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DESIGN INSIGHT

Eromar: A design intervention for facilitating sexual communication in women with breast cancer

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SUMMARY

Breast cancer (BC) treatments often leave sexual health underexplored in clinical and patient care, impacting survivors' confidence and intimacy. *Eromar* is a co-created design intervention using interactive cards to guide self-reflection and/or partner sexual communication. It bridges communication gaps and empowers women to address sensitive topics, fostering emotional resilience and reconnection with femininity. Iterative testing ensured relevance, with 90 per cent of participants expressing interest in adoption. *Eromar* highlights the role of empathy-driven design in addressing taboo healthcare topics and offers scalable solutions to improve the recovery and sexual well-being of other types of patients.

Key Words: Breast cancer; sexual health; healthcare design; intimacy recovery; communication barriers

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INTRODUCTION

Breast cancer (BC) is a multifaceted disease that profoundly affects physical health, emotional resilience, and interpersonal relationships. Treatments such as mastectomy and chemotherapy bring significant changes to body image, self-esteem, and identity, often leaving women feeling disconnected from themselves and their partners, straining their intimacy, and reducing their sexual confidence.

Research indicates that up to 70 per cent of BC survivors experience a decline in sexual activity, with nearly half reporting dissatisfaction with their post-treatment appearance.[1,2] Despite this prevalence, stigma and discomfort surrounding sexuality often prevent open conversations, perpetuating emotional isolation and unmet sexual needs. In contrast, evidence has shown the beneficial effects of non-judgmental conversations to address the profound impacts of BC treatment on women's physical, emotional, and relational well-being.[3]

Beyond the physical effects, BC treatments challenge the maintenance of a sense of femininity. Despite its critical role in recovery, sexual health remains underexplored in clinical care, leaving many survivors and their partners without adequate resources to navigate these challenges.[4] This gap in comprehensive and empowering healing approaches highlights the need for greater attention to sexual health in both clinical care and broader support frameworks.[2]

SUMMARY

Societal stigma and emotional discomfort create barriers that make it difficult for women to find comfortable spaces to engage in sexual conversations. To address this, we developed a proof-of-concept

aimed at facilitating sexual communication between patients and their partners, as well as patients' self-reflection.

Our design process started with a BC design probe, followed by interviews with patients. We then validated our findings with an expert panel comprising two onco-physical therapists, an onco-gynaecologist and a leader from a nonprofit BC support and community association. Our research revealed that patients often experience a silent and isolated endurance. As one participant (patient, 54 years old) expressed, "We stopped talking about sex entirely; it felt like there was no way to bridge the gap".

Building on findings from Reese et al.[5], we took the following three categories to develop a set of questions to facilitate sexual conversations:

1. Change and Loss: Perceptions of sexual and intimacy changes after treatment.
2. Reacting to Sexual and Intimacy Changes: Feelings, thoughts, and beliefs.
3. Worries, Fears, and Feelings: Self-perceptions and perceptions of partners' experiences and reactions to sexual changes.

We then conducted consultations with BC patients and survivors at an oncological fair in a public hospital in Santiago, Chile. We asked participants which sexual questions they would have liked to reflect on during their BC treatment and sought their opinions on our proposed questions (Figure 1). To ensure the questions were not potentially harmful to patients, we also consulted a psycho-oncologist for expert review. Consequently, we discovered the importance of a progressive approach to intimacy topics, considering patient vulnerability. Additionally, we found that some questions involving partners required preliminary personal assessment.

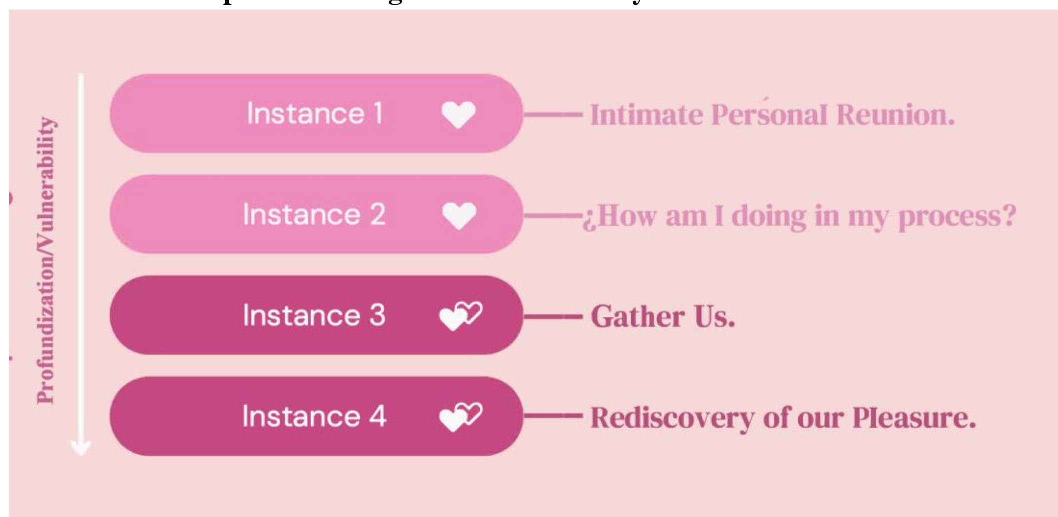
Figure 1: Set of questions for reflexion

Note: These questions were developed based on patient testimonies and subsequently systematised for use in the proposed *Eromar* system. The prompt and response questions were translated from Spanish. In this instance, patients are encouraged to respond by formulating the specific questions they would like to ask their partners, allowing for personalised and meaningful dialogue within the system's framework. (The image on the left shows cards in Spanish; the image on the right shows cards in English.)

Eromar (derived from "**Ero**tismo Cáncer de **Ma**ma Acciona**r**" in Spanish, or "Eroticism Breast Cancer Activate" in English) is a dynamic conversation-starter system. It consists of four progressive instances,

each contained in a small cardboard box. Each box includes a curated set of interactive cards and prompts intended to guide either personal reflection or dialogue with a partner. The first two instances are designed for personal reflection that could be shared with the patient's partner, while the latter two are designed to be used by the couple and focus on facilitating conversations (Figure 2). Each instance is contained within its own box, featuring three proposed questions presented on a fold-out card, which must be filled out by hand by the patient and/or their partner, along with instructions for reflection (Figure 3). The system encourages participants to write down their thoughts and insights, which can then be stored in a specially designed origami pocket. This origami can be kept within the provided box or elsewhere, serving as a tangible reminder of the experience and insights gained through the Eromar system (Figure 4).

Figure 2: Instances for partner dialogue in the *Eromar* system



Note: This diagram illustrates the four consecutive instances proposed in the *Eromar* system to guide partner dialogue. Each instance invites increasing emotional vulnerability and intimacy, progressing from personal reflection to mutual rediscovery of pleasure. The model was co-designed based on patient testimonies and therapeutic insights to support relational communication and connection.

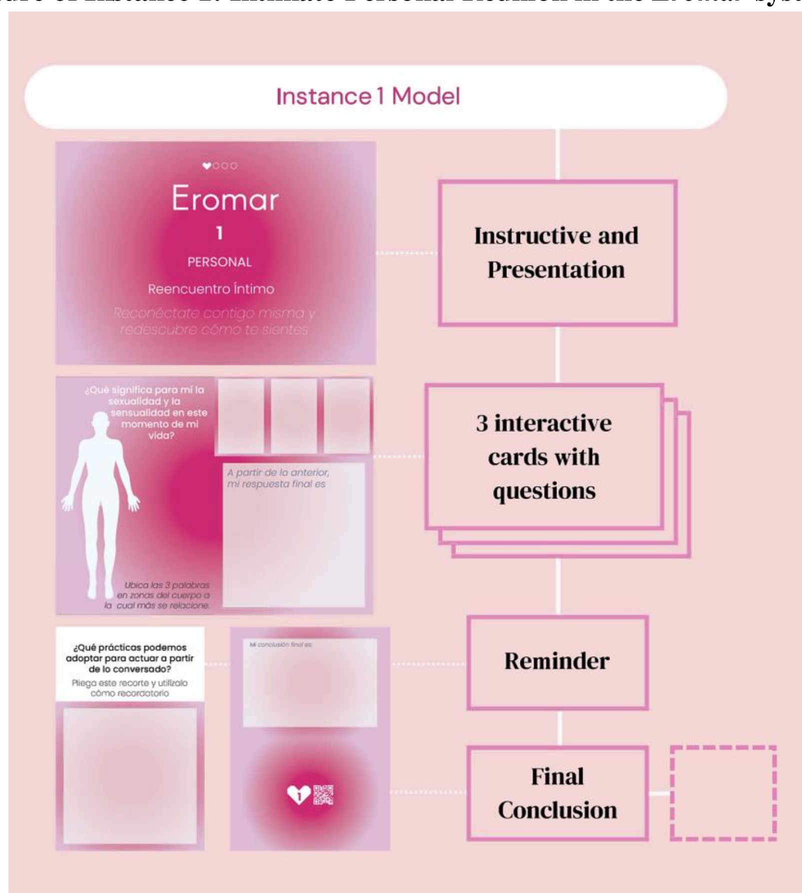
LESSONS LEARNED

Our project successfully addressed the design issue by creating an intervention that was impactful according to oncology experts (physical therapists, gynaecologists and medical oncologists) who were part of a review panel; and BC patients surveyed through an online questionnaire. Patient participants expressed interest in using and purchasing *Eromar* to tackle sexual health challenges, validating the tool's effectiveness in meeting the needs of its target audience.

Through the *Eromar* design process, there was a suggestion that humility and empathy are essential in understanding patients' needs. While our initial prototype was designed thoroughly, deeper insights may only have emerged when patients directly interacted with it. *Eromar*'s visual and interactive components may have created a sense of ritual, encouraging patients to engage in conversations they may have found difficult to initiate. Importantly, it suggests that sexual intimacy is not solely about partnership but also about self-reflection, which provides value regardless of the presence of a partner.

JHD 2025;10(2):731–737

Figure 3: Structure of Instance 1: Intimate Personal Reunion in the *Eromar* system



Note: This diagram outlines the structure of Instance 1: Intimate Personal Reunion within the *Eromar* system. Designed to be completed by the patient, this first instance encourages a moment of individual reflection before any partner dialogue begins. It invites the patient to reconnect with herself and explore her current relationship with sexuality. The instance begins with an instructive and introductory card, followed by three interactive cards with guided questions focused on personal meaning, bodily awareness, and emotional expression. The patient is then prompted to identify three personal practices to adopt, which are summarised in a heart-shaped foldable reminder card. The session concludes with space for articulating a final personal reflection. This individual step supports self-awareness and emotional grounding as a foundation for the following relational instances.

Empathy-driven design was pivotal in identifying nuanced user needs. Assumptions about patient challenges, especially in the underexplored area of sexual health for women with BC, proved insufficient. Using design our *Eromar* card prototypes, we uncovered that many participants struggling with communication may have found the structured approach of *Eromar* beneficial.

Additionally, defining design heuristics and establishing evaluation metrics were crucial steps in refining *Eromar's* card system. Grounded in information design, the heuristics focused on comprehension, legibility, and respectfulness. However, iterative testing with patients revealed that the content was unintentionally heteronormative. Iterative testing allowed us to align the tool's structure and content with its intended goals to better reflect diverse identities and relationships. Grounding the design in survivors' lived experiences—validated by oncological experts and feedback from patients—significantly enhanced its relevance and usability. Formal testing of this method is now warranted.

The Journal of Health Design

JHD 2025;10(2):731–737

Figure 4: Prototype of the Eromar System: Printed materials and packaging across instances

Note: *Left:* This photo shows the physical components of the Eromar system, including printed materials for all four instances. Each instance includes a set of interactive cards, reflection prompts, and foldable elements—such as the heart-shaped reminder—designed to guide patients or couples through a progressive exploration of sexuality, intimacy, and emotional connection. The materials are colour-coded and numbered by instance, with embedded QR codes that allow participants to voluntarily share their experiences as part of a collective narrative.

Right: This image shows the physical packaging of Instance 1: Personal from the Eromar system. The box contains materials designed to guide the patient through an individual process of reflection and reconnection with their own body and sexuality. The inside lid includes visual and written instructions for using the materials, reinforcing the central theme of body awareness.

Our proposed experience may open sexual communication for BC patients and enhance sexual well-being reflections in a didactic and ludic way that bridges emotional and erotic exploration with actionable communication strategies. By fostering open conversations about sexual needs and providing a structured approach to personal reflection, these tools will aim to support women in reconnecting with themselves and their partners. This approach positions sexual health as a gateway to improved self-image, emotional resilience, and a renewed sense of femininity, redefining recovery as a comprehensive journey.

We recognise the need for extended co-creation and validation processes to uncover deeper patterns and refine the system design. The scalable nature of our model offers opportunities for application across other dimensions of sexual healthcare.

This project suggests that design can empower vulnerable populations and enhance healthcare experiences. Patients expressed gratitude for addressing unmet needs through design, perceiving it as a form of care and compassion. These experiences highlight design's potential to foster trust, empathy, and meaningful impact in healthcare.

DESIGN INSIGHT

The authors present a lovely project that was carefully crafted and lovingly created using a variety of industrial design tools and methods. Through their description of the exploration and development process for *Eromar*, the authors discuss their inclusion of design probes, interviews, conversations with patients, as well as medical practitioners, iterative prototyping and testing, and ultimately critical reflection by all—including designers, medical professionals, and patients. These embodied activities, collaborations, and

imagining the future are important aspects of critical design thinking (Strickfaden et al. 2025) that go beyond the traditional design thinking methods.

While by scientific standards their research pool numbers might be considered too small, within the realm of human-centred design this is an excellent beginning. Their results showcase a very thoughtful product that has the potential to be a change agent for all people who are affected by a breast cancer diagnosis.

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PEER REVIEW

Not commissioned. Externally peer reviewed.

CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

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ETHICS COMMITTEE APPROVAL

Written and/or verbal consent was obtained from all participants, including patients and healthcare providers, before their involvement in gathering data for this project, following the formats and recommendations of the Pontificia Universidad Católica de Chile Ethics Committee. While this preliminary phase did not require formal ethics approval, the study is expected to undergo ethics review for a clinical trial after prototypes of the intervention are finalised.