

# BMJ Open Person-centred care intervention to promote self-efficacy in patients following a myocardial infarction (P2MIR): a protocol of a qualitative study for cultural adaptation within a Portuguese healthcare context

Cláudia Silva <sup>1,2</sup>, Ewa Carlsson Lalloo,<sup>3,4</sup> Filipa Ventura,<sup>5,6</sup> Maria Adriana Henriques<sup>1,2</sup>

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For numbered affiliations see end of article.

## Correspondence to

Cláudia Silva;  
[claudiasilva312@gmail.com](mailto:claudiasilva312@gmail.com)

## ABSTRACT

**Introduction** Cardiovascular diseases remain a leading cause of death worldwide. Recovery from myocardial infarction is challenging as the causes of symptoms span multiple aspects of health not just physical conditions. Evidence has shown a gap between the way care is provided in the clinical setting and the person's needs and preferences. The implementation of person-centred care (PCC) interventions can promote recovery from myocardial infarction by allowing a greater understanding of the person's perception and its role on the overall recovering process. This study aims to culturally adapt an evidence-based PCC intervention to enhance self-efficacy in patients after myocardial infarction within a Portuguese healthcare context.

**Methods and analysis** The Portuguese person-centred care for myocardial infarction recovery (P2MIR) intervention is set to be developed from an evidence-based intervention, rooted in the ethics of PCC. An intervention of PCC for patients with acute coronary syndrome, which has been successfully implemented and evaluated in the Swedish healthcare context will be validated, culturally adapted and harmonised to the Portuguese healthcare context by using qualitative methods. To evaluate its acceptability, appropriateness and feasibility, a sample of stakeholders, consisting of a sample of healthcare professionals and a sample of people who suffered a myocardial infarction, will be recruited from a hospital, including both inpatient and outpatient departments. The stakeholders will be invited to semistructured focus group discussions, aiming to gather their perceptions about the P2MIR intervention, which will be previously presented to them. Data analysis will be conducted using content analysis following a deductive-inductive approach to further inform the intervention adaptation process to its final intervention in a Portuguese healthcare context.

**Ethics and dissemination** The study has been reviewed and approved by the Health Ethics' Committees of the Centro Hospitalar Lisboa Ocidental, Lisbon, Portugal (registry number 20170700050). The results will be

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Adapting an evidence-based person-centred care (PCC) intervention to a new healthcare context that has already proven to promote self-efficacy after an acute coronary syndrome increases the likelihood of successful implementation.
- ⇒ A co-creation approach resorting to the early involvement of providers and users enhances the likelihood that the intervention will be acceptable, appropriate and feasible.
- ⇒ Collaborating with experts in implementing PCC interventions to ensure that the core concepts of the PCC intervention are not changed, while still allowing for flexibility in adapting to the specific context.
- ⇒ There is a potential heterogeneity of stakeholders' perspectives that might hinder reaching a consensus on how the content and/or delivery of the intervention should be adapted. As a result, there may be a need for more data collection sessions than initially planned to achieve thematic data saturation.
- ⇒ The validity of the study can be threatened by the non-adherence of the participants, since the adaptation of the intervention requires participation in face-to-face focus group discussions.

disseminated through peer-reviewed journals and conference presentations.

## INTRODUCTION Background

Despite the decline in mortality from cardiovascular diseases in recent decades, they remain a leading cause of death worldwide.<sup>1-3</sup> Furthermore, they are responsible for an increasing number of deaths among people under 75 years of age.<sup>1</sup> High morbidity also persists; approximately one-fifth of all non-healthy life years in Europe are due to

cardiovascular disease, with half of these specifically due to ischaemic heart disease.<sup>4,5</sup> In Portugal, there has been a notable increase in premature deaths among people under 70. Here, cardiovascular diseases account for 30% of all causes of mortality, with 21% of these being due to ischaemic heart disease.<sup>6</sup>

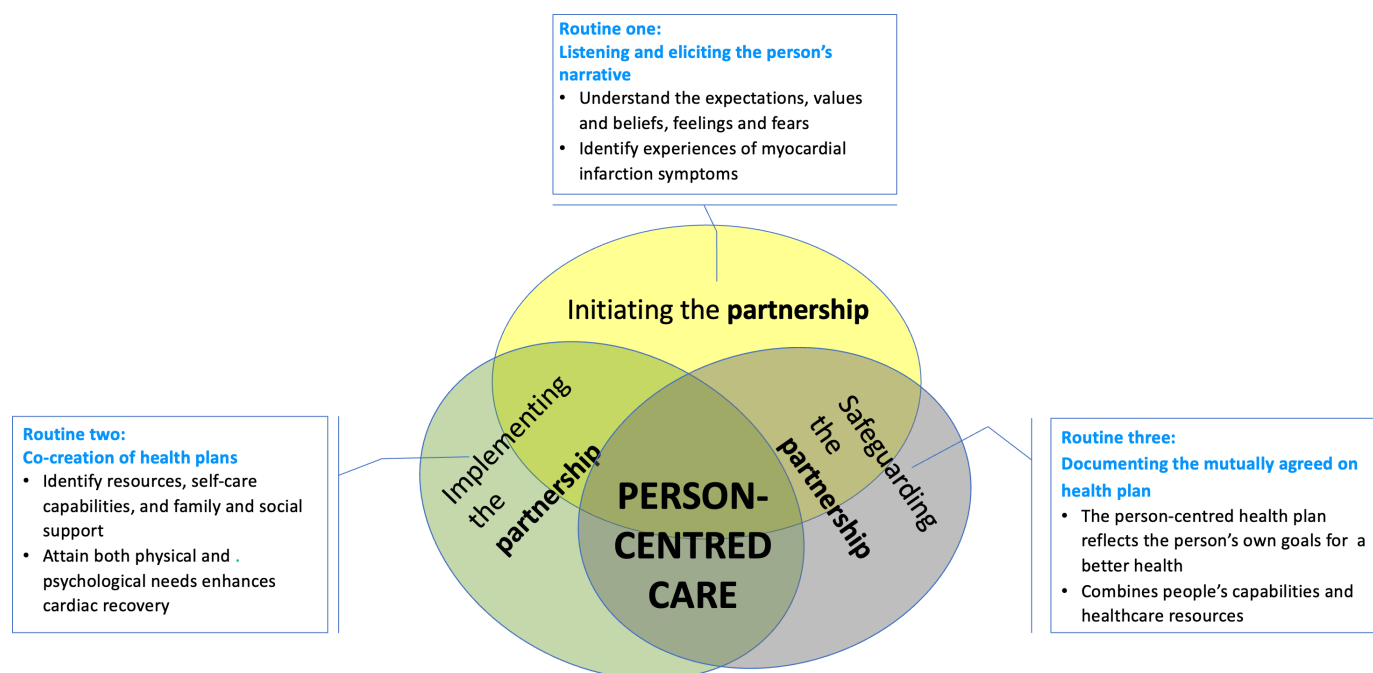
Despite the progress achieved in the treatment of ischaemic heart diseases, recovery from myocardial infarction remains problematic, as the causes of symptoms reported by the person are related to many aspects of health not only physical conditions.<sup>7,8</sup> People with myocardial infarction might experience an identity shift, characterised by both losses and gains, and leading to a need to adapt regular activities in line with their 'ill heart' condition.<sup>9-11</sup> A successful and sustainable recovery requires the acknowledgement of personal, psychological and social factors. This entails understanding the evolving nature of being, knowing and transforming as a person, a process that occurs both at the clinical and personal level.<sup>9,12</sup> As such, the recovery process involves a personal dimension that allows the person to continue living with greater connection and renewed purpose (ie, gains).<sup>9</sup>

Evidence suggests a discrepancy between care delivered in a clinical setting and the needs and preferences of patients.<sup>13</sup> Therefore, a person-centred approach to care becomes essential for recovery. This approach allows for a greater understanding of an patients' perceptions and their role in the overall recovery process.<sup>10,14,15</sup> Person-centred practice is committed to a person's self-determination, beliefs and values, which are foundational for shared decision-making and encourage continuous development.<sup>12</sup> Every person has a unique life story that lends meaning to what they value and influences their decisions towards the adoption of healthy behaviours.

Thus, understanding a person's life story can offer invaluable insight to foster recovery and reach psychosocial and physical well-being.<sup>12</sup> To fully and comprehensively understand a person's life story, including their inherent values, needs and resources, it is essential to be present in the moment and to intentionally recognise the patient as a person and an active partner in care.<sup>16,17</sup>

Underpinned on the person-centred practice framework by McCormack & McCance,<sup>17</sup> the University of Gothenburg Center for Person-Centred Care (GPCC) developed an ethical model that is grounded on the best evidence, experience and practice and aims to support the implementation of person-centred care (PCC) interventions.<sup>18</sup> The GPCC model establishes three routines in daily practice that support the establishment of PCC: (1) initiating the partnership by listening to the person's narrative; (2) implementing the partnership through shared decision-making; and (3) safeguarding the partnership by documenting the narrative (figure 1).<sup>19,20</sup>

Listening to a person's narrative is the first step in establishing a partnership. It provides insight into their expectations, values and beliefs, feelings and fears, as well as their experience of myocardial infarction symptoms. Improved listening and communication by healthcare professionals may bolster a person's self-efficacy and improve their ability to manage his/her cardiac condition.<sup>17,20</sup> True cardiac recovery can be attained only when both the physical and psychological needs of the person are met. This can be best accomplished through a co-creation approach (implementing the partnership) where goals are set within a healthcare plan that incorporates patients' capabilities, resources, and family and social support. These goals go beyond objective measures of clinical success and include subjective measures, such as



**Figure 1** The three routines are integrated and together create person-centred care.<sup>20</sup>

the results reported by person and/or process-oriented results.<sup>18</sup> In conventional care, health plans often comprise behavioural changes devised solely by health professionals. However, when people identify their own goals and resources, with the help of healthcare professionals, these goals often emphasise maintaining social relationships and being able to return to important activities of daily living. The partnership is documented (safeguarding) in the form of a health plan that combines the person's own knowledge and the expertise and resources of the healthcare professional.<sup>20</sup>

Setting goals together makes people more aware of their own resources and ability to manage the consequences of a cardiac event.<sup>12 20</sup> Their beliefs about how they can carry out these actions<sup>21</sup> play a crucial role in shaping their self-efficacy and determining whether a given behaviour will be performed, the amount of effort that will be expended, and its sustainability over time in the presence of obstacles and/or adverse experiences.<sup>22</sup> People with higher self-efficacy have better self-management and adherence to healthy lifestyles post-myocardial infarction. This, in turn, leads to an improvement in quality of life.<sup>23–27</sup>

Recent studies have shown that person-centred practices can modify and/or reinforce self-efficacy after a myocardial infarction. The early establishment of a partnership within the hospital stay<sup>28</sup> can improve self-efficacy, which, in turn, is linked to better control of symptoms and functional maintenance after the cardiac event.<sup>8 23 28 29</sup> A co-creation approach to goal setting allows the person's perspective to come closer to that of healthcare professionals, which then reflects healthier behaviours.<sup>17 28 30</sup>

Starting from an evidence-based PCC intervention that was originally developed and evaluated for patients with acute coronary syndrome in Sweden, we purpose to culturally adapt it to be available to delivered to patients with myocardial infarction into the Portuguese healthcare context.

To ensure success, it is imperative to understand both the user's and provider's perspectives. This necessitates a co-creation approach, involving both the target beneficiaries of the intervention and those who will implement it.<sup>31 32</sup> The insights of these stakeholders, who are familiar with the characteristics of the context, are vital in the adaptation of existing complex interventions into new environments.<sup>32</sup>

The research will aim to address the following key question: How should the content and delivery of an evidence-based PCC intervention to promote self-efficacy after a myocardial infarction be culturally adapted to align with the needs and characteristics of the Portuguese healthcare system?

### Aim and objectives

The overall aim of the proposed study is to culturally adapt an evidence-based PCC intervention to enhance self-efficacy in patients after myocardial infarction within a Portuguese healthcare context. The intervention aims to boost the person's self-efficacy and enhance

the potential of the implementation in the Portuguese healthcare context. The intervention adaptation will follow the Medical Research Council (MRC) framework for the development and evaluation of complex interventions<sup>32</sup> and has the following specific objectives:

1. Validate the core components of the intervention by developing a comprehensive understanding of the original PCC intervention for people with myocardial infarction.
2. Culturally adapt the intervention by:
  - a. Translating the intervention.
  - b. Evaluating the acceptability, appropriateness and feasibility of an evidence-based PCC intervention from the perspective of healthcare professionals and people with myocardial infarction.
  - c. Revising the PCC intervention into the Portuguese healthcare context.

## METHODS AND ANALYSIS

### Study design

Considering the MRC framework for the development and implementation of complex interventions,<sup>32</sup> this qualitative study will endorse a co-design process, placing key stakeholders (ie, healthcare professionals and people with myocardial infarction) at the centre of the research process.<sup>32</sup> We resort to a methodological approach that include expert-led validation followed by focus group discussions involving stakeholders to provide P2MIR intervention (figure 2). Data collection is planned to take place during the second semester of 2023 and up until May 2024.

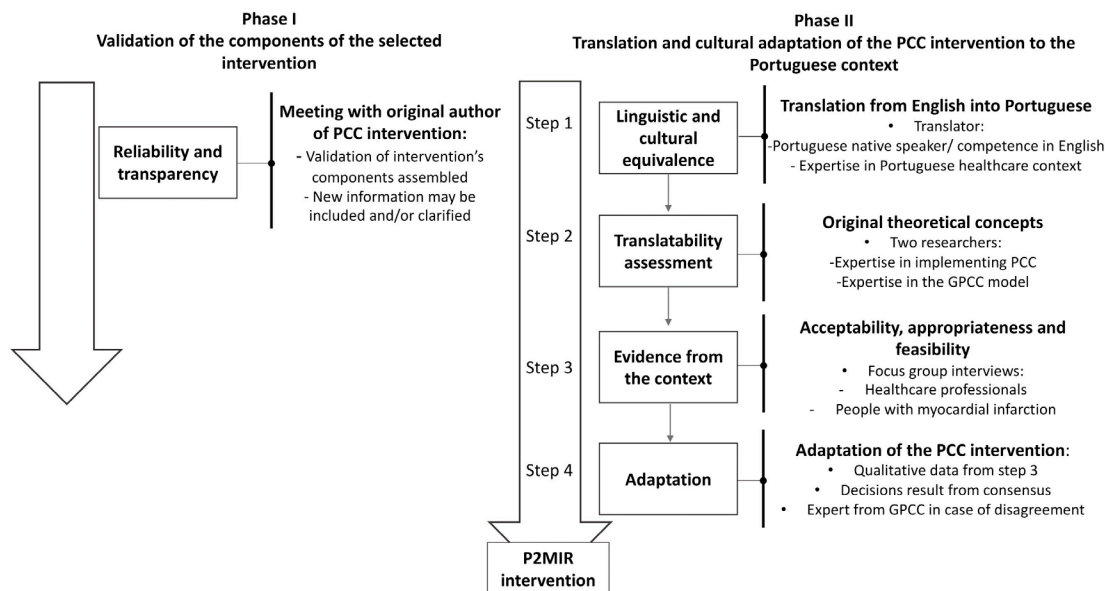
### Study setting

Portugal is divided into seven regions, one of which is Lisbon and metropolitan area. This region is among the most densely populated, with 2 846 332 inhabitants.<sup>33</sup> It encompasses Portugal's capital, Lisbon, which is home to several cardiology units. The study will be conducted in one of these cardiology units, located within a hospital in the Lisbon area specialising in heart diseases. The study will seek to involve key stakeholders from the cardiology unit, including healthcare professionals from inpatient and outpatient departments, and patients who have experienced myocardial infarction.

### Stakeholders

#### Healthcare professionals

Healthcare professionals will be recruited at the hospital (ie, catheterisation laboratory, cardiac intensive unit, cardiology ward and outpatient unit) in collaboration with healthcare managers at each care unit. We will seek to include registered nurses, general or advanced care practitioners, and/or physicians with 2 or more years of experience in caring for people with myocardial infarction. A healthcare manager will be provided with detailed information about the study goals and collaboration required and then identify and invite healthcare professionals to participate in the study. The invited healthcare



Subtitle: GPCC model – Gothenburg person-centred care model; PCC – Person-centred care; P2MIR – Portuguese person-centred care for myocardial infarction recovery

**Figure 2** An overview of the adaptation method to attain the P2MIR intervention.

professionals will be contacted by the researcher and then be provided oral and written information about the study.

### People with myocardial infarction

A gatekeeper will be defined at the cardiology unit to support the recruitment process and identify and invite potential participants from among those who meet the inclusion criteria and who will later be invited to participate in the study. The following inclusion criteria will be applied: (1) a confirmed diagnosis of myocardial infarction (any type), (2) ability to provide informed consent, (3) ability to speak and understand Portuguese and (4) 18 years of age or older. Participants with a history of cognitive and/or psychological disorders based on their medical history or as reported by themselves will be excluded.

### Sample size considerations

Sample size will be determined a posteriori using thematic data saturation along the data analysis procedures.<sup>34 35</sup> We anticipate including at least  $n \approx 16$  healthcare professionals and  $n \approx 5$  people with myocardial infarction, based on previous adaptation studies of evidence-based interventions and in line with the requirements for focus group discussions.<sup>36</sup>

### Selected intervention

The intervention selected for adaptation was informed by its delivery method, that is, PCC intervention, and the quality of prior evidence that support its outcomes, that is, the improvement of self-efficacy. It was designed to patients with acute coronary syndrome,<sup>28</sup> but this study will only adapt it to patients with myocardial infarction.

This intervention was designed and conducted in Sweden following the GPCC model<sup>19</sup> and a full clinical trial can be found elsewhere.<sup>28</sup> The study evaluated the

effects of a PCC intervention on patients with this condition across three healthcare levels (hospital, outpatient and primary care) contrasting it with standard care.<sup>28</sup> In the intervention group, the partnership between patients and healthcare professionals<sup>20</sup> was emphasised at all three healthcare levels.<sup>28</sup> By actively listening to the narratives of patients admitted to two hospitals within a university hospital in the western part of Sweden for this condition, healthcare professionals identified their personal opportunities and barriers during cardiac recovery.<sup>28</sup> The condensed narrative was documented in a PCC health plan agreed and made accessible to both the person and all healthcare professionals. This plan could be discussed, re-evaluated or changed at any time in the healthcare path. The plan mirrors the patient's goals, expectations and follow-up actions. The emphasis lay on the patient's resources and the mutual responsibility shared by them and healthcare professionals.<sup>28</sup> Prior to the intervention, all participating healthcare professionals underwent training on PCC theory and the practical application of the GPCC model. This training encompassed lectures, seminars and workshops focusing on the importance of seeing people as a person with needs as well as resources and how to formulate and execute a PCC health plan.<sup>13 20</sup>

### Adaptation of the PCC intervention

To prevent suboptimal interventions, evidence shows that successful implementation and sustainability demand a well-structured adaptation to the new context.<sup>32</sup> Based on the principles and best practices of intervention adaptation<sup>37</sup> and test theory,<sup>38</sup> this study will establish the adaptation process of PCC intervention. The study entails two sequential phases (figure 2):

- Phase I: Validation of the core components of the selected intervention.

- Phase II: Translation and cultural adaptation of the PCC intervention into the Portuguese context.

### PHASE I: VALIDATION OF THE CORE COMPONENTS OF THE SELECTED INTERVENTION

Complex interventions may vary across contexts, but the integrity of the core components must be maintained. Therefore, it is important to establish the permissible and prohibited variations in intervention delivery.<sup>32</sup> To ensure reliability and transparency in the adaptation process of the selected PCC intervention, two researchers will meet and discuss with one or several of the authors of the conducted PCC intervention study to gain a deep understanding of its design. The researchers will validate the components of the intervention assembled through consultation of the principal research investigator of the Swedish original published study. We will also explore which components are flexible to adaptation to guarantee that their core remains unchanged. New information may be included and/or clarified in the PCC intervention descriptions.

### PHASE II: TRANSLATION AND CULTURAL ADAPTATION OF THE PCC INTERVENTION TO THE PORTUGUESE CONTEXT

The PCC intervention will be translated and culturally adapted following the guidelines for intervention adaptation, considering the forward design described in the following four steps.<sup>37 38</sup>

Step 1: To ensure linguistic and cultural equivalence between the original and target contexts of implementation, the intervention will first be interpreted, translated and designed from English into Portuguese by a Portuguese native speaker, with expertise in English language and healthcare.

Step 2: To assess the fidelity of the translated content to the original theoretical concepts, the second step will involve a translatability assessment (TA), adapting the approach by Acquadro *et al*, originally developed for the measurement of instruments.<sup>39</sup> Two researchers, with expertise in PCC and in the GPCC model, will independently conduct the TA. One researcher is a native Portuguese speaker, while the other is a Swedish native with proficiency in the Portuguese language.<sup>38</sup>

Step 3: To provide evidence supporting the acceptability, appropriateness and feasibility<sup>40</sup> of the PCC intervention obtained in the previous steps for the target population, we will conduct three to four focus group discussions (60–90 min). These discussions will be face-to-face with stakeholders, which include healthcare professionals (registered nurses and physicians working in a cardiological unit—catheterisation laboratory, intensive care, general inpatient ward, outpatient) and people who suffered a myocardial infarction. Two members of the research team will organise and facilitate focus group discussions, one as a moderator and one as an observer, using semistructured guides.<sup>36</sup> To explore the participants' perception, a guide will

be developed to access feedback on the intervention content, design and delivery options, inspired on the concepts of Weiner *et al*, as well as to identify barriers and facilitators to its implementation.<sup>40</sup> A topic guide informed by these concepts will consist of open-ended questions examining:

1. Impressions on the PCC intervention (likeable, accept, welcome).
2. Potential impact of the intervention on people with myocardial infarction (relevant, significant).
3. Barriers and facilitators to implementation (feasible).

Prior to focus group discussions, the PCC intervention will be orally presented to participants with the opportunity to ask questions. Two semistructured guides will be developed for the different participants (healthcare professionals and people who suffered a myocardial infarction) and follow-up questions will also be prepared.<sup>36</sup>

Step 4: Final revision and adaptation of the PCC intervention to promote self-efficacy following a myocardial infarction, ensuring that the core PCC concepts and underlying GPCC model remain unchanged. Based on the results obtained from the focus group discussions, any changes to the PCC intervention that are necessary to fit the Portuguese healthcare context will be implemented. Every decision will be established via team discussions until a consensus is reached. In case of disagreement, an external GPCC expert will be consulted.

### Data analysis

Qualitative data from the focus group discussions will be audio recorded, transcribed verbatim and anonymised. The discussion texts will be analysed according to principles of content analysis.<sup>41</sup> The coding and categorising will be performed by the researcher(s), and the computer software WebQDA (webQDA!Software to support the analysis of qualitative data)<sup>42</sup> will be used as a tool to help the researchers organise the data increasing the rigour. The concepts of acceptability, appropriateness and feasibility will inform deductive coding; however, inductive coding will also be applied to relevant data unrelated to those constructs but relevant to the adaptation of complex interventions (eg, patient experiences with standard care, illness impact of daily life, resources and strategies to overcome daily challenges).<sup>32 40 41</sup>

### Reporting

Qualitative results of focus group discussions will be reported through the Consolidated Criteria for Reporting Qualitative Research (COREQ): a 32-item checklist for interviews and focus groups (COREQ).<sup>43</sup> Patient and public involvement (PPI) will follow Guidance for Reporting Involvement of Patient and Public 2 (GRIPP2).<sup>44</sup> The adapted intervention will be reported according to CReDECI 2: Criteria for Reporting the Development and Evaluation of Complex Interventions in healthcare.<sup>45</sup>



## Patient and public involvement

A PPI group comprising people who have experienced a myocardial infarction will participate in the PCC intervention adaptation process. Participants will be recruited to participate in the intervention adaptation through focus group discussions that will focus on their perceptions of all aspects of the PCC intervention. The qualitative data will reveal their priorities, experiences and preferences, which, in turn, will inform the PCC intervention's acceptability, appropriateness and feasibility, and hence, ground the decisions for adaptation. Additionally, people with myocardial infarction will be invited to join an advising council, acting as co-researchers during the subsequent implementation phase and in disseminating the results.

## DISCUSSION

Symptoms and emotional reactions after a myocardial infarction arise in the acute phase and persist after hospital discharge, hindering recovery.<sup>10</sup> People are often anxious, and that alone can lead to a decrease in quality of life, more cardiac events and hospital readmission within the next 5 years.<sup>46–50</sup> A study carried out in Portugal revealed that people suffering from myocardial infarction have a much lower perception of their health status compared with the general population, particularly in the context of anxiety and mobility.<sup>51</sup> Concentrating solely on the physical dimension is inadequate in comprehending the recovery from a myocardial infarction. Recovery encompasses both clinical and personal elements.<sup>9</sup> A person-centred approach allows the incorporation of personal, psychological and social factors within the health plan, enhancing a personal and clinical recovery through the improvement of self-efficacy,<sup>8,52</sup> as it enables healthier lifestyles and a better quality of life.<sup>23–27</sup>

Ensuring healthy lives and promoting well-being is a fundamental Sustainable Development Goal of the 2030 Agenda set by the United Nations. This goal is vital for enabling people to achieve their full potential and contribute to societal development.<sup>53</sup> While people are enjoying longer lifespans, it is crucial to guarantee that these extended years are lived in optimal health. This challenges healthcare systems to devise new and innovative strategies to deliver healthcare sustainably.<sup>53</sup>

To the best of our knowledge, this study represents the first attempt in Portugal to introduce a PCC intervention aimed at people with myocardial infarction to promote self-efficacy post-infarction. Engaging both healthcare professionals and patients the intervention is designed for optimises the approach to be genuinely clinically informed and person-centred. Their real-world insights offer valuable information concerning potential effectiveness.<sup>54</sup> As a result, this research will produce the P2MIR intervention, co-created with stakeholders, evolving from evidence of effectiveness in another context to improve relevance for the targeted population.

## Ethics and dissemination

The study will be conducted in accordance with Declaration of Helsinki.<sup>55</sup> All data will be handled according to General Data Protection Regulation. Participants will be informed about the purpose of the study and that their participation is voluntary. Further, written free and clear informed consent will be obtained. Data will be anonymised so that the results cannot lead to the identification of the study participants. Data will be kept in a safe place, which only the research group may access. Findings will be published in peer-reviewed journal. We will aim to present results at scientific conferences as well as publications for public and professional audiences. We intend to disseminate the results through peer-reviewed journals, conference presentations, social media, the internet and community engagement activities.

## Author affiliations

<sup>1</sup>Nursing School of Lisbon, Lisbon, Portugal

<sup>2</sup>Nursing Research, Innovation and Development Centre of Lisbon (CIDNUR), Lisbon, Portugal

<sup>3</sup>University of Borås, Faculty of Caring Science, Work Life and Social Welfare, Borås, Sweden

<sup>4</sup>University of Gothenburg Centre for Person-centred Care (GPCC), Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden

<sup>5</sup>Health Sciences Research Unit: Nursing (UICISA:E), Nursing School of Coimbra, Coimbra, Portugal

<sup>6</sup>Nursing School of Coimbra, Coimbra, Portugal

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## ORCID iD

Cláudia Silva <http://orcid.org/0000-0002-4885-6962>

## REFERENCES

- de BG, Graham I, Lira MT, *et al*. The epidemiology of cardiovascular disease. In: *Association of Cardiovascular Nursing & Allied Professions*. Glasgow: Oxford University Press, 2022: 3–27.
- OECD. Health at a glance 2021. In: *Health at a glance 2021: OCDE indicators*. Paris: OCDE Publishing, 2021: 274. Available: [https://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-2021\\_ae3016b9-en](https://www.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-2021_ae3016b9-en)
- WHO methods and data sources for country-level causes of death 2000–2019. In: *Global Health Estimates Technical Paper*. Geneva. 2020. Available: [https://cdn.who.int/media/docs/default-source/gho-documents/global-health-estimates/gh2019\\_cod\\_methods.pdf](https://cdn.who.int/media/docs/default-source/gho-documents/global-health-estimates/gh2019_cod_methods.pdf)
- Roth GA, Johnson C, Abajobir A, *et al*. Global, regional and national burden of cardiovascular diseases for 10 causes 1990 to 2015. *J Am Coll Cardiol* 2017;70:1–25.

- 5 Timmis A, Vardas P, Townsend N, *et al.* European society of cardiology: cardiovascular disease Statistics 2021. *European Heart Journal* 2022;43:716–99.
- 6 Direção-Geral da Saúde. Programa Nacional para as Doenças Cérebro-Cardiovasculares 2017. Lisboa; 2017. Available: <https://www.dgs.pt/em-destaque/relatorio-do-programa-nacional-para-as-doencas-cerebro-cardiovasculares-2017.aspx>
- 7 Dreyer RP, Dickson VV. Return to work after acute myocardial infarction: the importance of patients' preferences. *Circ Cardiovasc Qual Outcomes* 2018;11:1–4.
- 8 Fors A, Taft C, Ulin K, *et al.* Person-centred care improves self-efficacy to control symptoms after acute coronary syndrome: A randomized controlled trial. *Eur J Cardiovasc Nurs* 2016;15:186–94.
- 9 Dreyer RP, Pavlo AJ, Horne A, *et al.* Conceptual framework for personal recovery in patients with acute myocardial infarction. *J Am Heart Assoc* 2021;10.
- 10 Fors A, Dudas K, Ekman I. Life is lived forwards and understood backwards - experiences of being affected by acute coronary syndrome: A narrative analysis. *Int J Nurs Stud* 2014;51:430–7.
- 11 Solano-Ruiz Mc, Freitas GF de, Ugarte-Gurrutxaga MI, *et al.* Men's positive and negative experiences following acute myocardial infarction. *IJERPH* 2021;18:1053.
- 12 McCormack B, McCance T. *Person-Centred Practice in Nursing and Health Care: Theory and Practice*. 2nd edn. Oxford: Wiley-Blackwell, 2017.
- 13 Jansson I, Fors A, Ekman I, *et al.* Documentation of person-centred health plans for patients with acute coronary syndrome. *Eur J Cardiovasc Nurs* 2018;17:114–22.
- 14 philippe CJ, Thiele H, Barbato E, *et al.* ESC guidelines for the management of acute coronary syndromes in patients presenting without persistent ST elevation. *Eur Heart J* 2020;42:1289–367.
- 15 Pocock S, Brieger DB, Owen R, *et al.* Health-related quality of life 1–3 years post-myocardial infarction: its impact on prognosis. *Open Heart* 2021;8.
- 16 Fors A, Swedberg K, Ulin K, *et al.* Effects of person-centred care after an event of acute coronary syndrome: two-year follow-up of a randomised controlled trial. *International Journal of Cardiology* 2017;249:42–7.
- 17 McCormack B, McCance T, Bulley C, *et al.* *Fundamentals of Person-Centred Healthcare Practice*. Oxford: Wiley-Blackwell, 2021:384.
- 18 Britten N, Ekman I, Naldemirci Ö, *et al.* Learning from Gothenburg model of person centred Healthcare. *BMJ* 2020;370.
- 19 Ekman I, Swedberg K, Taft C, *et al.* Person-centered care - ready for prime time. *European Journal of Cardiovascular Nursing* 2011;10:248–51.
- 20 Ekman I, Ebrahimi Z, Olaya Contreras P. Person-centred care: looking back, looking forward. *Eur J Cardiovasc Nurs* 2021;20:93–5.
- 21 Bandura A. Self-efficacy: toward a unifying theory of behavioral change. *Psychol Rev* 1977;84:191–215.
- 22 Bandura A. *Self-Efficacy The Exercise of Control*. New York: W. H. Freeman and Company, 1997.
- 23 Fors A, Ulin K, Cliffordson C, *et al.* The cardiac self-efficacy scale, a useful tool with potential to evaluate person-centred care. *Eur J Cardiovasc Nurs* 2015;14:536–43.
- 24 Allahverdipour H, Asgharijafarabadi M, Heshmati R, *et al.* Functional status, anxiety, cardiac self-efficacy, and health beliefs of patients with coronary heart disease. *Health Promot Perspect* 2013;3:217–29.
- 25 Bagheri H, Shakeri S, Nazari A-M, *et al.* Effectiveness of nurse-led counselling and education on self-efficacy of patients with acute coronary syndrome: a randomized controlled trial. *Nurs Open* 2022;9:775–84.
- 26 Barham A, Ibraheem R, Zyoud SH. Cardiac self-efficacy and quality of life in patients with coronary heart disease: A cross-sectional study from Palestine. *BMC Cardiovasc Disord* 2019;19:290.
- 27 Taberner C, Caprara GV, Gutiérrez-Domingo T, *et al.* Positivity and self-efficacy beliefs explaining health-related quality of life in cardiovascular patients. *Psicothema* 2021;33:433–41.
- 28 Fors A, Ekman I, Taft C, *et al.* Person-centred care after acute coronary syndrome, from hospital to primary care - A randomised controlled trial. *Int J Cardiol* 2015;187:693–9.
- 29 Pirhonen L, Olofsson EH, Fors A, *et al.* Effects of person-centred care on health outcomes—A randomized controlled trial in patients with acute coronary syndrome. *Health Policy* 2017;121:169–79.
- 30 Marks R, Allegrante JP, Lorig K. A review and synthesis of research Evidence for self-efficacy-enhancing interventions for reducing chronic disability: implications for health education practice (part II). *Health Promot Pract* 2005;6:148–56.
- 31 Bleijenberg N, de Man-van Ginkel JM, Trappenburg JCA, *et al.* Increasing value and reducing waste by optimizing the development of complex interventions: enriching the development phase of the medical research Council (MRC) framework. *International Journal of Nursing Studies* 2018;79:86–93.
- 32 Skivington K, Matthews L, Simpson SA, *et al.* A new framework for developing and evaluating complex interventions: update of medical research Council guidance. *BMJ* 2021;374:2061.
- 33 Statistics Portugal. Área Metropolitana de Lisboa in Figures-2018. 2020. Available: [www.inec.pt](http://www.inec.pt)
- 34 Sim J, Saunders B, Waterfield J, *et al.* Can sample size in qualitative research be determined a Priori *International Journal of Social Research Methodology* 2018;21:619–34.
- 35 Saunders B, Sim J, Kingstone T, *et al.* Saturation in qualitative research: exploring its conceptualization and Operationalization. *Qual Quant* 2018;52:1893–907.
- 36 Krueger RA, Casey MA. *Focus Groups - A Practical Guide for Applied Research*. 5th edn. Sage Publications, 2015.
- 37 Moore G, Campbell M, Copeland L, *et al.* Adapting interventions to new contexts-the ADAPT guidance. *BMJ* 2021;1679.
- 38 International Test Commission. The ITC guidelines for translating and adapting tests. In: *Applied psychology*. 2017. Available: [www.intestcom.org](http://www.intestcom.org)
- 39 Acquadro C, Patrick DL, Eremenco S, *et al.* Emerging good practices for translatability assessment (ta) of patient-reported outcome (pro) measures. *J Patient Rep Outcomes* 2018;2.
- 40 Weiner BJ, Lewis CC, Stanick C, *et al.* Psychometric assessment of three newly developed implementation outcome measures. *Implement Sci* 2017;12:108.
- 41 Elo S, Kyngäs H. The qualitative content analysis process. *J Adv Nurs* 2008;62:107–15.
- 42 Sousa F, Costa A, Moreira A. *webQDA I Programa de Computador I*. Aveiro: Microio/Ludomedica, 2019.
- 43 Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19:349–57.
- 44 Staniszewska S, Brett J, Simeria I, *et al.* Gripp2 reporting Checklists: tools to improve reporting of patient and public involvement in research. *BMJ* 2017;358:j3453.
- 45 Möhler R, Köpke S, Meyer G. Criteria for reporting the development and evaluation of complex interventions in Healthcare: revised guideline (Credec2). *Trials* 2015;16:204.
- 46 García-Encinas A, Ramírez-Maestre C, Esteve R, *et al.* Predictors of Posttraumatic stress symptoms and perceived health after an acute coronary syndrome: the role of experiential avoidance, anxiety sensitivity, and depressive symptoms. *Psychology & Health* 2020;35:1497–515.
- 47 de Jager TAJ, Dulfer K, Radhoe S, *et al.* Predictive value of depression and anxiety for long-term mortality: differences in outcome between acute coronary syndrome and stable angina Pectoris. *International Journal of Cardiology* 2018;250:43–8.
- 48 Tran HV, Gore JM, Darling CE, *et al.* Clinically significant ventricular arrhythmias and progression of depression and anxiety following an acute coronary syndrome. *Journal of Psychosomatic Research* 2019;117:54–62.
- 49 Vámosi M, Lauberg A, Borregaard B, *et al.* Patient-reported outcomes predict high readmission rates among patients with cardiac diagnoses. *International Journal of Cardiology* 2020;300:268–75.
- 50 Xiao Y, Li W, Zhou J, *et al.* Impact of depression and/or anxiety on patients with percutaneous coronary interventions after acute coronary syndrome: a protocol for a real-world prospective cohort study. *BMJ Open* 2019;9.
- 51 Timóteo AT, Dias SS, Rodrigues AM, *et al.* Quality of life in adults living in the community with previous self-reported myocardial infarction. *Revista Portuguesa de Cardiologia* 2020;39:367–73.
- 52 Sullivan MD, LaCroix AZ, Russo J, *et al.* Self-efficacy and self-reported functional status in coronary heart disease: A six-month prospective study. *Psychosom Med* 1998;60:473–8.
- 53 United Nations. TRANSFORMING OUR WORLD: THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT, 2015. Available: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>
- 54 Jackson T, Pinnock H, Liew SM, *et al.* Patient and public involvement in research: from tokenistic box ticking to valued team members. *BMC Med* 2020;18.
- 55 World Medical Association. WMA declaration of Helsinki: ethical principles for medical research involving human subjects. Fortaleza, Brazil; 2013. Available: <http://www.wma.net/en/30publications/10policies/b3/index.html>