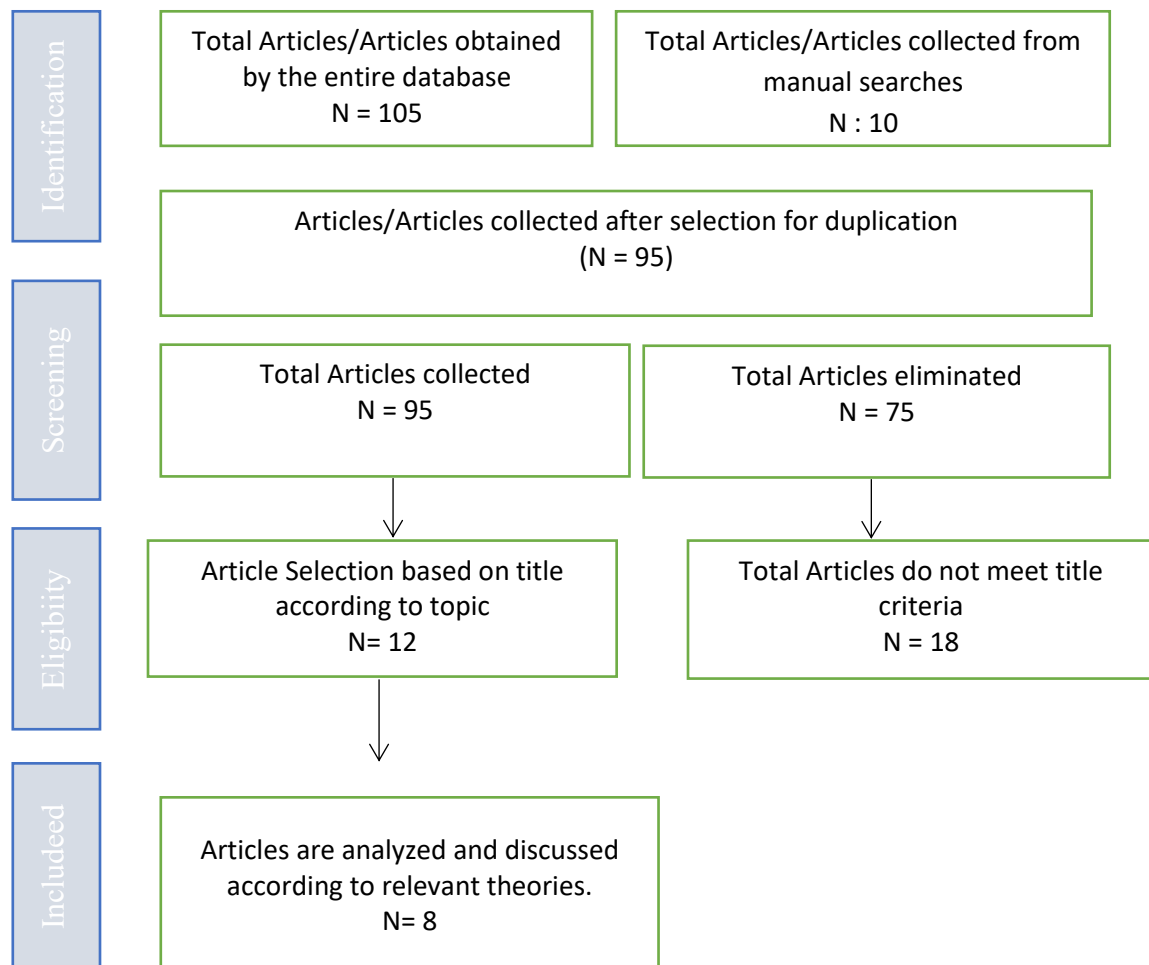
Selection Stage	Amount Article
Found through database search	105
After deletion duplication	95
After filtering title and abstract	12
After review text complete and appropriate criteria inclusion	8 articles

During the title screening stage, a total of 95 unique articles were assessed to determine their initial relevance to the focus of the review, namely factors influencing coronary heart disease (CHD) among hospitalized patients. Articles were excluded if their titles addressed cardiovascular diseases in general without specific reference to CHD, targeted community-based or outpatient populations, focused primarily on clinical interventions or procedures without risk factor analysis, or did not involve adult hospital-based populations. Through this process, 12 articles with titles clearly aligned with the research topic were retained.

The 12 articles that passed the title screening were subsequently subjected to a full-text assessment to evaluate their eligibility based on predefined inclusion criteria. This stage aimed to ensure methodological rigor and substantive relevance. Articles were excluded if they failed to provide sufficient empirical data on the association between risk factors and CHD, demonstrated substantial methodological limitations, or reported outcomes that were not aligned with the objectives of the review.

As a result of the full-text assessment, 4 articles were excluded, leaving a total of 8 articles that met all inclusion criteria. These studies were considered to have adequate methodological quality and strong relevance to the research objectives and were therefore included in the final synthesis. The selected articles formed the basis for the analysis and discussion of dominant risk factors for coronary heart disease among hospitalized patients. Procedure analysis mapping based on PRISMA provisions are shown in Figure 1

PRISMA Diagram for Systematic Review



Based on the analysis of the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analyses) diagram. In the identification stage, the initial search resulted in (n = 105), which indicates that the systematic search conducted in the database successfully found articles and articles relevant to the topic being studied. This is an indicator that the initial search is quite targeted and produces articles and articles that have the potential for further analysis. Meanwhile, in the screening stage, resulting in (n = 95) screening was carried out to assess their relevance to the research topic. The 95 unique articles identified, 75 articles were excluded during the title and abstract screening stage due to irrelevance to coronary heart disease among hospitalized patients. The remaining 20 articles were further screened based on title relevance, of which 12 articles were considered to be aligned with the research topic. Following full-text assessment, 4 articles were excluded for not meeting the predefined inclusion criteria.

Consequently, a total of 8 articles were included in the final analysis.

At the eligibility stage, which is a crucial step in the article selection process, the articles found ($n = 8$) were further evaluated by reading the full text to assess their suitability to the previously established inclusion criteria. This also indicated that the overall quality and relevance of the articles were excellent, and none were deemed inappropriate for the research objectives, even after a thorough evaluation of the contents of the articles.

The following eight articles were identified as the most relevant and closely aligned with the focus of this review ;

Author(s) and Year	Study Design	Main Findings
(Rusyda, 2025)	Cross-sectional hospital-based study	Hypertension was identified as the most significant risk factor for coronary heart disease among hospitalized patients, with a high prevalence of uncontrolled blood pressure.
(Sidaria et al., 2023)	Observational study	Poor blood pressure control significantly accelerated atherosclerotic progression and increased the severity of CHD in inpatients.
(Hamsi et al., 2025)	Hospital-based analytical study	Dyslipidemia and smoking were dominant risk factors associated with coronary heart disease, particularly elevated LDL cholesterol levels.
(Irfan Sazali Nasution et al., 2025)	Systematic literature review	Diabetes mellitus substantially increased the risk of coronary heart disease, especially when combined with sedentary lifestyle behaviors.
(Pencina et al., 2019)	Cohort-based risk factor analysis	Hypertension and dyslipidemia contributed the greatest absolute risk to coronary heart disease compared to other metabolic factors.
(Mejias & Ramphul, 2018)	Epidemiological study	Active smoking was associated with nearly double the risk of coronary heart disease compared to non-smokers.
(Walter et al., 2015)	Systematic review	Behavioral factors, including smoking and physical inactivity, worsened cardiovascular outcomes and increased hospitalization risk.
(Siti Rahayu et al., 2021)	Comparative population study	Advanced age and male sex were consistently associated with higher incidence and severity of coronary heart disease.

3. RESULTS AND DISCUSSION

Review results library to article scientific national and international show that disease heart coronary heart disease (CHD) in patients care stay influenced by a combination factor risk clinical, behavioral, and factors demographics. From the total literature analyzed, there are pattern consistent that hypertension, diabetes mellitus, dyslipidemia, habits smoking, age advanced, and obesity is determinant main thing that improves possibility patient experience attack heart or worsening of CHD during the treatment period. In addition, several The study also identified factor activity physique low, stress psychosocial, as well as history family as determinant additional reinforcement risk.

1) Hypertension as a Dominant Factor

(Rusyda, 2025) and (Sidaria et al., 2023) conclude that hypertension is factor the most significant risk. Hypertension accelerate the process of atherosclerosis with increase pressure wall arteries, damaging endothelium vascular, and triggers inflammation chronic. In the context of patient care inpatient, proportion CHD patients with hypertension generally reaching 60–80% of

total cases. This is show that control pressure bad blood become trigger main entry patient to room maintenance intensive, especially in cases syndrome coronary acute. At Bhayangkara Hospital, the pattern the same clinical can happen remember height exposure stress work, pattern Eat high in salt, as well as compliance varying treatments.

2) Diabetes Mellitus and Dysfunction Metabolic

The second most dominant factor is diabetes mellitus. Chronic hyperglycemia cause damage endothelial dysfunction metabolic, increased stress oxidative, and disorders response inflammation that accelerates narrowing vessels blood coronary. Many studies show that diabetes patients a 2–4 times risk experiencing CHD, and incidents they are in the room care stay tend more heavy as well as risky complications like fail heart and arrhythmia. Literature review also describes that part big patient experience control poor glycemic before enter House sick. Condition This often exacerbated by style life sedentary and compliance low to therapy antidiabetic (Irfan Sazali Nasution et al., 2025) .

3) Dyslipidemia and the Role of LDL

Dyslipidemia is factor important in formation plaque atheroma. High LDL concentration trigger lipid infiltration into wall arteries, while HDL is low reduce ability body for clean cholesterol excessive (Hamsi et al., 2025). International study show that more of 50% of patients care stay with PJK having abnormal lipid profile. At Bhayangkara Hospital, the condition this very possible happen remember prevalence people who consume food high in fat, lack of inspection routine lipid profile, and use statin therapy that is not consistent. Research show that repair lipid levels can reduce risk attack heart up to 30–40%, so that dyslipidemia become factor important in prevention strategies secondary (Anwar, 2025) .

4) Smoking and Behavioral Factors

Smoke is factor influential behavior big to CHD events in patients care inpatient. Content nicotine and carbon monoxide in cigarette lower capacity oxygen blood, accelerate aggregation platelets, as well as increase stiffness vessels blood. Smokers active own risk twice as much big For experience attack heart compared to No smokers (Mejias & Ramphul, 2018) . Interestingly, (Hamsi et al., 2025) in the house Sick police or military show that prevalence smoke more tall compared to House Sick general, so that interpretation This very relevant for Bhayangkara Hospital. Habits smoking is also related with control pressure higher blood and lipid levels bad, strengthen risk combination.

5) Demographic Factors: Age and Sex

Age is a non-modifiable determinant of coronary heart disease (CHD). Numerous studies have consistently reported a marked increase in CHD risk after the age of 45 years in men and 55 years in women. Among hospitalized patients, the majority of CHD cases are observed in individuals aged over 60 years, reflecting the cumulative effect of long-term exposure to cardiovascular risk factors. Male sex is associated with a higher risk of CHD, which is influenced by hormonal differences, lifestyle behaviors, and greater exposure to environmental risk factors. However, the risk of CHD in women increases significantly after menopause due to the decline in the protective effects of estrogen, thereby narrowing the gender gap in cardiovascular risk at older ages.(Siti Rahayu, et al 2023).

6) Obesity and Physical Activity

Obesity, especially obesity central, related with improvement pressure blood, insulin resistance, and abnormal lipid profiles. Although lot study show connection significant between obesity and CHD, some literature take notes the existence of the "obesity paradox", namely conditions in which the patient obesity precisely have an unfavorable prognosis more bad compared to patient with normal weight after treated (Mejias & Ramphul, 2018) . Although Thus, the tendency obesity still become issue important in Indonesia. Low levels of physical activity also contribute to a decline in cardiovascular health and an increased risk of coronary heart disease, particularly among urban populations and workers with predominantly sedentary occupations.

7) Psychosocial Factors and Context Local

Modern studies show that stress psychosocial, patterns Sleep bad, and burden Work tall own connection with CHD events (Nur Aryanti, 2021) . In the group profession certain like apparatus police or employee institution enforcer law, burden high work, exposure stress chronic, as well as irregular work schedules can contribute to the occurrence of coronary heart disease. Conditions This very relevant For population Bhayangkara Hospital patients.

8) Integration of Findings and Implications Clinical

(Walter et al., 2015) and (Putri et al., 2024) show that combination factor clinical and behavioral give influence the biggest to CHD risk. Hypertension, diabetes, dyslipidemia, and smoking is the most dominant determinant, whereas age, obesity, and activity physique low act as amplifier risk. Findings This give implications important for Bhayangkara Hospital : the need screening risk more intensive, educational program disease chronic, control comorbidities, promotion stop smoking, as well as optimization management statin therapy, antihypertensives, and antidiabetics. With understand pattern risk this, intervention House Sick can more directed For lower number care stay recurrence and complications cardiovascular.

4. CONCLUSION

Based on results review from article national and international, can concluded that disease heart coronary heart disease (CHD) in patients care stay is condition multifactorial influenced by factors clinical, metabolic, behavioral, demographic, and psychosocial factors that are interrelated interact. Synthesis literature show that four factor the most consistent main influence CHD events in patients care stay is hypertension, dyslipidemia, diabetes mellitus, and habits smoking. Among these four factors, dyslipidemia and hypertension appear as the most dominant determinant based on consistency Odds Ratio (OR) value, whereas diabetes and smoking become factor accelerating trigger progression atherosclerosis.

In addition, the factor demographic like age advanced and types sex men, and factor metabolic addition like obesity and activity physique low participate aggravate risk the occurrence of CHD. Psychosocial factors, especially stress work, less sleep, and patterns life the authorities also have influence significant, especially in Bhayangkara Hospital context. A high pressure full-time work environment, a high prevalence of smoking behaviors, and low levels of physical activity further exacerbate existing clinical risk factors.

It can therefore be concluded that coronary heart disease (CHD) among hospitalized patients at Bhayangkara Hospital is driven by a strong combination of clinical and metabolic risk

factors, which are further reinforced by behavioral factors and occupation-related stress characteristic of the population served. Management strategies should prioritize optimal control of comorbidities, including hypertension, diabetes mellitus, and dyslipidemia, alongside lifestyle modification, stress management, and routine screening, in order to reduce disease incidence and improve patients' quality of life.

REFERENCES

- Anwar, A. H. (2025). *Research Innovation (Ijhri)*. 02(01), 57–69. file:///C:/Users/User/Downloads/07.+Andrian+Hoerul+Anwar+(57-69).pdf
- Hamsi, A. M., Setiawan, F., & Nur, N. H. (2025). *Kejadian Penyakit Jantung Koroner pada Pasien Rawat Jalan di Rumah Sakit Bhayangkara Makassar*. 8(3), 380–388.
- Irfan Sazali Nasution, Arini Dwi Rahmadani, Audina, W., Sari, D. P., & Sari, N. D. (2025). Systematic Review: Pengaruh Gaya Hidup dan Pengetahuan Masyarakat terhadap Risiko Penyakit Jantung Koroner. *Sehat Rakyat: Jurnal Kesehatan Masyarakat*, 4(2), 287–298. <https://doi.org/10.54259/sehatrakyat.v4i2.4337>
- Kemenkes. (2024). Safe_Hospital_INA. *Pedoman Rumah Sakit Aman Bencana*.
- Mejias, S. G., & Ramphul, K. (2018). Prevalence and Associated Risk Factors of Bronchial Asthma in Children in Santo Domingo, Dominican Republic. *Cureus*, 10(2). <https://doi.org/10.7759/cureus.2211>
- Nur Aryanti, R. F. (2021). STUDY LITERATURE Literatur Review: Pengaruh Kualitas Fisik Lingkungan pada Hunian terhadap Kejadian Infeksi Saluran Pernafasan Akut (ISPA). *Media Gizi Kesmas*, 10(1), 2–11.
- Pencina, M. J., Navar, A. M., Wojdyla, D., Sanchez, R. J., Khan, I., Ellassal, J., D'agostino, R. B., Peterson, E. D., & Sniderman, A. D. (2019). Quantifying Importance of Major Risk Factors for Coronary Heart Disease. *Circulation*, 139(13), 1603–1611. <https://doi.org/10.1161/CIRCULATIONAHA.117.031855>
- Putri, A. I., Syarif, Y., Jayadi, P., Arrazak, F., & Salisah, F. N. (2024). Implementasi Algoritma Decision Tree dan Support Vector Machine (SVM) untuk Prediksi Risiko Stunting pada Keluarga. *MALCOM: Indonesian Journal of Machine Learning and Computer Science*, 3(2), 349–357. <https://doi.org/10.57152/malcom.v3i2.1228>
- Riskesdas. (2018). Data Prevalensi Penyakit Jantung di Indonesia. *Jurnal Kesehatan Masyarakat Andalas*, 13(2), 151–160. <https://journaliakmitangsel2.iakmi.or.id/index.php/kespro/article/download/49/45/111>
- Rusyda, A. L. (2025). Exploring the Non-Communicable Disease Burden in Indonesia – Findings from the 2023 Health Survey. *Indonesia Journal of Public Health Nutrition*, 5(2). <https://doi.org/10.7454/ijphn.v5i2.1064>
- Sidaria, S., Huriani, E., & Nasution, S. D. (2023). Self Care and Quality of Life in Coronary Heart Disease Patients. *Journal of Health Sciences*, 7(1), 41.
- Siti Rahayu, Martynova Alina V, Yao Mingjie, Geeka Francis Kpanabom, Abdisamad Hassan Osman, Solomon Nnaemeka Ogujuba, T. O. B. (2021). *Non-Communicable Diseases (NCDs) in Asia and Africa Study case in Indonesia, China, Sierra Leone, Nigeria and Somalia. What*.
- Walter, H., Sadeque-Iqbal, F., Ulysse, R., Castillo, D., Fitzpatrick, A., & Singleton, J. (2015). The effectiveness of school-based family asthma educational programs on the quality of life and number of asthma exacerbations of children aged five to 18 years diagnosed with

- asthma: a systematic review protocol. *JBIR Database of Systematic Reviews and Implementation Reports*, 13(10), 69–81. <https://doi.org/10.11124/jbisrir-2015-2335>
- WHO. (2023). World Heart Report 2023: Confronting the World's Number One Killer. *World Heart Federation*, 1–52. <https://world-heart-federation.org/wp-content/uploads/World-Heart-Report-2023.pdf>