



Ponce Health Sciences University-  
Moffitt Cancer Center Partnership



# Implementation of Mental Health Services for Cancer Patients

Development, Implementation and Evaluation  
of a Psychoeducational Workshop

# INTRODUCTION

- Since 2017, Puerto Rico (PR) has experienced natural disasters such as hurricanes, earthquakes and now the COVID-19 pandemic.
- Cancer patients are particularly affected due to the risk of treatment interruption, access barriers to the healthcare provider, and loss support of the family or caregiver.
- These stressors can increase the risk of depression and anxiety disorders, including cancer-related Post-Traumatic Stress Disorder (PTSD), impacting their health outcomes and overall quality of life.
- Identifying and treatment early on mental illness symptoms can be a challenge in adverse conditions caused by disasters.
- A significant proportion of people with cancer at different stages of the disease trajectory have mental disorders, primarily affective and anxiety disorders.
- Cancer patients with depression may have worse health outcomes associated with poor treatment adherence, more sedentary lifestyle, and increased alcohol consumption.



To share the process of development, implementation, and evaluation of a two-day psychoeducational workshop adapted for cancer/survivor patients and caregivers in Puerto Rico created to:

- Reducing mental health symptoms.
- Increasing the use of adaptive coping skills.
- Increasing functioning.
- Reduce mental health stigma.
- Promoting self-care behaviors.

Intervención Comunitaria de Salud Mental ante  
Situaciones de Desastres para pacientes/  
sobrevivientes de cáncer y cuidadores.

Huracanes  
Terremotos  
COVID-19

CURRICULUM MANUAL FOR USE  
IN SITUATIONS AFFECTED BY NATURAL  
DISASTERS  
EPAL, 2016.

## Definiciones Relacionadas con Estrés

- **EVENTO TRAUMÁTICO:** es algo que nos hace sentir que nuestra vida, o la vida de alguien a tu alrededor, está en peligro.
- **EVENTOS ESTRESANTES:** son circunstancias difíciles de la vida que pueden causar angustia (tensión mental) y a menudo tienden a continuar un tiempo.



## Reacciones corporales, emociones y cognitivas

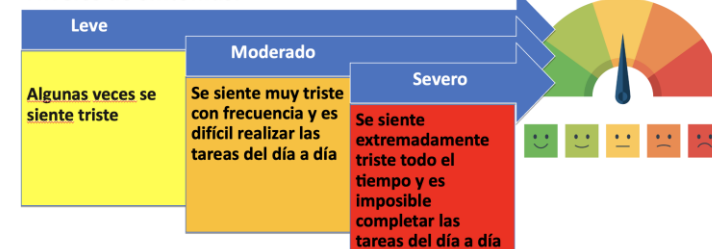


## Analizando nuestros pensamientos



## Síntomas del cuerpo y emocionales

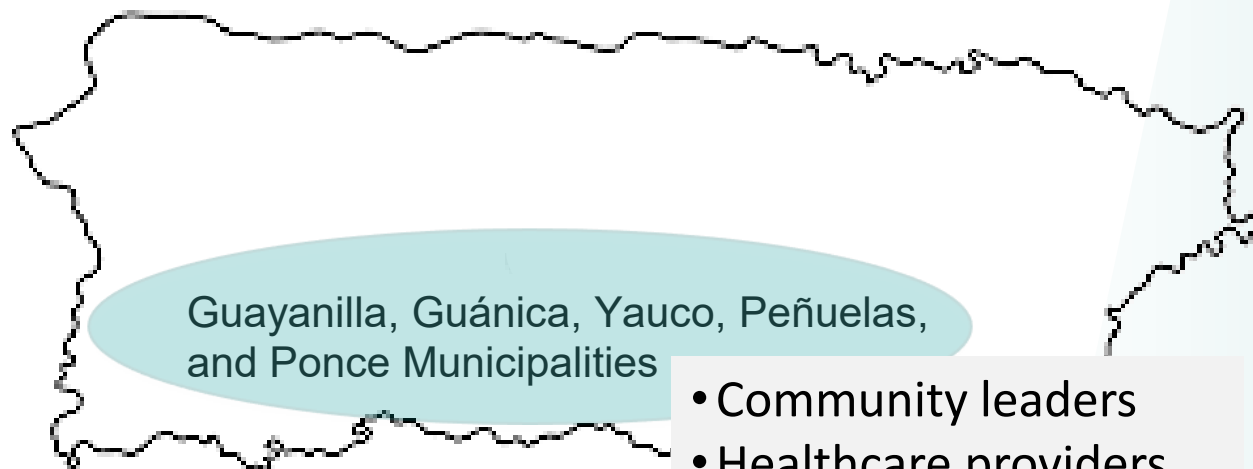
### Niveles de Síntomas:





## Working for / with the community

### U54 PSHU-MCC Partnership



Guayanilla, Guánica, Yauco, Peñuelas,  
and Ponce Municipalities

- Community leaders
- Healthcare providers
- Cancer support groups
- Stakeholders

## Step 1 Qualitative & Quantitative Needs Assessment



Mental health support for  
cancer patients and caregivers

## Step 2

### Community Disaster Mental Health Intervention (CBDMHI).

James, L, Welton-Mitchell, C. & TPO Nepal (2016). Community-based  
disaster mental health intervention (CBDMI).

## Step 3

### Cultural adaptation (Ecological Validity Model)

- (1) Expert consultation (Clinical Psychologists).
- (2) Preliminary content adaptation (research team).
- (3) Iterative content adaptation with community  
members (related and affected by cancer).
- (4) Final community feedback (cancer survivors and  
caregivers).

## FIRST CONTACT

### Phone call

(potential participants)

- Presentation of objectives
- Checking inclusion criteria
- Procedure: 3 intents
- Remote modality
- Stipend



Yes



T1

**PSYCHO-EDUCATIONAL  
WORKSHOP**  
(two days)  
Sociodemographic  
questionnaire and DRPST

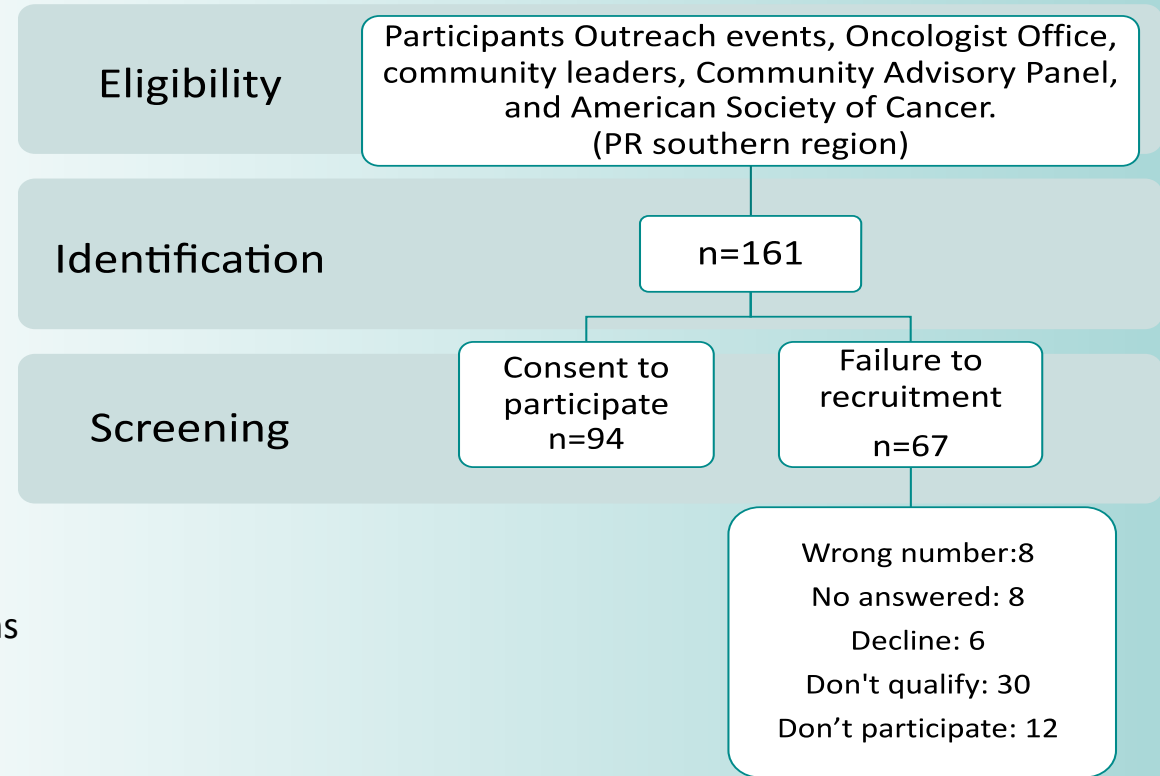


T2

**FOLLOW-UP CALL**  
-DRPST  
- Follow-up questions

Note: people with severe symptoms of anxiety or depression were referred to mental health community-service providers.

**Figure 1. Recruitment procedure.**



**INSTRUMENTS:** Socio-demographic questionnaire, Psychosocial Disaster-Related Screening Test, Spanish version.

-Informed consent.

-Google Forms was used to collect informed consent, sociodemographic and pre-and-post-event data points.

## Psycho-educational workshop

- Day 1: definitions of mental health to facilitate and understanding of the etiology and course of psychological signs and symptoms in themselves and their family members.
  - Day 2: providing and practicing basic behavioral skills and exercises to reduce or minimize the psychological symptoms.
- 
- **Ninety-four participants (cancer patients/survivors and caregiver) received the two-day workshop via remote, conducted by a licensed psychologist.**

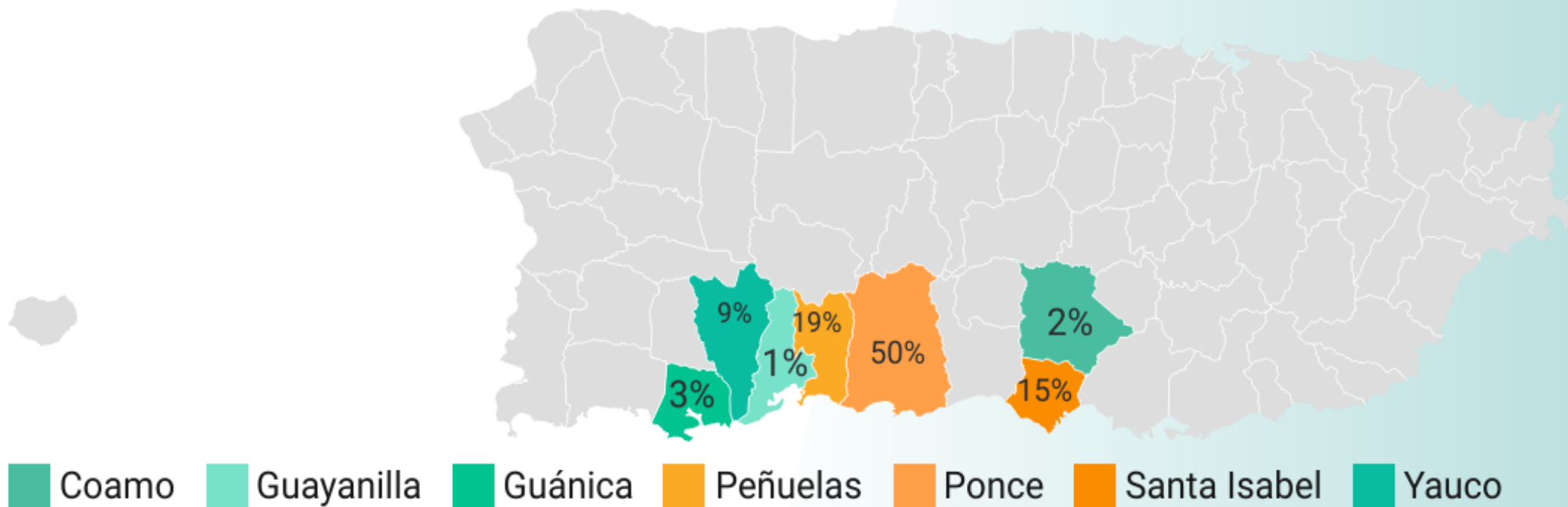


**Table 1: Participant's Sociodemographic Data (n=94)**

AGE GROUP	SEX	MARITAL STATUS	EDUCATIONAL LEVEL	GROUP TO WHICH THE PARTICIPANT BELONGS
18-24 (3%)	Female 88%	Single	Less than High School	Caregiver
25-34 (3%)		Living together or with partner	Completed High School	Cancer survivor
35-44 (12%)	Male 13%	Married	Associate Degree	Cancer patient
45-54 (40%)		Divorced/Separate	Bachelor's degree	
55-64 (32%)		Widowed	Bachelor's degree	
65+ (10%)			Masters Degree	
			Doctorate	

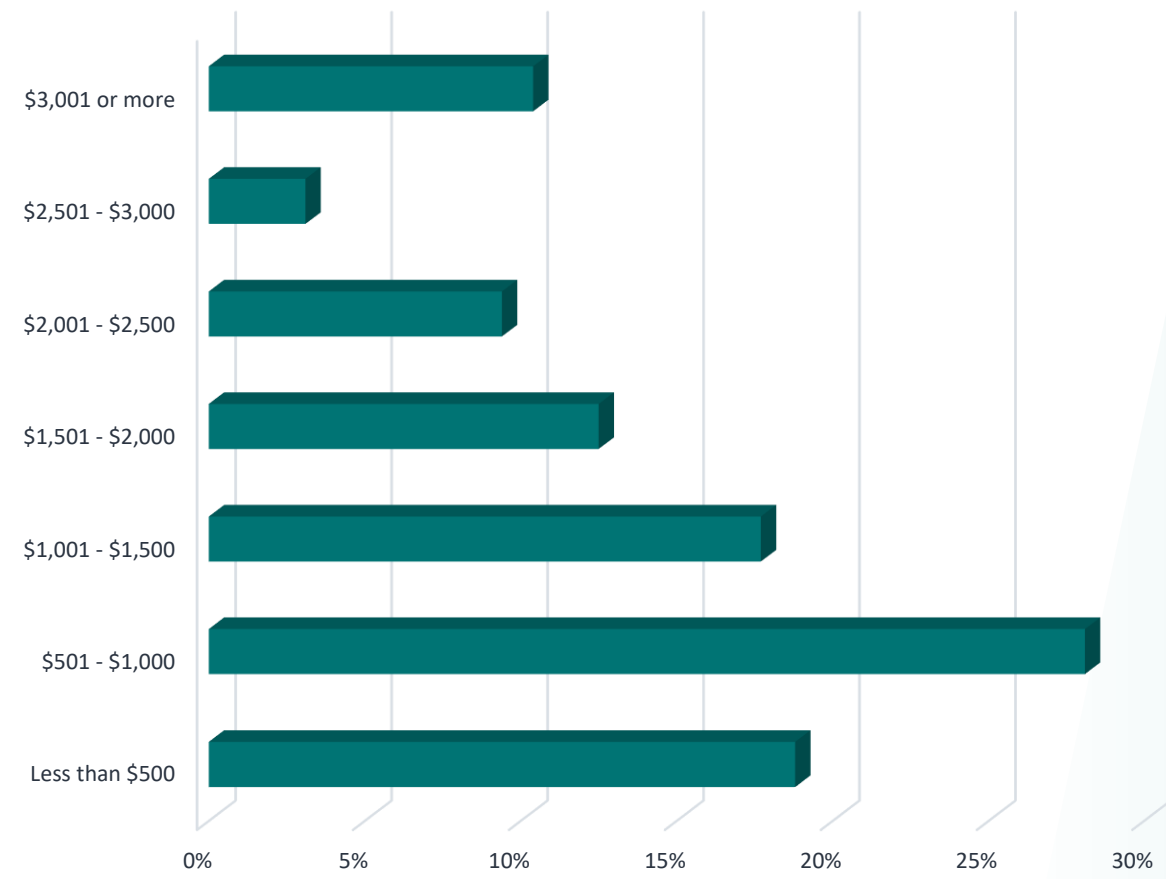


Figure 2: Towns of residency in the south region of Puerto Rico (n=94)

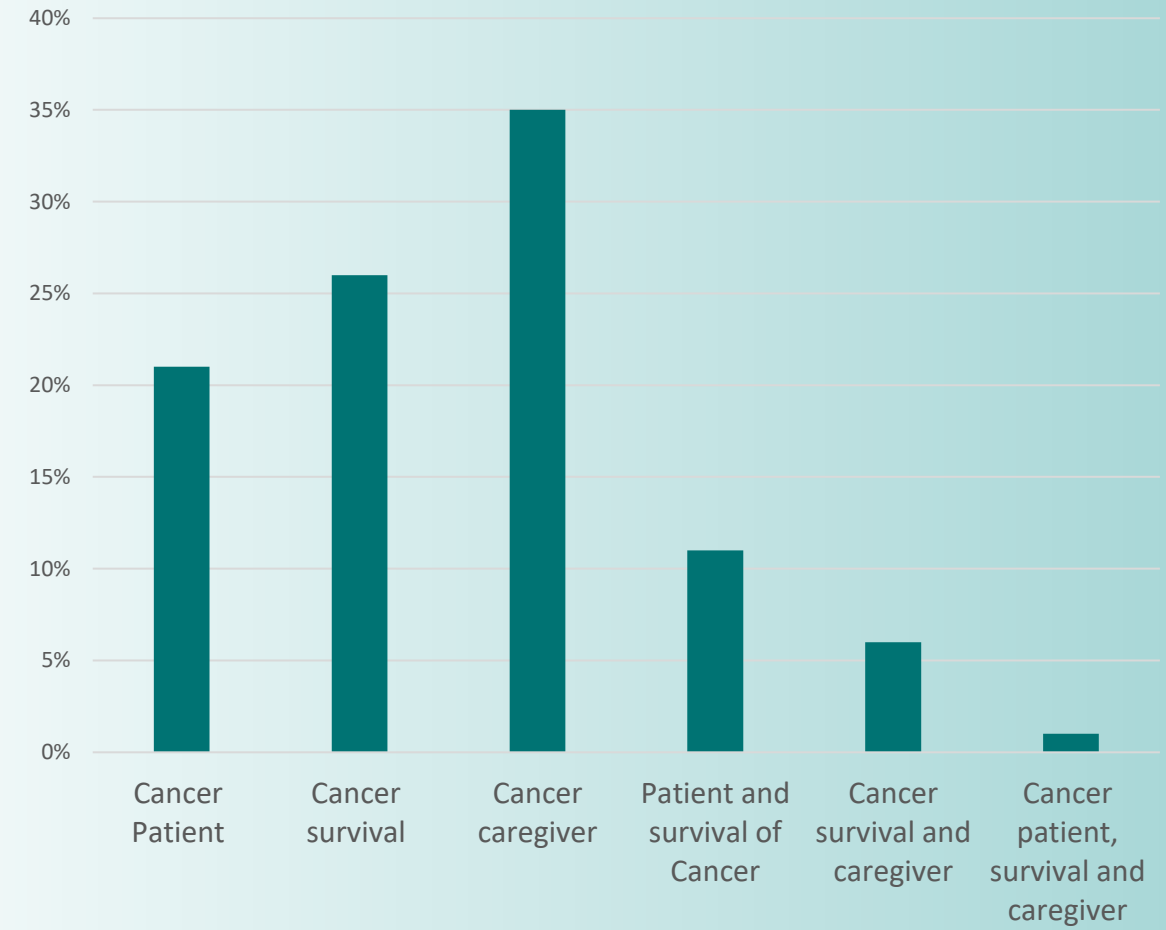




**Figure 2: Monthly Income of Participants (n=94)**



**Figure 3: Attendees of the Workshop (n=94)**



The total of participant that give the consent to participate is n= 95.

- The retention rate for workshop participants was **95%**.
- The attendance actively participated in the dynamics presented, expressed emotions, and shared situations that affected them related to the disaster experiences as affected by cancer.
- Participants feel comfortable and safe, attending the workshop from their homes.
- 100% of the participants reported that they would accept to repeat and participate in other workshops using the videoconference modality.
- 96% of the participants reported being able to seek support, thanks to what they learned in the workshop.
- 25% of the participants received a referral to an outpatient mental health services clinic due to mental health symptoms.
- One month after the intervention the difference in signs or symptoms are minimal is recommended to follow up participants to see any changes or make referrals as needed or requested by the participant.

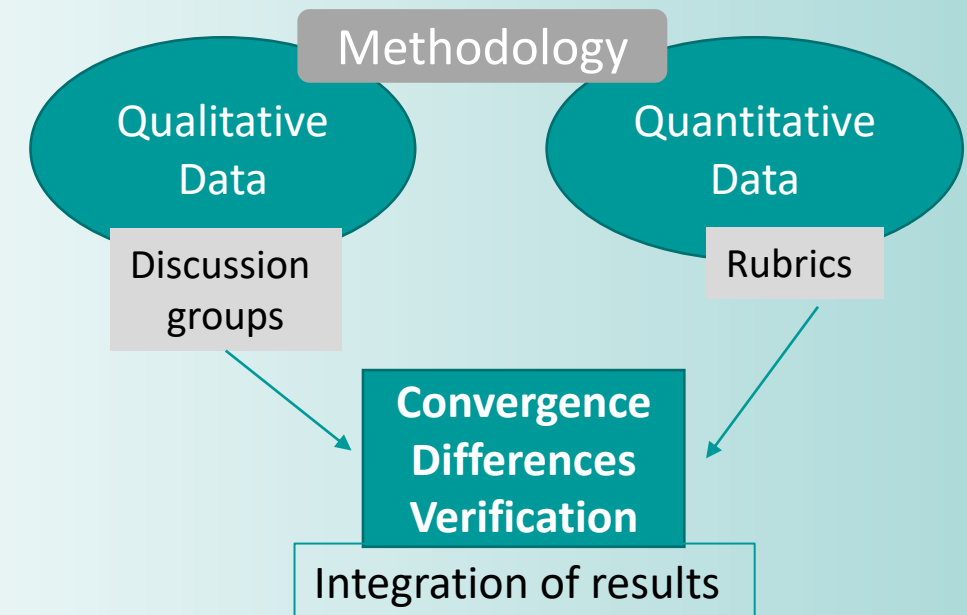
To evaluate the content, structure, comprehensibility and usefulness of the **psycho-educational workshop**.

### Two phases:

- First phase (qualitative) using discussion groups.
- Second phase (quantitative) using rubrics to evaluate content, structure, comprehensibility and usefulness of the workshop.



**Figure 4: Mixed methods design with triangulation concurrent (Barbour, 2007)**





## A. Qualitative phase:

The questions were the following (examples):

### Content:

1. What do you think of the content used, is it appropriate for the participants who are going to receive the workshop?
2. Are the topics appropriate for the Puerto Rican population?
4. Do you understand that the information conveys the emotional situation experienced by people affected by cancer (patients, survivors, caregivers)?

### Comprehensibility:

1. What do you think the language used is appropriate for the members of the community?
2. What do you recommend about terminology? Is it suitable for the general public? Are they understandable for the Puerto Rican community?
3. What do you recommend about the concepts used to describe emotional parts in cancer patients and their caregivers?

### Structure:

1. Do they understand that the way the slides are presented is clear and concise?
2. What do you think of the order used, is it sequenced and coherent with the objectives?
3. What do you recommend about the images, do they help us understand the information?

### Utility:

1. Do you understand that the information provided helps the participants identify symptoms of anxiety or depression?
2. Do you think that through the workshop, the participant is motivated to seek relevant help?

- A total of five (5) discussion groups between July and August 2021.
- 22 participants of the "Psychoeducational Workshop for Emotional Support of people with cancer, survivors and caregivers."
  - 45% survivors, 30% caregivers, 20% patient/survivors.
- The duration of the dialogue in the discussion groups 90 minutes approximately.



Categories and subcategories	Definition	Comments
<b>A. Content</b>		
<b>Appropriate</b>	<ul style="list-style-type: none"> <li>The content is appropriate for the participants who are going to receive the workshop.</li> <li>The topics discussed in the workshop are applicable to people emotionally affected by cancer.</li> <li>The topics presented are appropriate for people who live in PR.</li> <li>The information presented in the workshop manages to convey the emotional situations experienced by people affected by cancer (patients, survivors, caregivers).</li> </ul>	<p>"I understand that it is quite clear; and it could be adapted to any patient, of any disease or the caregivers of it."</p> <p>"All clear so far."</p> <p>"Apply a little more information about the patients. As it is right now, it's very widespread."</p> <p>"It is necessary to make the link with the cancer patient; Apply the concepts in the life of the patient and caregiver."</p> <p>"As a breast cancer patient everything is well understood. Very well explained."</p> <p>"Apply a little more information about the patients. It's very widespread."</p> <p>"A link is missing between the stress of the cancer patient or caregiver and the added stress of the disaster. I would totally agree if they make the link based on my first comment."</p> <p>"I don't see it being directly linked to cancer patients. It seemed pretty general to me."</p>
<b>Spirituality</b>	Spiritual content for the population of faith.	<p>"You need to add the part of spirituality that often helps us overcome some things that neither knowledge nor science can provide us."</p> <p>"We are a predominantly believing culture and I think adding that spiritual component adds a different touch to the presentation."</p> <p>"For years we have been teaching ourselves the benefits and concepts like these and many times what we need is to mix the medical part with hope and spirituality."</p>



B. Estructura		
Modifications	<p>The order (sequence) in which the information is presented is appropriate and helps to follow the topics presented.</p>	<p>"Add at the beginning one or another graph to understand better."</p> <p>"The workshop in general has a good structure and information that is easy to understand and apply."</p> <p>"The information and the tools they provide are complete and the order in which everything is presented is also complete."</p> <p>"It's interactive, I just would change the order of some things to make it more interactive at the beginning and the participants can be involved from the beginning."</p> <p>"The workshop in general is good and topics are discussed on how to handle a particular situation, but it is not a topic that can be handled with only two hours of presentation. Sometimes the information was perceived as being pushed."</p>
Images	<p>The images used help to better understand the information that is to be explained.</p>	<p>"I understand that they should integrate more reasoning images, such as The Metaphor of the Rock. didactic exercises."</p> <p>"All good but they should put the larger images and the text."</p> <p>"At the moment they are all simple and clear to understand to which I understand that no change should be made."</p> <p>"The images could be bigger and the text."</p> <p>"The images and infographics are easy to understand."</p>
Practical exercises	<p>Sufficient practical exercises are presented that help to better understand what is being explained (eg relaxation exercises, breathing exercises).</p>	<p>"They should do more practical exercises (dynamics) so that the participant does not feel monotonous."</p> <p>"More practical exercises of another indol are necessary for those who cannot practice those already in the presentation."</p> <p>"I understand that they must apply relaxation and meditation exercises, explain how they are done and carried out in the workshop."</p> <p>"There should be more time for practical exercises and to listen to testimonials from the other participants."</p> <p>"I think if music is added to the exercises, they could be even better."</p>



C. Comprensibilidad		
Elaborate language	<p>The level of language development (literacy) is appropriate for community members.</p>	<p>"It is important to review vocabulary, text position, errors regarding punctuation marks or numbering."</p> <p>"Any other word or way of asking the question."</p> <p>"Apply a little more information about the patients. It's very widespread."</p> <p>"There are Sunday words that can be modified as adaptive coping strategies."</p>
Definitions	<p>The terms used to explain the concepts are suitable for the general public. The terms used are understandable to the Puerto Rican community.</p>	<p>"The language is clear to community members the definitions are understandable."</p> <p>"Some terms can be modified to make them more appropriate for everyone."</p> <p>"In general, the definitions are understood and are pertinent to introduce some particular topics."</p>

## B. Quantitative phase

In this phase, a questionnaire created by the team was presented to evaluate the content, structure, comprehension and usefulness of each part of the workshop (Theory and Practice).

Evaluated Concept	Score			
Content	Totally in disagreement	In disagreement	Agree	Completely agree
The content is appropriate for the participants that will receive the workshop	1	2	3	4
The topics discussed in the workshop are related to people emotionally affected by cancer.	1	2	3	4
The topics presented are appropriate for people living in PR,	1	2	3	4
The last information that the workshops presents, is able to transmit the emotional situations of people affected by cancer (patients, survivors, caregivers)	1	2	3	4

Evaluated Concept	Score			
Structure	Totally in disagreement	In disagreement	Agree	Completely agree
The points presented in the workshop are clear and concise.	1	2	3	4
The way in which the themes in the workshop were presented helped understand the information offered.	1	2	3	4
The order (sequence) in which the information was presented, was adequate and helped to follow the topics offered.	1	2	3	4
The images used helped understand the information that was being explained.	1	2	3	4

- The questionnaire consists of 26 items, evaluating content, structure, comprehensibility and usefulness with a score from 1 to 4 (1 = Totally disagree, 2 = Disagree, 3 = Agree, and 4= Totally agree).
- Finally, after each scale there is a question that assesses the section of the workshop in general.

In general, do you think that the content of the workshop should be modified?

- a) Yes. the module must not continue to be given in its current state.
- b) Yes, but it just needs level changes.
- c) No, you don't have to adapt the content.



## Sociodemographic Data

Age group (years)	n (%)
18-24	0 (0)
25-34	0 (0)
35-44	3 (15)
45-54	10 (50)
55-64	6 (30)
≥ 65	1 (5)
Sex	
Man	4 (20)
Woman	16 (80)
Prefer no respond	0 (0)
Other	0 (0)
Type of participant	
Cancer patient	2 (10)
Cancer survivor	9 (45)
Caregiver	6 (30)
Cancer patient and survivor	1 (5)
Survivor and caregiver	2 (10)
Cancer patients and caregiver	0 (0)
Cancer patient, survivor and caregiver	0 (0)

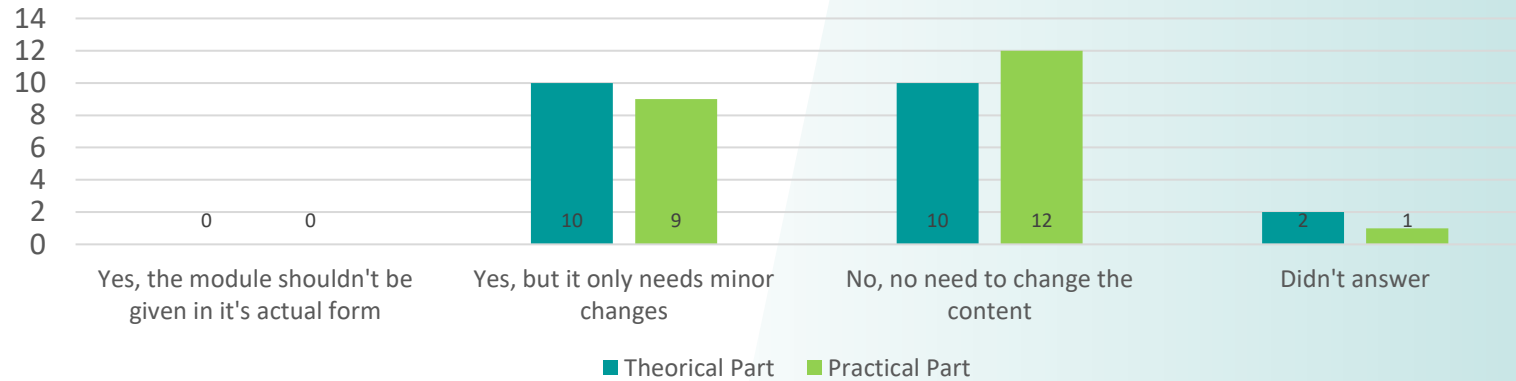
Marital Status	n (%)
Single	3 (15)
Married	9 (45)
Living with a couple	6 (30)
Divorced/ Separated	2 (10)
Widow	0 (0)
Income (monthly)	
≤ \$500	2 (10)
\$501 – \$1,000	7 (35)
\$1,001 - \$1,500	8 (40)
\$1,501 - \$2,000	1 (5)
\$2,001 - \$2,500	0 (0)
\$2,501 - \$3,000	0 (0)
≥ \$3,001	2 (10)
Educational level (higher)	
No complete hoght school	0 (0)
Complete high school	3 (15)
Associated grade	6 (30)
Bachelor	8 (40)
Master	3 (15)
Doctoral grade	0 (0)

- Formal invitation through the contact information provided by the workshop participants authorizing to be contacted.
- A total of 22 participants were recruited.
  - Presential (1 group) n=5
  - Virtual (4 groups) n=17

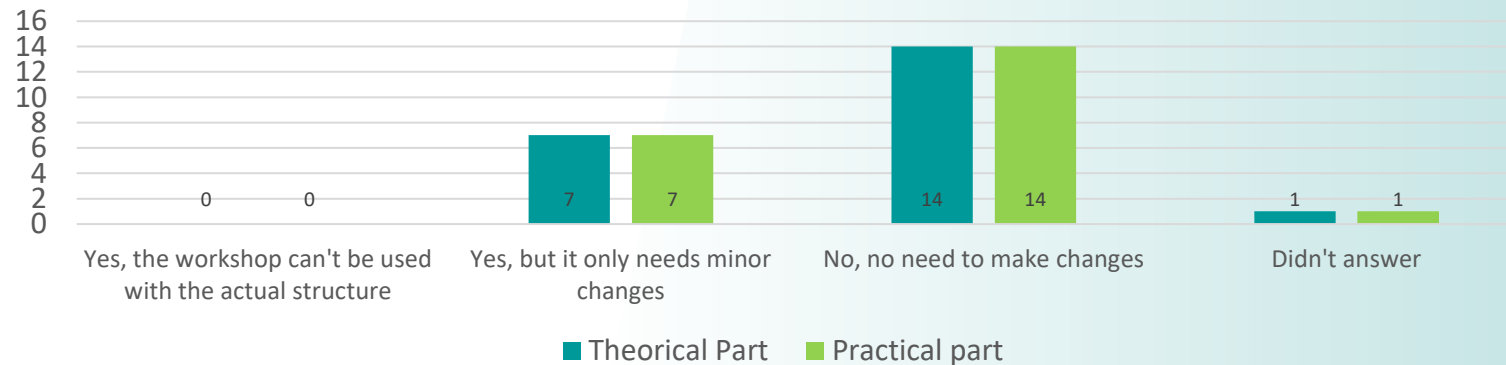




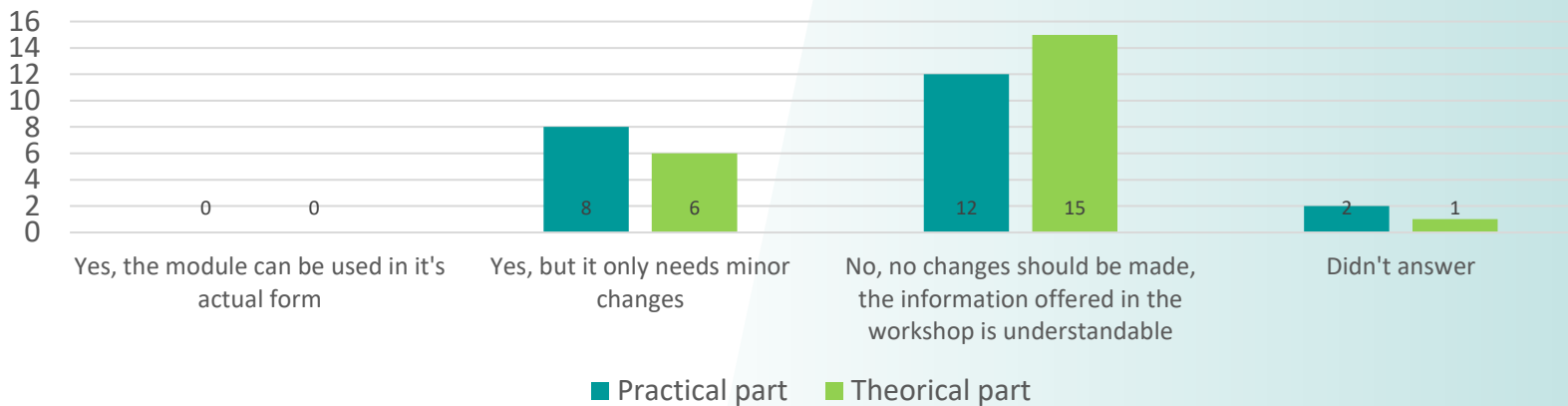
**Figure 5: Content – In general, do you think the content of the workshop should be modified?  
(Theoretical and Practical Part)**



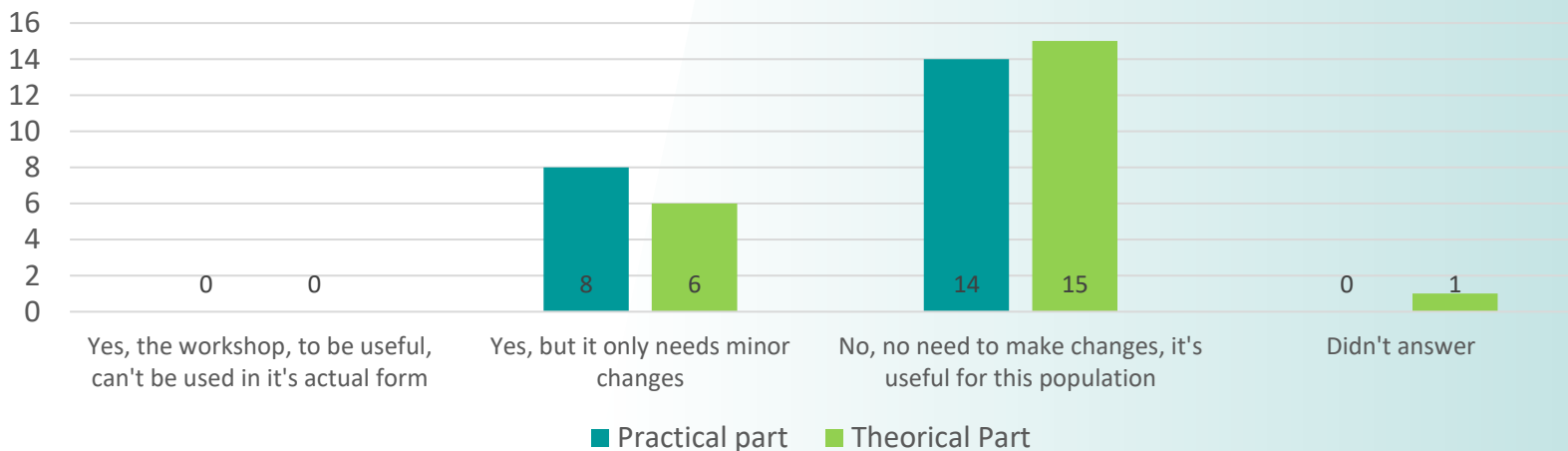
**Figure 6: Structure – In general, do you think the information presented in the workshops  
should be structured differently?  
(Theoretical and Practical Part)**



**Figure 7: Understandability – In general, do you think the material presented in the workshop should be adapted to make it more understandable? (Theoretical and Practical Part)**

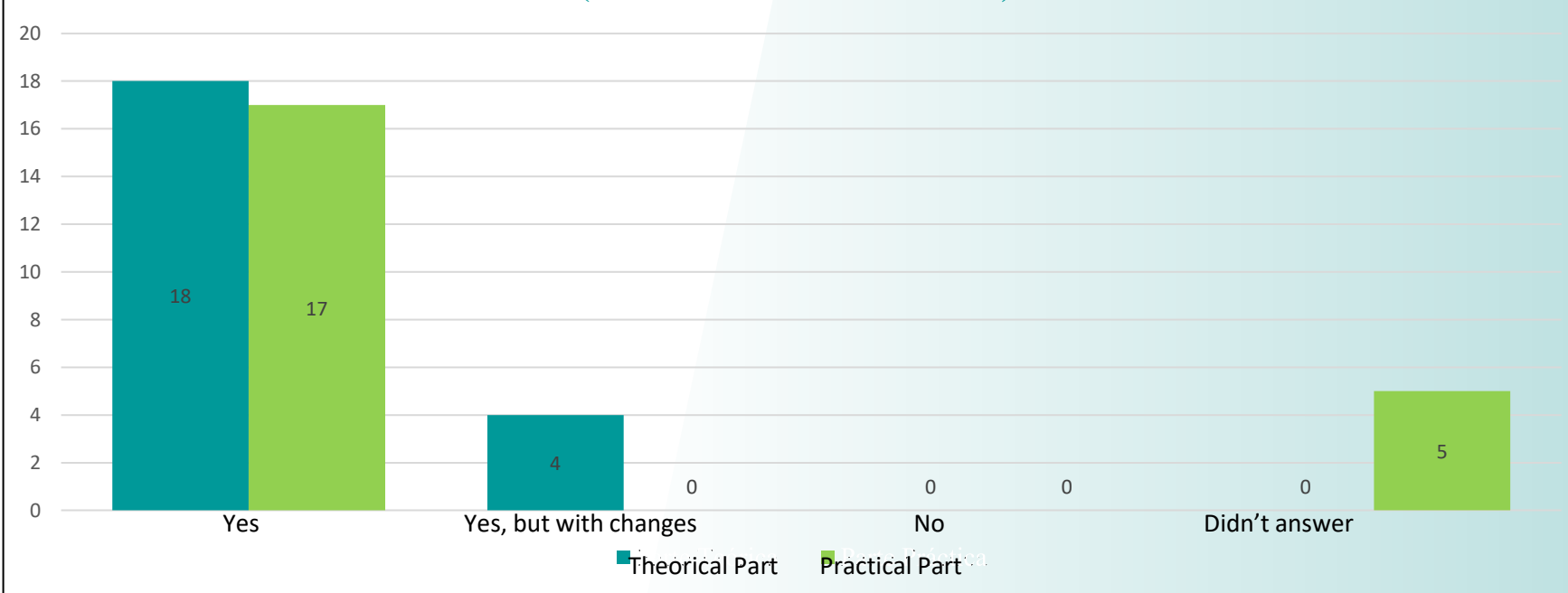


**Figure 8: Usefulness – In general, do you think the material presented in the workshop is useful for people affected by cancer with symptoms of anxiety or depression?**





**Figure 9: General Evaluation - In general, ¿Do you think that this workshops should be held for people affected by cancer with symptoms of anxiety or depression? (Theoretical and Practical Part)**





## CONCLUSION

- The study's results show the acceptability, feasibility, and utility of the psychoeducational workshops among cancer patients, survivors, and caregivers in Puerto Rican population.
- There is a need to expand support services in mental health for populations affected by cancer exposed to natural disasters.
- Challenges such as reaching the number and type of population proposed, despite conditions derived from the pandemic, and integrate participants without experience in the use of technology (e.g., e-mails, use of platforms such as zoom) can be addressed successfully.
- Under remote modality, psychoeducational interventions can help identify early mental health symptoms and facilitate mental health services access in people affected by cancer.

## FUTURE DIRECTIONS

- Develop studies to measure the effectiveness of the psychoeducational workshops in the population affected by cancer using remote modality.
- Continue using remote modality to reduce health disparities related to social determinants and geographic location to increase mental health education and emotional support access.

## ACKNOWLEDGEMENTS

This project was supported by the U54 PHSU/ MCC Partnership,. award number: U54 CA163071 from the NIH National Cancer Institute. Our thanks also to the Ponce Research Institute, the Ponce Health Sciences University, American Cancer Society (Ponce, PR), and the community leaders of the southwest area of Puerto Rico.

Sanchez-Cruz, G. <sup>2</sup>, Hernandez-Martinez, L <sup>1</sup>, Ventidos, A, Torres, J. <sup>2</sup>,  
Marzan-Rodriguez, M. <sup>2</sup>, Vela-Vidal, A., M. <sup>1</sup>, Ruiz, L.A. <sup>3</sup>, Rodriguez-  
Rabassa, M. <sup>2</sup>, Castro-Figueroa, E. <sup>1</sup>, Jimenez-Chavez, J. <sup>1</sup>

---

<sup>1</sup>School of Behavioral & Brain Sciences, <sup>2</sup> Public Health Program.  
Ponce Research Institute, Ponce Health Science University. Ponce, Puerto Rico.