

Assessment of the Global HEARTS Initiative implementation in Morocco

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Abstract

Background: The Global HEARTS Initiative was launched in 2016 as an evidence-based package to strengthen the prevention and management of cardiovascular diseases in primary health care.

Aim: To assess implementation of the Global HEARTS Initiative in Morocco.

Methods: Between July 2023 and March 2024, we interviewed 131 patients, 39 health care professionals and 9 health managers, and observed service provision, at 4 pilot health centres in the Tangier-Tetouan-Al Hoceïma Region of Morocco, on the implementation of the Global HEARTS Initiative. We analysed the data using Jamovi 2023.

Results: Most health care professionals (57.1%) interviewed were recommending one counselling session per quarter to patients, with majority (60.6%) preferring sessions lasting < 15 minutes. Majority of the patients (96.9%) interviewed reported receiving advice on healthy lifestyle practices. Availability of essential medicines and technologies varied across the centres. However, most of the health care professionals (76.3%) reported availability at their centres and most of the patients (98.5%) reported being counselled on the appropriate use of cardiovascular medicines. Patient registration in the HEARTS information system was low (3.9–12.1%) across centres. There were difficulties in obtaining essential medicines, only 25.6% of the health care professionals had received training on HEARTS, there were technical problems with the HEARTS information system, and persistent gaps in coordination and communication within and across different levels of the health system.

Conclusion: Certain systemic barriers hinder effective implementation of the Global HEARTS Initiative in Morocco. Addressing these barriers is critical to strengthening implementation, enhancing scale-up and sustainability, and achieving the objectives of the initiative.

Keywords: HEARTS, cardiovascular disease, primary health care, health system, health information system, Morocco

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Introduction

Global deaths due to cardiovascular diseases (CVDs) increased from 12.1 million in 1990 to 18.6 million in 2019, and are projected to reach 24 million by 2030, making them the leading cause of death worldwide (1). In Morocco, CVDs account for 38% of all deaths (2). The 2018 STEPwise approach to NCD risk factor surveillance (STEPS) survey reported prevalences of 29.3% for hypertension, 10.6% for diabetes, and 10.5% for hypercholesterolemia (3). Expenditures by the mandatory health insurance for managing long-term illnesses increased from 3.2 billion dirhams in 2014 to 6.5 billion dirhams in 2021 (4).

In response to this burden, Morocco pledged to strengthen action against noncommunicable diseases, consistent with international commitments (5). This pledge was pursued through the launch of the National Multisectoral Strategy for the Prevention and Control of Noncommunicable Diseases 2019–2029 (5). In this context, Morocco adopted the WHO HEARTS technical

package to improve CVD management in primary health centres. The pilot programme was officially launched in 2020 in the Tangier-Tetouan-Al Hoceïma (TTA) Region (6). The objective of this study was to evaluate implementation of the HEARTS modules in pilot health centres and identify the factors influencing their uptake.

Methods

Study design and setting

We conducted a descriptive cross-sectional study using mixed methods between July 2023 and March 2024 in 4 pilot health centres in the Tangier-Tetouan-Al Hoceïma Region, which has 274 primary health care facilities (193 rural and 81 urban) that managed 95 250 patients with diabetes and 81 179 with hypertension in 2022 (7). Four pilot health centres [Tatoft (Larache), Charf (Tangier-Assilah), Boujerrah (Tetouan), Istiqlal (M'diq-Fnideq)] were selected by the ministry's cardiovascular diseases service in collaboration with WHO experts.

Study population and sampling

The study population consisted of 3 groups: (i) managers from the Ministry of Health and Social Protection (central, regional, and operational) engaged in the HEARTS initiative; (ii) health care professionals working in the 4 pilot centres; and (iii) patients with CVDs receiving services at these centres. All health care professionals in the 4 centres were included. For patients, incidental sampling was conducted during centre visits from 2 January to 15 February 2024. For the qualitative component, purposive sampling with multiple-case selection was used until data saturation.

Data collection

Quantitative data were collected using a self-administered questionnaire for health care professionals and face-to-face questionnaires for patients. Qualitative data were collected through semi-structured interviews with managers at central, regional, and operational levels. Direct observations were also carried out at the 4 pilot centres using an observation grid. Data collection tools were adapted from literature (including the HEARTS technical package) and aligned with national protocols. They were reviewed by experts and pre-tested to assess clarity and feasibility, with subsequent refinements.

Study variables

We assessed the level of implementation of the HEARTS technical package across its 6 modules (healthy-lifestyle counselling, evidence-based protocols, access to essential medicines and technologies, risk-based cardiovascular management, team-based care, and systems for monitoring) and identified factors influencing implementation (Table 1).

Data analysis

Quantitative data were coded using Microsoft Excel 2019 and analysed with Jamovi 2023 to generate descriptive statistics (frequencies and percentages). Qualitative interview data were examined using reflexive thematic analysis, with transcripts coded, relevant information extracted, and key themes identified.

Ethics considerations

Ethics approval was obtained from the relevant health authorities. All participants were informed about the study objectives, provided written informed consent, and anonymity and data confidentiality were guaranteed.

Results

Characteristics of study participants

The study included 39 health care professionals, 131 patients and 9 managers. Among the health care professionals, most (56.4%) were aged 30–49 years, and 87.2% were women. Nurses represented 53.8%, followed by midwives (23.1%), doctors (17.9%), and laboratory technicians (5.1%). Nearly two-thirds (64.1%) had more than 10 years of service, and 74.4% worked in urban health centres (Table 2).

Among the 131 patients, 93.9% were aged > 50 years and 70.2% were women; 86.3% lived in urban areas. Half (50.4%) were covered by the mandatory solidarity health insurance. Most (77.1%) had no formal education (Table 2).

The 9 managers interviewed (one woman; mean age 49.9 years) included 2 central managers (Directorate of Epidemiology and Disease Control, Division of Informatics and Methods), one regional manager (Training and Technical Assistance Regional Health Directorate), and 6 operational managers (3 delegates and 3 chief medical officers of health care facility networks).

Table 1 Study variables and definitions

| Variable | Definition |
|---|---|
| Level of implementation of the HEARTS initiative | Module H: healthy lifestyle counselling |
| | Advice and recommendations on diet, physical activity, tobacco and alcohol from health care professionals to promote healthy lifestyles and prevent CVDs. |
| | Module E: evidence-based protocols |
| | Management of patients according to national protocols for hypertension and type 2 diabetes. |
| | Module A: access to essential medicines and technologies |
| | Availability of medicines and essential technologies (8): Medicines: thiazide or thiazide-like diuretic, long-acting calcium (amlodipine), long-acting angiotensin-converting enzyme inhibitor (ACE-I), angiotensin receptor blocker (ARB), statin, insulin, metformin, glibenclamide, beta-blocker, aspirin. Technologies: stethoscope, measuring tape, weighing scale, equipment and supplies for measuring urine albumin and ketones, blood pressure measurement device, equipment and supplies for measuring blood glucose and cholesterol. |
| Factors influencing implementation | Module R: risk-based cardiovascular management |
| | Cardiovascular risk stratification of patients according to national guidelines |
| | Module T: team-based care |
| | Distribution of tasks and collaboration among health centre personnel |
| Factors influencing implementation | Module S: systems for monitoring |
| | Use of the HEARTS information system |
| Factors affecting implementation of the HEARTS initiative | |

Table 2 Sociodemographic characteristics of study participants

| Sociodemographic characteristics | Frequency N(%) |
|--|-------------------|
| Healthcare professionals (n = 39) | |
| Age | |
| < 29 years | 10 (25.6) |
| 30–49 years | 22 (56.4) |
| ≥ 50 years | 7 (17.9) |
| Sex | |
| Male | 5 (12.8) |
| Female | 34 (87.2) |
| Marital status (n = 34) | |
| Single | 8 (23.5) |
| Married | 23 (67.6) |
| Divorced | 2 (5.9) |
| Widowed | 1 (2.9) |
| Profession | |
| Doctor | 7 (17.9) |
| Nurse | 21 (53.8) |
| Midwife | 9 (23.1) |
| Laboratory technician | 2 (5.1) |
| Years of service | |
| <5 years | 11 (28.2) |
| 5–10 years | 3 (7.7) |
| >10 years | 25 (64.1) |
| Workplace | |
| Urban health centre | 29 (74.4) |
| Rural health centre | 10 (25.6) |
| Patients with CVDs (n = 131) | |
| Age | |
| <29 years | 1 (0.8) |
| 30–49 years | 7 (5.3) |
| ≥50 years | 123 (93.9) |
| Sex | |
| Male | 39 (29.8) |
| Female | 92 (70.2) |
| Place of residence | |
| Urban | 113 (86.3) |
| Rural | 18 (13.7) |
| Health coverage | |
| National Fund for Social Welfare organisations | 4 (3.1) |
| National Social Security Fund | 33 (25.2) |
| Mandatory Solidarity Health Insurance | 66 (50.4) |
| Other | 28 (21.4) |
| Level of education | |
| University | 2 (1.5) |
| Secondary | 2 (1.5) |
| College | 5 (3.8) |
| Primary | 13 (9.9) |
| Preschool | 8 (6.1) |
| None | 101 (77.1) |

Degree of implementation of the HEARTS initiative

Module H: healthy lifestyle counselling

Most health care professionals (57.1%) recommended one counselling session per quarter, and 31.4% advised 2 or more. The majority (60.6%) preferred sessions lasting < 15 minutes. From the patients' perspective, most (96.9%) reported receiving advice on healthy lifestyle practices.

Module E: evidence-based protocols

All health care professionals confirmed adherence to national protocols for hypertension and type 2 diabetes management, indicating full integration of this module.

Module A: access to essential medicines and technologies

Most health care professionals (76.3%) reported that essential medicines and technologies were available in their centres, and 71.4% said pharmacovigilance was well organised. Most patients (98.5%) reported being counselled on the appropriate use of cardiovascular medicines. However, availability of essential medicines and technologies varied across centres (Table 3).

Module R: risk-based cardiovascular management

Use of the cardiovascular risk calculator was limited overall (29.6% of health care professionals), but the majority of doctors (85.7%) relied on it to guide clinical decisions.

Module T: team-based care

Just over half of health care professionals (51.9%) expressed satisfaction with the distribution of tasks and teamwork within their centres.

Module S: systems for monitoring

Patient registration in the HEARTS information system was low, ranging from 3.9% to 12.1% across centres. In contrast, 68.7% of patients reported satisfaction with the cardiovascular care they received.

Factors influencing implementation of the HEARTS initiative

Availability of medicines and medical consumables

Almost two-thirds of patients (64.9%) reported difficulties obtaining essential medicines, mainly due to shortages at health centres. Health care professionals also noted gaps in supplies, including lack of reagents for HbA_{1c}.

Managers consistently identified supply interruptions as a major challenge. As one explained:

“The population in general has a low purchasing capacity and that is one of the main weaknesses of this initiative” (operational manager 2, aged 55 years). Another highlighted insufficient consumables, such as HbA_{1c} control disks and cholesterol strips. (operational manager 3, 41 years)

Human resources

Only 25.6% of health care professionals had received training on HEARTS, and 19.4% reported being well

Table 3 Availability of essential medicines and technologies in pilot health centres

| Items | | Health centre | | | |
|-------------------------------|--|---------------|---|---|---|
| | | 1 | 2 | 3 | 4 |
| Essential technologies | Stethoscope | + | + | + | + |
| | Measuring tape | + | - | + | + |
| | Weighing scale | + | + | + | + |
| | Equipment and supplies for measuring urine albumin and ketones | - | + | - | + |
| | Blood pressure measurement device | + | + | + | + |
| | Equipment and supplies for measuring blood glucose | + | + | + | + |
| | Cholesterol measurement device | + | - | + | + |
| | Supplies for cholesterol measurement | - | - | - | - |
| Essential medicines | Calcium channel blocker (long acting) (amlodipine), | + | + | + | + |
| | Thiazide or thiazide-like diuretic | - | + | - | + |
| | Angiotensin converting enzyme inhibitor (long acting) | + | - | + | + |
| | Angiotensin receptor blocker | - | - | + | + |
| | Statin | + | - | + | + |
| | Rapid-acting insulin | + | + | + | + |
| | Pre-mixed insulin | + | + | + | + |
| | Intermediate-acting insulin | + | + | + | + |
| | Metformin | + | - | + | + |
| | Glibenclamide | + | - | + | - |
| | Beta-blocker | - | - | - | - |
| | Aspirin (100 mg) | - | - | - | + |

informed about its components. Key human resource challenges identified by managers were lack of qualified staff, turnover, workload and resistance to change. As one explained:

“The challenge resides in the integration of health care professionals, with the entire team at the health centre.”
(operational manager 1, aged 63 years)

Other mentioned instability of trained staff and lack of continuity in training (operational manager 4, aged 51 years), as well as resistance to change (central manager 1, aged 49 years).

Information system

Participants highlighted technical problems with the HEARTS information system, describing it as an added workload, given the proliferation of ministry applications (operational manager 6, aged 48 years). Others reported recurrent failures, including crashes, bugs, and inactive dashboards (regional manager, aged 43 years). One manager added that some centres initially lacked IT support and reliable internet connection (central manager 1, aged 49 years).

Residential environment

Barriers to care were more frequent among patients in rural areas (6.9% vs 3.1% in urban areas, $P < 0.001$) who faced greater geographic and financial inaccessibility. This disparity was statistically significant ($P < 0.001$) (Table 4). Managers confirmed that place of residence had a major impact on implementation, indicating

geographic, economic, and sociocultural inaccessibility in rural areas (operational manager 4, aged 51 years). They said the data collection system could become cumbersome, especially on weekly markets days when there are large influxes of patients leading to congestion (operational manager 5, aged 46 years).

Financial resources

Some managers mentioned financial barrier as a major challenge to implementation. One respondent explained that they “could not establish a dashboard due to limited financial resources” (central manager 2, aged 53 years). Another said “the initiative still relies heavily on WHO funding” (central manager 1, aged 49 years). This is a reflection of the absence of a dedicated budget line for HEARTS and the continued dependence on external partners, both of which threaten sustainability and scale-up.

Coordination and communication

Participants reported persistent gaps in coordination and communication within health centres and across different levels of the health system. A health care professional described the situation as “poor task distribution, with no teamwork” (health care professional 10, female, aged 24 years). Managers described systemic weaknesses. One emphasised the importance of referral mechanisms:

“The referral and counter-referral system to hospital services is essential for adequate care.” (operational manager 1, 63 years)

Table 4 Obstacles to accessing cardiovascular care by place of residence

| Obstacles reported | Urban | Rural | P |
|--------------------|-------------|-----------|---------|
| No | 108 (82.4%) | 10 (7.6%) | < 0.001 |
| Yes | 4 (3.1%) | 9 (6.9%) | < 0.001 |

P values calculated using Fisher's test

Another noted the absence of structured dialogue:

“There is a noticeable lack of meetings between health centres, specialists and hospital managers.” (operational manager 4, 51 years).

Discussion

The HEARTS initiative in Morocco was launched in 2021, following a preparatory phase which started in 2019. Implementation was delayed due to the COVID-19 pandemic. The initiative includes the following 6 technical modules:

Healthy lifestyle counselling

The majority of patients (96.9%) in our study reported receiving counselling, and most health care professionals (60.6%) preferred sessions shorter than 15 minutes. In Mexico, brief interventions lasting between 3 and 20 minutes have been adopted (9). Short sessions may be more easily integrated into routine consultations; however, achieving sustained behaviour change requires repeated reinforcement and structured training for health care professionals.

Evidence-based protocols

All health care professionals (100%) reported adherence to the national treatment protocols for hypertension and type 2 diabetes. In Chile, patients on the HEARTS protocol showed better blood pressure control (65% vs. 37% and 41%, $P < 0.001$) and higher adherence (71% vs. 18% and 23%, $P < 0.001$) than those receiving standard care (10). These findings confirm the value of standardised, evidence-based guidelines when consistently applied.

Access to essential medicines and technologies

In this study, 64.9% of patients reported difficulties in obtaining cardiovascular disease medicines, and shortages of HbA_{1c} and cholesterol test strips. Comparable gaps have been observed in other countries, but successful strategies exist. In Trinidad and Tobago, for example, the integration of HEARTS hypertension medicines into the national programme enabled free access through more than 240 private pharmacies (11).

In Morocco, the Ministry of Health adopted a national pharmaceutical policy to ensure continuous availability of medicines and health products (12). This reform was combined with the expansion of Universal Health Coverage and social protection within the framework of the Royal “Social State” project (12). Evidence suggests that antihypertensive polytherapy is significantly more effective than dose escalation (13). Introducing fixed-dose

combinations, added to the WHO model list of essential medicines in 2019, could simplify treatment, improve adherence, and enhance supply chain efficiency (14).

Risk-based cardiovascular disease management

Most doctors (85.7%) used the cardiovascular risk calculator, while uptake among all health care professionals, including doctors and nurses, was only 29.6%. This gap likely reflects insufficient training and poor coordination of tasks within health centres. In the Americas, the HEARTS programme developed a free application for computers and smartphones that facilitated wider uptake (15).

Team-based care

Only 51.9% of health care professionals were satisfied with task distribution. Delegation of tasks remains limited, due to the absence of a competency framework for nurses and a vertically oriented healthcare system that is not patient-centred. Conversely, international evidence shows that task sharing in diabetes management can reduce HbA_{1c} levels by 0.5%–1.0% (16). Strengthening task-sharing policies could therefore substantially improve outcomes in Morocco.

Monitoring system

The Ministry of Health has developed a HEARTS information system that assigns each patient a unique identifier and collects various types of information, such as socioeconomic status, medical history, and cardiovascular risk scores. However, registration rates was low. This may be attributed to the coexistence of multiple manual data systems across national programmes, internet connectivity issues, and technical problems with the application. By contrast, in Cuba, expansion of the HEARTS pilot from 1 to 22 sites between 2016 and 2021 increased the number of registered hypertensive patients from 26 703 to 72 043, with those under control increasing from 2127 to 65 170 (17). The success of Cuba's model reflects a highly organised system with Universal Health Coverage, based on the family doctor and nurse approach (18).

Crosscutting barriers

Beyond the technical modules, several systemic challenges emerged. First, the irregular supply of medicines and consumables was a critical barrier: 64.9% of patients reported difficulties accessing medicines, far from the national target of 80% availability (5). This undermines continuity of care, contributes to treatment

Table 5 Recommendations for enhancing the HEARTS Initiative in Morocco

| No. | Recommendation |
|-----|---|
| 1 | Strengthen basic and continuous training for health care personnel on the HEARTS approach, including e-learning modules, to ensure full engagement. |
| 2 | Develop a national job and competency framework to institutionalise task shifting and promote effective teamwork. |
| 3 | Launch a comprehensive cardiovascular disease prevention and control programme, with adequate staffing, budget, equipment, and medicines. |
| 4 | Establish an internal organisational model within primary health care facilities to optimise management of cardiovascular diseases. |
| 5 | Revise the essential medicines list to include fixed-dose combination antihypertensive medicines, thereby improving adherence and streamlining supplies. |
| 6 | Integrate the HEARTS application into the new information system of the Ministry of Health and Social Protection. |
| 7 | Adopt the family doctor-nurse model in primary health care facilities to ensure integrated, comprehensive and continuous care for patients requiring multidisciplinary management. |
| 8 | Promote clinical, epidemiological and health economics research on the HEARTS approach to inform evidence-based policy and guide strategic planning. |
| 9 | Encourage a community-based approach, engaging community health workers and fostering public-private partnerships, particularly in rural areas, to improve management of cardiovascular diseases. |

abandonment, increases complications and health care costs, and erodes public trust in the national healthcare system.

Second, only 25.6% of health care professionals had received HEARTS training, indicating the need for sustained capacity building to address staff shortages and resistance to change, which have delayed implementation in several countries (19).

Third, the information system faced multiple technical limitations, including non-functional sections, inactive dashboards, reduced performance, and server downtimes. Its effectiveness was further affected by fragmented data collection tools across health programmes and by internet connectivity issues. Continuous digitisation efforts, particularly the introduction of a unified electronic medical record, could address these gaps (12).

Fourth, patients in rural areas faced more barriers to care than those in urban settings, including geographic distance, financial constraints, and limited availability of services. These inequities risk widening health disparities. A community-based approach, supported by territorial health groups, is needed to improve equity in underserved areas and is consistent with the principles of fairness and balanced resource distribution set out in Framework Law 06-22 of the Moroccan healthcare system (20).

Fifth, persistent financing deficits weakened implementation of the HEARTS initiative in Morocco. Similar challenges have been reported in other countries, where the lack of precise estimates of budgetary impact

and expected health benefits limits the ability to secure sustainable funding (21).

Sixth, weak coordination between different levels of the health system hindered effective management of CVDs. Strengthening referral systems and ensuring implementation of the new care pathway, which includes therapeutic protocols for neuro-cardiovascular emergencies, are essential steps (22). Telemedicine offers an opportunity to improve continuity and integration of care across all levels.

In summary, our study identified major gaps that may hinder the achievement of the HEARTS initiative's objectives. Addressing these is essential to strengthen implementation and ensure sustainability in Morocco (Table V).

Conclusion

This study highlighted major systemic challenges affecting the implementation of the HEARTS initiative in the Tangier–Tetouan–Al Hoceima Region, including shortages of medicines, inadequate training, weaknesses in information systems, and inequities in access and financing. Addressing these barriers is critical to ensure the effectiveness and sustainability of the initiative. Expansion to 10 additional health centres in the region and 5 in the oriental region represents an opportunity to strengthen integration within Morocco's health system and to build momentum towards nationwide scale-up. Implementing the recommendations outlined in Table 5 will be essential for achieving national targets for noncommunicable disease management by 2029.

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Évaluation de la mise en œuvre de l'initiative Global Hearts au Maroc

Résumé

Contexte : L'initiative Global Hearts a été lancée en 2016 en tant que dispositif fondé sur des données probantes pour renforcer la prévention et la prise en charge des maladies cardiovasculaires dans le cadre des soins de santé primaires.

Objectif : Évaluer la mise en œuvre de l'initiative Global Hearts au Maroc.

Méthodes : Entre juillet 2023 et mars 2024, nous avons interrogé 131 patients, 39 professionnels de santé et neuf gestionnaires de santé, et avons observé la prestation de services dans quatre centres de santé pilotes de la région de Tanger-Tétouan-Al Hoceïma au Maroc, pour ce qui concerne la mise en œuvre de l'initiative Global Hearts. Nous avons analysé ces données à l'aide du logiciel Jamovi 2023.

Résultats : La plupart des professionnels des soins de santé (57,1 %) recommandaient une séance de conseil par trimestre aux patients, la majorité (60,6 %) préférant des séances de moins de 15 minutes. La quasi-totalité des patients (96,9 %) déclaraient avoir reçu des conseils sur un mode de vie sain. La disponibilité des médicaments essentiels et des technologies variait d'un centre à l'autre. Cependant, la plupart des professionnels de santé (76,3 %) indiquaient que ces ressources étaient disponibles dans leurs centres et la majorité des patients (98,5 %) mentionnaient avoir reçu des conseils sur le bon usage des médicaments cardiovasculaires. L'enregistrement des patients dans le système d'information Hearts était faible (3,9 à 12,1 %) dans tous les centres. Des difficultés pour se procurer les médicaments essentiels ont été notées ; seuls 25,6 % des professionnels de soins de santé avaient reçu une formation sur Hearts. Des problèmes techniques ont été observés au niveau de ce système et des lacunes persistantes dans la coordination et la communication entre les différents niveaux du système de santé et en leur sein.

Conclusion : Certains obstacles systémiques entravent la mise en œuvre efficace de l'initiative Global Hearts au Maroc. Il est essentiel de les surmonter afin de renforcer l'exécution, d'améliorer l'extension et la durabilité de l'initiative, et d'atteindre ses objectifs.

تقييم تنفيذ مبادرة هارتس العالمية في المغرب

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الخلاصة

الخلفية: أُطلقت مبادرة هارتس العالمية في عام 2016، وهي حزمة مُسندة بالدلائل لتعزيز الوقاية من أمراض القلب والأوعية الدموية و علاجها في إطار الرعاية الصحية الأولية.

الأهداف: هدفت هذه الدراسة الى تقييم تنفيذ مبادرة هارتس العالمية في المغرب.

طرق البحث: في الفترة بين يوليو / تموز 2023 و مارس / آذار 2024، أجرينا مقابلات مع 131 مريضاً و 39 من مهنيي الرعاية الصحية و 9 مديرين الصحة للبرامج الصحية، ورصدنا تقديم الخدمات في 4 مراكز صحية تجريبية بجهة طنجة- تطوان- الحسيمة بالمغرب، فيما يتعلق بتنفيذ مبادرة هارتس العالمية. وقد حللنا البيانات باستخدام برنامج Jamovi 2023.

النتائج: أوصى معظم مهنيي الرعاية الصحية (57.1%) بجلسة توعية واحدة كل ثلاثة أشهر للمرضى، مع تفضيل معظمهم (60.6%) أن تكون الجلسات موجزة (أقل من 15 دقيقة). وأفاد غالبية المرضى (96.9%) أنهم تلقوا نصائح بشأن أساليب الحياة الصحية. وفيما يتعلق بتوافر الأدوية والتكنولوجيات الأساسية، فقد تبين ذلك من مركز لآخر، إلا أن معظم مهنيي الرعاية الصحية (76.3%) أبلغوا عن توافرها في مراكزهم، وأفاد معظم المرضى (98.5%) بأنه تُقدم لهم التوعية بشأن الاستخدام السليم للأدوية القلبية الوعائية. وكان تسجيل المرضى في نظام معلومات مبادرة هارتس منخفضاً (3.9 - 12.1%) في جميع المراكز. وكذلك وُجدت صعوبات في الحصول على الأدوية الأساسية، ولم يتلق التدريب على مبادرة هارتس سوى 25.6% من مهنيي الرعاية الصحية، وكذلك مشكلات تقنية في نظام معلومات المبادرة، ووجود ثغرات مستمرة في التنسيق والتواصل بين مستويات النظام الصحي، بل وضمن المستوى الواحد.

الاستنتاجات: هناك عقبات تتعلق بالنظام تعوق التنفيذ الفعال لمبادرة هارتس العالمية في المغرب، ومعالجة هذه العقبات أمر بالغ الأهمية لتعزيز تنفيذ المبادرة والتوسع في تطبيقها واستدامتها، وتحقيق أهدافها.

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