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Disease- Cardiovascular disease (CVD)

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Introduction

Cardiovascular disease (CVD) is a group of medical diseases affecting the cardiovascular system, including the heart and blood vessels (Edgardo Olvera Lopez and Jan, 2019). It is the top cause of death in the globe. High blood pressure, high cholesterol, smoking, obesity, and physical inactivity are all risk factors for cardiovascular disease (Lee et al., 2021). The interaction of these numerous components results in arterial plaque formation, eventually leading to restricted blood flow and significant health consequences (Malinowski et al., 2019).

This information booklet defines and evaluates cardiovascular disease including its burden/prevalence and risk factors. It Examines the theoretical perspectives and models for improved outcomes, analyzing the implementation of health and social care agendas, and recommending individual-centred care approaches.

Prevalence of Cardiovascular disease

CVD is the leading cause of death and disability in the globe (Masaebi et al., 2021). According to the WHO (Campbell et al., 2021), cardiovascular disease kills 31% of people worldwide. CVD accounts for more than 31% of all fatalities (Obidovna and Sulaymonovich, 2022). Cardiovascular disease affects both high- and low-income countries despite regional differences in incidence. Obesity, smoking, inactivity, and poor nutrition may all contribute to the spread of cardiovascular disease (Yusuf et al., 2020). According to the WHO, cardiovascular disease mortality was 78% in low-to-middle-income countries (Gupta and Wood, 2019). Lifestyle and risk factors are significantly connected to cardiovascular disease.

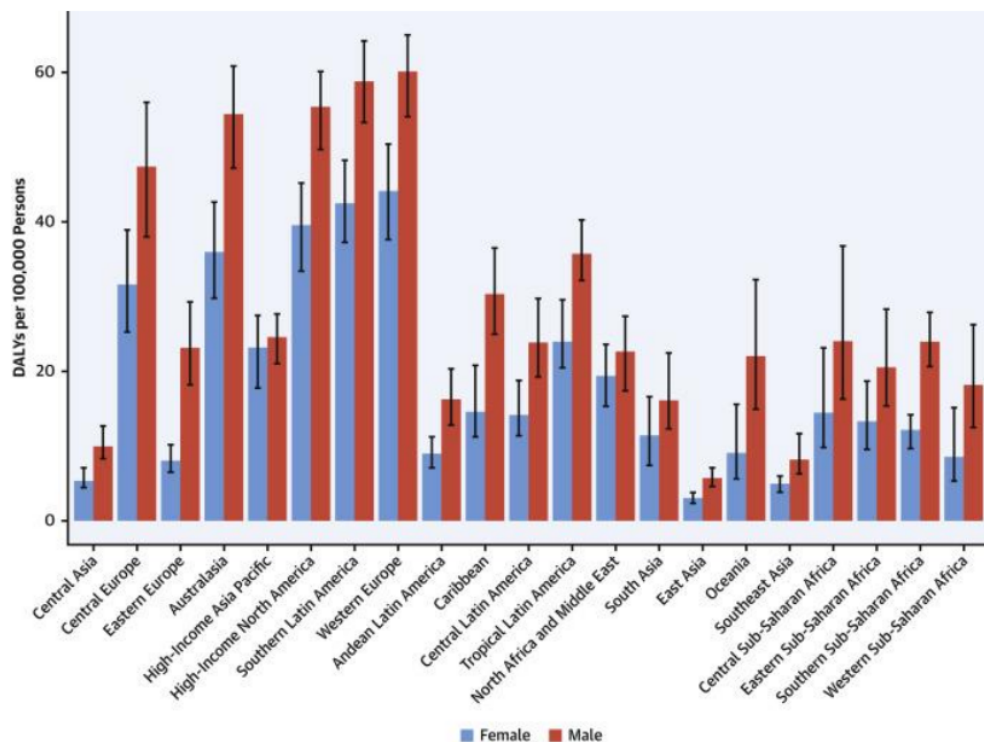


Figure 1 Global burden of cardiovascular disease

Source- (Roth et al., 2020)

Cardiovascular disease (CVD) is a significant public health problem in the United Kingdom owing to its high prevalence (Amini, Zayeri and Salehi, 2021). It still accounts for over 25% of all fatalities in the nation. According to the British Heart Foundation, the prevalence of cardiovascular disease in the UK is expected to be approximately 7.4 million people (Bansal, 2020). Health inequalities are to blame for a greater prevalence of cardiovascular disease among low-income people.

Risk factors associated with the development of Cardio vascular disease

Hypertension: High blood pressure, often known as hypertension, is one of the significant risk factors for cardiovascular disease. Arterial walls thicken and constrict due to the stress caused by elevated blood pressure (Humphrey, 2020). Coronary artery disease, which reduces blood flow to the heart and raises the risk of heart attacks and other cardiac events, may result from this (Khodaminasab et al., 2019). Stroke may be caused by high blood pressure because it causes brain vascular damage (Murphy and Werring, 2020). Untreated

hypertension may increase the risk of cardiovascular problems. The heart may be damaged by unchecked hypertension.

Cholesterol: Blood cholesterol levels that are too high. Atherosclerosis is made worse by having a lot of low-density lipoprotein (LDL) cholesterol, also called "bad" cholesterol (Li et al., 2023). The risk of cardiovascular disease is increased when "bad" LDL cholesterol levels are high (Whelton et al., 2020). Excessive blood cholesterol levels may lead to plaque buildup in the artery walls, reducing blood flow to vital organs, including the heart, kidneys, brain, and legs.

Diabetes: There is a correlation between diabetes mellitus, especially type 2, and an increased risk of cardiovascular disease. Consistently elevated blood sugar levels may hasten the progression of atherosclerosis by encouraging the development of arterial damage and inflammation (Owens et al., 2021). Hypertension and impaired lipid metabolism are other pathways through which diabetes promotes CVD. The presence of elevated blood sugar levels is diagnostic of diabetes. Heart disease is a leading cause of death for people with diabetes.

Family history: The risk of cardiovascular disease increases if a person has a family history of the illness, is older, or suffers from conditions like chronic renal disease or sleep apnea. Having a personal or family history of cardiovascular disease raises the chance of developing the condition (Riegel et al., 2020). Heart disease is another threat that is more likely with time. Chronic renal illness and sleep apnea, for example, produce inflammation, which damages blood vessels, and abnormal metabolism, all of which contribute to the development of CVD.

Obesity: Cardiovascular disease risk factors include weight and lack of exercise. Hypertension, dyslipidemia, and diabetes are all conditions that are more likely to manifest themselves in those who are overweight or obese, particularly around the waist (Piché, Tchernof and Després, 2020). Inactivity is linked to obesity, hypertension, dyslipidemia, and low cardiovascular fitness.

Smoking: It's common knowledge that smoking raises the risk of cardiovascular illness. There are chemicals in tobacco smoke that irritate the blood vessel lining, increase the risk of blood clot formation, and promote atherosclerosis (Mansouri et al., 2019). Smoking lowers the blood's oxygen-carrying capacity, which is bad for the cardiovascular system.

The aetiology of cardiovascular disease and the variables that put people at risk for developing it are closely connected. To lessen the number of people who suffer from

cardiovascular disease, it is necessary to have a deeper understanding of the variables that put them at risk.

Main body

Impacts of Cardio vascular disease

Cardiovascular disease (CVD) has consequences for more than just the person suffering from it. Which are as follows:

Physical: The physical effects of CVD may be devastating for certain people. Heart disease, heart failure, and stroke have all been linked to reduced physical activity, impaired mobility, and a general deterioration in quality of life (Bielecka-Dabrowa et al., 2020). The inability to maintain one's independence due to chronic fatigue, shortness of breath, chest discomfort, or a lack of muscular strength is concerning (Pelliccia et al., 2020). Care programs should combine physical therapy with medication management to help individuals reach their full potential.

Psychological: The psychological impact of heart disease is just as high. In the face of a life-threatening chronic illness diagnosis, it is typical to feel anxiety, fear, and despair. Individuals with cardiovascular illness may experience mental distress due to concerns about the future (Townsend et al., 2021). Making the required lifestyle changes, like losing weight, stopping smoking, or taking medicines as recommended, may be challenging for them. Psychological therapies, counselling, education, and support may help ease these concerns and boost mental health.

Social: The effects of cardiovascular disease are widespread, affecting not just people who are sick but also their loved ones. Physical constraints and exhaustion may impair the individual's capacity to engage in social activities and maintain interpersonal relationships. Isolation and loneliness are potential effects, both of which might amplify emotional suffering (Martinez et al., 2021). In addition, persons and their families may face severe financial strain because of the high expense of CVD-related medical expenditures, hospitalizations, and ongoing therapy. As a result, it may be more challenging for those with chronic illnesses to acquire the care they need.

Caring for a family member who has CVD may have far-reaching consequences for everyone involved. Caring for others is a familiar role for family members, who may assist in many forms (financial, emotional, and physical). Many carers need to change their careers or personal life to accommodate the time and energy spent caring for a loved one. Caregivers' mental and emotional strain may cause them to burn out, feel depressed, and experience a reduction in their overall quality of life. Feelings of guilt, anxiety, and helplessness are shared among family members of the ill (Morina et al., 2021). Furthermore, they may need to learn how to navigate complex healthcare systems, make difficult decisions about their loved one's care, and effectively advocate for optimal treatment. It is possible to reduce stress and provide families with the resources to cope by providing support services, a break from caregiving, and caregiver education.

The effects of cardiovascular disease are extensive and do not stop at the symptoms that sufferers may experience. Access to high-quality medical treatment, counselling, family and friend support, and social interventions are ways that CVD patients and their loved ones might see better results. Early diagnosis, treatment of risk factors, and preventative interventions may reduce the social cost of cardiovascular disease.

Models for improved outcomes for patients of cardiovascular disease

Significant theoretical perspectives/models that aim to improve outcomes for people with long-term diseases include the NHS and Social Care Model in the United Kingdom and the worldwide Innovative Care for Chronic Diseases (ICCD) Model.

The NHS and Social Care Model: UK

The United Kingdom's National Health Service (NHS) and social care model is set up to help people with various medical issues, including cardiovascular disease (CVD) (Yoon et al., 2019). Conditions affecting the heart and blood arteries are often called cardiovascular disease.

The National Health Service (NHS) in the United Kingdom is a publicly financed healthcare system that treats all citizens regardless of their financial means (Reifenrath et al., 2022). It provides various services, including prevention, diagnosis, treatment, and rehabilitation, for people with cardiovascular disease and is supported chiefly by general taxes.

A look at how the National Health Service (NHS) and the social care model in the United Kingdom treat cardiovascular disease:

Prevention and Education:

Public health campaigns, health education, and lifestyle interventions are the NHS's primary methods to reduce CVD prevalence (Qureshi et al., 2021). In this context, "healthy habits" refers to encouraging regular exercise, a healthy diet, not smoking, and reducing drinking.

Primary Care:

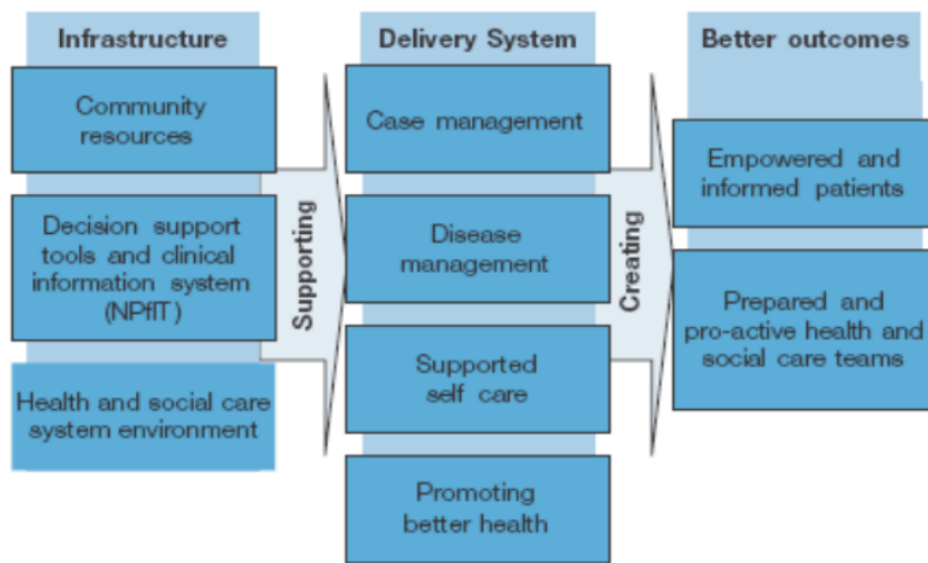
When people need medical attention, they visit their family doctor (MD) first. When it comes to common cardiovascular risk factors like high blood pressure, high cholesterol, and diabetes, primary care physicians play a vital role in identifying patients at risk, performing health checks, and treating these conditions (Qureshi et al., 2021). They can counsel patients on improving their way of life, provide medicine as required, and refer them to specialists.

Specialist Services:

The National Health Service (NHS) offers specialist care for identifying, treating, and managing cardiovascular disease. Provided, too, are cardiologists, cardiac surgeons, and other medical experts who can treat heart and vascular problems (Nahar et al., 2020). Electrocardiograms (ECGs), echocardiograms, angiography, and cardiac catheterization are diagnostic procedures that may be performed as part of specialized services.

Emergency Care:

The emergency rooms (A&E) run by the NHS provide rapid response to cardiac emergencies such as heart attacks and strokes (Kamiya et al., 2019). These clinics treat emergent conditions, stabilize patients, and set up necessary follow-up treatment.



²⁰ Figure 2: The NHS and social care model

Source- (Research gate,2023)

Hospital Care:

NHS hospitals have established cardiology departments to treat patients suffering from cardiovascular disease (Jagannathan et al., 2019). These clinics provide cardiac angioplasty and stenting, bypass surgery, heart valve repair and replacement, and cardiac rehabilitation.

Rehabilitation and Support:

The National Health Service (NHS) offers rehabilitation and continuous support services for patients after hospital treatment or severe cardiovascular events (Goldwater and Wenger, 2021). Heart patients may benefit from exercise, education, and behavioral changes that make up cardiac rehabilitation programs. The aid package may also include counseling, mental health services, and introductions to local organizations.

Social Care:

Social care services ²⁶ also support UK people with long-term or complicated healthcare requirements (Ghosh et al., 2021). In the context of cardiovascular disease, social care services may include aid with everyday activities, home care, and residential care for those with significant disability or late stages.

¹ The National Health Service (NHS) and social care model in the United Kingdom aims to provide comprehensive care for cardiovascular disease throughout the spectrum, from prevention and early detection to acute treatment, rehabilitation, and long-term support

(Elghazawy et al., 2020). This coordinated strategy makes Individuals with CVD more likely to get the comprehensive treatment and support they need to manage their illness better.

The Innovative Care for Chronic Diseases (ICCC) Model: International

Care for chronic conditions, such as cardiovascular disease (CVD), might benefit from the Innovative Care for Chronic Diseases (ICCD) concept. The model promotes integrated, patient-centered care for chronic disease patients to enhance their management and results (Benzer et al., 2019). Although not exclusive to Britain, the ICCC approach sheds light on how other countries deal with CVD. The following may help you better grasp the potential applications of the ICCC model for CVD analysis:

Patient-Centered Approach:

The ICCC model emphasizes personalized care for each patient. It considers that people living with chronic conditions, such as CVD, have specific wants and demands (Kanejima et al., 2021). This paradigm aims to get patients invested in their treatment by having them help make decisions, encouraging them to take charge of their health, and giving them the attention they deserve.

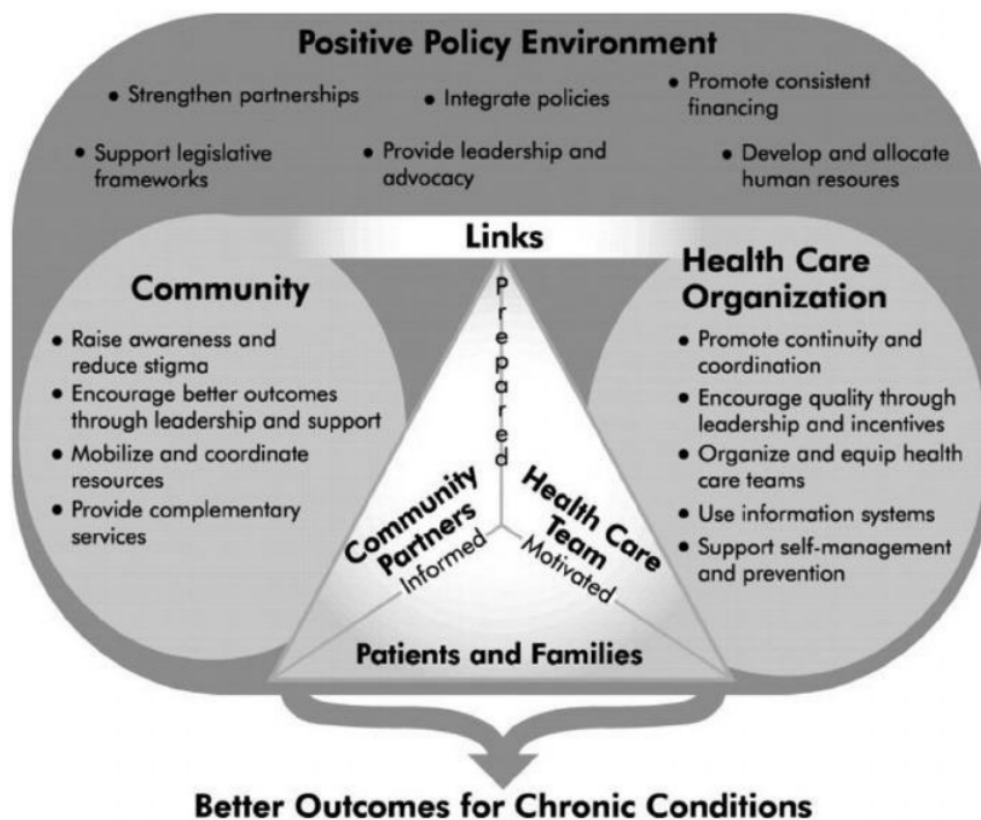


Figure 3: Innovative Care for Chronic Diseases (ICCC) Model: International

Image Source: (Nuño et al., 2012)

Multidisciplinary Care Teams:

Comprehensive care for people with cardiovascular disease is encouraged by the ICCC model, which emphasizes the utilization of multidisciplinary care teams. Doctors, nurses, chemists, nutritionists, and social workers, to name a few, are ordinary members of such multidisciplinary teams (Levine et al., 2021). Together, these groups may provide comprehensive care for cardiovascular disease by treating both medical and psychological, social, and even lifestyle aspects.

Continuum of Care:

Cardiovascular disease (CVD) treatment should be provided over a continuum, from prevention to early intervention to acute treatment to long-term management, as the ICCC model emphasizes (Khodaminasab et al., 2019). It acknowledges that cardiovascular disease is a long-term illness requiring constant attention. Care coordination and continuity are at the heart of this strategy, prioritizing smooth handoffs across facilities.

Health Information Systems:

The ICCC paradigm emphasizes the use of HIS in facilitating efficient CVD management. Technologies like EHRs, registries, and data analytics that facilitate the sharing and interchange of patient data are included (Gupta and Wood, 2019). These systems enhance the standard of care for cardiovascular disease by facilitating coordinated and evidence-based treatment, monitoring outcomes, and conducting analyses at the community level.

Empowering Self-Management:

The ICCC framework acknowledges the agency of people living with CVD in disease management (Grandi et al., 2019). Education, self-monitoring of vital signs, medication adherence, lifestyle changes, and behavioral support are all examples of self-management measures that are encouraged. Better health outcomes and higher quality of life may result when individuals are given more agency over their care.

Integrated Care Delivery:

Primary care, specialty care, inpatient care, and community-based services are all encouraged to work together under the ICCC paradigm (El Idrissi Slitine et al., 2020). Integrated care may provide a streamlined and coordinated method of CVD management by eliminating silos and encouraging teamwork. This category includes activities such as care planning, care coordination, and doctor-to-patient dialogue.

Continuous Quality Improvement:

The ICCC approach emphasizes continuous quality improvement in CVD care. For this purpose, tracking results, gathering information, performing studies, and using proven methods are necessary (De Smedt et al., 2019). The concept seeks to improve patient outcomes, the patient experience, and healthcare resource utilization via constant evaluation and improvement of care delivery.

Improve global treatment of chronic illnesses, including cardiovascular disease, using the Innovative Care for Chronic illnesses (ICCD) paradigm (Calderon-Dominguez et al., 2020). The model aims to improve health outcomes and quality of life for people with CVD by emphasizing individualized treatment plans, collaboration among specialists, a patient's input throughout the care process, and using a wide range of coordinated services.

Implementation of local and national political health and social care agendas

Development activities in treating cardiovascular disease (CVD) benefit significantly from the execution of local and national governmental health and social care agendas such as integrated services and National Institute for Health and Care Excellence (NICE). Policies, tactics, and actions are included to aid in the individual and societal levels of cardiovascular disease prevention, diagnosis, treatment, and management (El Idrissi Slitine et al., 2020).

The implementation of these strategies in responding to CVD-related difficulties and enhancing people's quality of life may be evaluated via a critical analysis of how they have been put into practice.

Local health and social care agendas: Healthcare providers, government agencies, community groups, and others need to work together on the local level to implement health and social care initiatives. Establishing interdisciplinary treatment groups inside national healthcare systems is one such instance. People with CVD may get coordinated care from a team of specialists that includes cardiologists, nurses, nutritionists, and psychologists (Grandi et al., 2019). Evidence suggests that using such teams improves communication, enhances care coordination, and moves the field toward a more holistic strategy for treating cardiovascular disease.

At the local level, care coordination and inter-facility collaboration are two areas that the Integrated Services approach aims to strengthen. Primary care, hospitals, community activities, and social services all fall under this category. With the implementation of Integrated Services, care for those with cardiovascular disease will be more simplified and comprehensive. By encouraging healthcare providers to collaborate, facilitating communication and information exchange, and allowing for multidisciplinary team-based therapy, Integrated Services have the potential to enhance the quality and efficiency of CVD treatment.

Municipal health and social care agendas often include health promotion and preventive measures (Gupta and Wood, 2019). Risk factors for cardiovascular disease that these campaigns aim to highlight include tobacco use, poor nutrition, insufficient physical activity, and excess body fat. Smoke-free policies, community-based programs, and recreational facilities that promote physical exercise are all the responsibility of local governments. Local agendas may aid in the prevention of CVD and the mitigation of its consequences if they focus on these population-level risk factors.

National political health and social care agendas: National political health and social care objectives are set by healthcare systems, government ministries, and public health organizations. The goals of these initiatives are to manage patients' illnesses better, expand patients' access to care, and decrease cardiovascular disease-related health disparities (Khodaminasab et al., 2019). The development of CVD management recommendations, the provision of financing for research, and the introduction of quality improvement measures are all examples of national efforts. These efforts may help standardize treatment for people with CVD, guarantee the spread of effective drugs, and track and improve care quality.

National Institute for Health and Care Excellence (NICE) is essential in treating CVD by providing healthcare clinicians with evidence-based guidelines and recommendations. The NICE guidelines cover the whole spectrum of cardiovascular disease care, from prevention to treatment to risk assessment. Clinical practice guided by NICE guidelines may provide CVD patients with more uniform, high-quality treatment. The guidelines seek to decrease health inequalities by promoting patient and physician collaboration throughout the decision-making process.

Recently, integrated care models have been emphasized on national health and social care agendas. These models were developed to enhance communication and collaboration between primary care providers, secondary care facilities, and community-based groups to serve patients better. Facilitating early identification, quick management, and ongoing treatment of CVD, integrated care models promote cooperation among healthcare providers and enhance communication and information exchange (Levine et al., 2021). The use of digital health technology and electronic health data is frequently stressed on national agendas because of its potential to support integrated care delivery, enable remote monitoring, and facilitate self-management for patients with cardiovascular disease (CVD).

To realize their full potential in enhancing CVD management, these local and national political health and social care agendas must overcome several obstacles. A sufficient budget, team, and infrastructure are essential for a successful launch. In addition, measures should be taken to guarantee that all people, especially those from historically underserved communities, have fair access to medical care. Modifications can only be made after a careful, ongoing assessment of how these strategies affect CVD outcomes.

The treatment of cardiovascular disease might undoubtedly benefit from the widespread implementation of national and regional governmental health and social care objectives (Kanejima et al., 2021). Reducing risk factors, better coordinating treatment, focusing more on prevention, and promoting integrated care models are all part of these initiatives and plans to improve participants' quality of life in the face of CVD. Continuous evaluation and problem-solving are crucial to ensuring that these efforts to combat the heterogeneity of CVD are successful and sustainable.

Improvement into person-centred care approaches

The well-being and health of CVD patients may be enhanced by introducing ¹ person-centred care initiatives, including self-management assistance and end-of-life care.

Self-management support: Self-management support encourages ¹ patients to take an active role in their treatment for cardiovascular disease (CVD) while simultaneously encouraging a higher level of autonomy and responsibility on the part of the patient (Ferrara

et al., 2019). The following are some ideas to think about if one want to help CVD patients more with self-management:

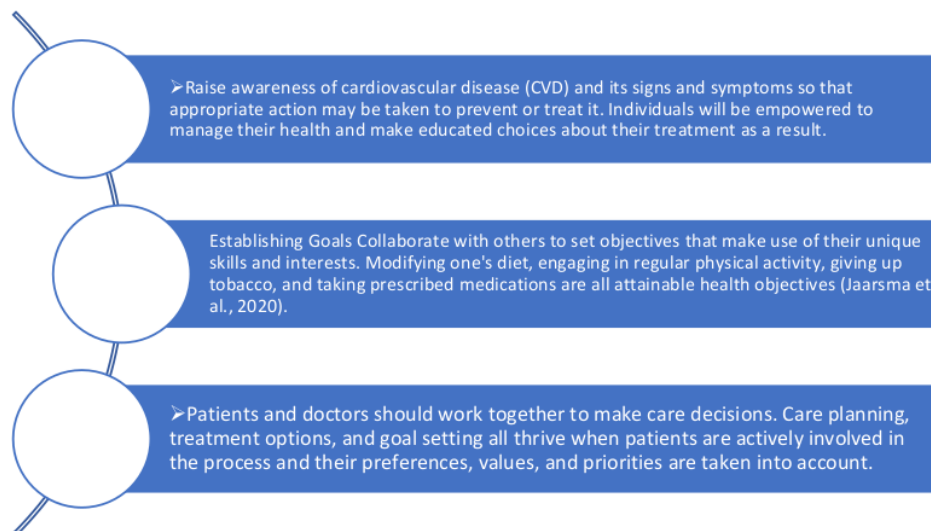


Figure 4 Recommendations

Source- Self created

Develop methods for tracking individuals' well-being and development as they pursue their goals. Give them constructive criticism and positive reinforcement to help them monitor their development and adjust as needed. Promote initiatives where people with CVD may connect with and learn from others in a similar situation. People in search of social, mental, or knowledge reinforcement could congregate here.

End of life care pathway

It is crucial to treat cardiac disease terminal patients with empathy, assistance, and respect for their preferences and dignity. ²⁵End-of-life care for people with cardiovascular disease may be thought of as having six distinct phases:

Discussions as End of Life Approaches: Talks on death and dying should begin as soon as a terminal diagnosis is established (Calderon-Dominguez et al., 2020). This provides the path for individuals to discuss their beliefs, get access to critical information, and make educated decisions about their health care.

Assessment, Care Planning, and Review: Care planning and assessments for terminally ill CVD patients should be informed by a thorough ⁷assessment of the patient's physical,

psychological, social, and spiritual needs. Create a care strategy tailored to their needs and preferences, and update it often.

Coordination of Care: Care coordination is the process of bringing together a patient's healthcare team, the patient, and the patient's family to provide person-centred care of the highest quality (Lakhal-Littleton, 2019). This can only be accomplished via collaboration between primary care doctors, specialists, palliative care teams, and social service organizations.

Delivery of High-Quality Care in Care Homes: Staff at nursing homes caring for patients with cardiovascular disease should get training on giving respectful care in the last stages of life. Facilitate dialogues about advance care planning to aid nursing homes in managing patients' symptoms and providing emotional support.

²³
Care in the Last Days of Life: Support for terminally ill people suffering from cardiovascular disease, both emotionally and medically (Mattioli et al., 2020). Symptom relief, comfort for the patient and their loved ones, and a peaceful passing are all part of this.

Care after Death: console those left behind after a death caused by CVD. There is the possibility of attending counselling, joining a support group, or obtaining administrative assistance for arranging a funeral.

Adopting these recommendations in treating patients with CVD may help encourage person-centred care, empower individuals to actively manage their condition, and deliver compassionate and dignified end-of-life care.

Conclusion

In summary, cardiovascular disease (CVD) is an international health crisis. It's the leading killer across the globe. Risky habits and environmental factors may contribute to its prevalence. Since cardiovascular disease (CVD) may have far-reaching effects on a person's body and mind, patients and their loved ones dealing with the effects of CVD need all-encompassing care. Vital to reducing CVD prevalence and increasing patients' quality of life is implementing local and national health and social care agendas, including integrated services and NICE recommendations.

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