



Revista Mexicana de Trastornos  
Alimentarios

E-ISSN: 2007-1523

editorrmta@campus.iztacala.unam.mx

Universidad Nacional Autónoma de  
México  
México

Reyes-Rodríguez, Mae Lynn; García, Marissa; Silva, Yormeri; Sala, Margarita; Quaranta,  
Michela; Bulik, Cynthia Marie

Development of fotonovelas to raise awareness of eating disorders in Latinos in the  
United States

Revista Mexicana de Trastornos Alimentarios, vol. 7, núm. 1, enero-junio, 2016, pp. 17-23

Universidad Nacional Autónoma de México  
Tlalnepantla Edo. de México, México

Disponible en: <http://www.redalyc.org/articulo.oa?id=425746132003>

- Cómo citar el artículo
- Número completo
- Más información del artículo
- Página de la revista en redalyc.org

redalyc.org

Sistema de Información Científica

Red de Revistas Científicas de América Latina, el Caribe, España y Portugal

Proyecto académico sin fines de lucro, desarrollado bajo la iniciativa de acceso abierto



# REVISTA MEXICANA DE TRASTORNOS ALIMENTARIOS

## MEXICAN JOURNAL OF EATING DISORDERS

<http://journals.iztacala.unam.mx/index.php/amta/>



### ARTICLE

## Development of *fotonovelas* to raise awareness of eating disorders in Latinos in the United States



Mae Lynn Reyes-Rodríguez<sup>a,\*</sup>, Marissa García<sup>b</sup>, Yormeri Silva<sup>d</sup>, Margarita Sala<sup>c</sup>,  
Michela Quaranta<sup>e</sup>, Cynthia Marie Bulik<sup>a,f,g</sup>

<sup>a</sup> Department of Psychiatry, University of North Carolina, Chapel Hill, NC, United States

<sup>b</sup> Department of Health Policy and Management, University of North Carolina, Chapel Hill, NC, United States

<sup>c</sup> Department of Psychology, Southern Methodist University, Dallas, TX, United States

<sup>d</sup> Department of Psychology, North Carolina State University, Raleigh, NC, United States

<sup>e</sup> Department of Neuroscience, AOU San Giovanni Battista, Turin, Italy

<sup>f</sup> Department of Nutrition, University of North Carolina, Chapel Hill, NC, United States

<sup>g</sup> Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden

Received 16 November 2015; accepted 8 March 2016

Available online 18 May 2016

### KEYWORDS

Fotonovela;  
Eating disorders;  
Prevention;  
Latinos;  
Awareness

**Abstract** The aim of this study was to develop *fotonovelas*, a popular type of graphic novel in the Latino population, to raise awareness and educate about eating disorders (EDs). Four illustrated cartoons and scripts tailored for adults and adolescents of both sexes were presented in focus groups and an in-depth interview. Seventeen Latino adults (14 females; 3 males) and 10 adolescents (9 females; 1 male) participated in the study. Participants found the *fotonovelas* interesting, and eye-catching than traditional brochures. The use of Spanglish and clarification of differences across EDs were suggested by adolescent females. Male adults suggested changing the title to focus on the health consequences of EDs in order to catch the male attention in reading the story. Based on the receptivity we found in this study, *fotonovela* could be a promising avenue to raise awareness and to educate the Latino community in the United States about EDs.

All Rights Reserved © 2016 Universidad Nacional Autónoma de México, Facultad de Estudios Superiores Iztacala. This is an open access item distributed under the Creative Commons CC License BY-NC-ND 4.0.

\* Corresponding author.

E-mail address: [maelynn.reyes@med.unc.edu](mailto:maelynn.reyes@med.unc.edu) (M.L. Reyes-Rodríguez).

Peer Review under the responsibility of Universidad Nacional Autónoma de México.

## PALABRAS CLAVE

Fotonovelas;  
Trastornos de la  
conducta  
alimentaria;  
Prevención;  
Latinos;  
Concienciación

## Desarrollo de fotonovelas para concienciar sobre trastornos de la conducta alimentaria en latinos en los Estados Unidos

**Resumen** El objetivo de este estudio fue desarrollar fotonovelas, un tipo de novela gráfica popular en la población latina, para crear conciencia y educar sobre los trastornos de la conducta alimentaria (TCA). Cuatro caricaturas ilustradas y guiones adaptados para adultos y adolescentes de ambos sexos fueron presentados en discusiones focales y en una entrevista de profundidad. Diecisiete latinos adultos (14 mujeres; 3 hombres) y 10 adolescentes (9 féminas; 1 varón) participaron en el estudio. Los participantes encontraron las fotonovelas interesantes y que captaban más la atención que los folletos tradicionales. El uso del *español* y la clarificación de las diferencias entre los TCA fueron sugeridos por las adolescentes femeninas. Los adultos varones sugirieron cambiar el título, que se enfocara en las consecuencias en la salud de los TCA para que llame la atención en los hombres a leer la historia. Basado en la aceptación encontrada en este estudio, la fotonovela pudiera ser una avenida prometedora para crear conciencia y educar a la comunidad latina sobre los TCA en los Estados Unidos.

Derechos Reservados © 2016 Universidad Nacional Autónoma de México, Facultad de Estudios Superiores Iztacala. Este es un artículo de acceso abierto distribuido bajo los términos de la Licencia Creative Commons CC BY-NC-ND 4.0.

## Introduction

Creative approaches are required to enhance early recognition of eating disorders (EDs) and reduce mental health care disparities in the Latino population. Latinos/as with a history of EDs are less likely to use mental health services (Marques et al., 2011) and to be referred for further evaluation by physicians (Becker, Franko, Speck, & Herzog, 2003; Franko, Becker, Thomas, & Herzog, 2007) than non-Latino whites. Several barriers to seeking treatment for mental health problems generally and EDs specifically have been identified in the Latino population, including lack of knowledge (Britigan, Murnan, & Rojas-Guyler, 2009), financial and language barriers, lack of information about EDs, shame, not knowing where to go for treatment, believing that one can get better on their own, believing that eating problems are not serious enough to seek help (Cachelin & Striegel-Moore, 2006; Reyes-Rodríguez, Ramírez, Davis, Patrice, & Bulik, 2013), family privacy, and not being ready to change (Cachelin & Striegel-Moore, 2006; Reyes-Rodríguez et al., 2013). Barriers to treatment are further exacerbated by the stigma associated with seeking care for EDs (Becker, Hadley Arrindell, Perloe, Fay, & Striegel-Moore, 2010).

The estimated lifetime prevalence in the United States of anorexia nervosa among Latinos is .08% in women and .03% in men, of bulimia nervosa 1.9% in women and 1.3% in men, and of binge eating disorder 2.3% in women and 1.6% in men (Alegria et al., 2007). It is concerning that, despite similar prevalence estimates with whites, Latino/as are less likely to use mental health services and be referred for further evaluation because EDs are serious medical conditions and a major cause of psychiatric and medical morbidity, often impairing several areas of functioning (Kessler, Berglund, et al., 2013; Kessler, Shahly, et al., 2013).

Critical questions remain regarding how we can best raise awareness, engage, and retain Latinos in treatment. Psychoeducation about EDs was identified as one of the areas that should be addressed in Latinas living in the

United States as part of a multilevel and culturally sensitive intervention model (Reyes-Rodríguez et al., 2013). The integration of culture and context has been recommended as a standard practice in clinical intervention, research, and education (see the American Psychological Association guidelines) to inform psychologists about issues of diversity (APA, 2003). Culturally sensitive psychoeducational materials focusing on topics such as identification of symptoms, destigmatization, the importance of seeking help and available resources for treatment would help educate Latinos about EDs. Therefore, the use of *fotonovelas*, a popular type of graphic novel in the Latino population, could be a promising avenue to raise awareness and to educate the community about EDs.

*Fotonovelas* have been widely used to raise awareness about depression (Cabassa, Contreras, Aragon, Molina, & Baron, 2011; Cabassa, Molina, & Baron, 2012; Hernandez & Organista, 2013) and dementia (Valle, Yamada, & Matiella, 2006), to promote healthy eating habits in Latino communities (Hinojosa et al., 2011; Sberna Hinojosa et al., 2011), and as a research tool in image-based participatory research with immigrant children (Kirova & Emme, 2008). Research conducted by Cabassa et al. (2011) found that the use of a *fotonovela* was useful in combating mental health stigma and in educating patients about their condition; however, some rooted misconceptions (e.g., fears about medication) were not successfully changed by this approach. On the other hand, there is evidence that the knowledge gained from reading *fotonovelas* is significantly greater than the knowledge gained from informational pamphlets (Hernandez & Organista, 2015; Unger, Cabassa, Molina, Contreras, & Baron, 2013). Psychoeducation through the use of *fotonovelas* could be useful in developing a culturally sensitive approach to educate Latinos about EDs, the medical and emotional consequences of EDs, and the resources available in the community. *Fotonovelas* may also be helpful in educating the families of patients by providing them with basic information about healthy ways to support a family member with an ED.

Due to the lack of educative materials about EDs for Latinos in the United States, the main purpose of this research study was to develop culturally sensitive psychoeducational materials that raise awareness and educate the Latino population about EDs. This was achieved through: (a) developing *fotonovela* scripts about EDs and art graphics for adolescent and adult Latino populations, (b) conducting focus groups with adolescent and adult Latinos to gather feedback about the art and scripts of *fotonovelas* and, (c) adapting and refining the *fotonovelas* based on the focus groups' feedback.

## Methods

### Participants

Participants were recruited through advertisements and outreach to diverse Latino community mental health clinics and churches. The main inclusion criterion for both adolescents and adults was to be Latino or Latina. Participants who were at least 18 years old were invited to the adult focus group, whereas participants who were between 13 and 17 years old were invited to the adolescent focus group. The study was approved by the local Institutional Review Board and informed consent was completed for all adult participants. For adolescents, authorization from parents and assent forms from adolescents were collected.

### Materials

#### *Fotonovela* development

##### Scripts' objectives

The topics included in *fotonovela* scripts were based on a previous formative study conducted with Latinas with a history of EDs (Reyes-Rodríguez et al., 2013). The purpose of the scripts was to enhance literacy about EDs by providing basic knowledge about EDs, reduce stigma by emphasizing that EDs occur in all races and ethnic groups including Latinos, and highlight the importance of seeking professional help.

##### Scripts

Separate scripts tailored for adults and adolescents of both genders were developed by the research team. All scripts were written at a 4th grade reading level and with the use of a neutral Spanish in order to be understandable by most Latinos regardless of the regional or national Spanish dialect. During the scripts preparation, issues related to language, age, sex, and realistic situations were considered. For example, for adults, we developed the scripts entirely in Spanish because most adults are first generation immigrants who have less proficiency of the English language than of the Spanish language. In contrast, the adolescent scripts were mostly in English or Spanglish, as most Latino/a adolescents are second generation immigrants who are more comfortable speaking English than Spanish. The content of *fotonovelas* was created based on the development process of the target population and the clinical experience of the

first author treating and educating Latinos with EDs for about 20 years. All scripts were revised by three bilingual team members.

##### Art design and printing

Illustrated cartoons were used for all *fotonovelas*. The use of photographic design was considered, especially for the adult versions; however, factors such as budget and time limitations and the final intention to convey a casual tone over a very sensitive topic for Latinos, were considered in the final decision to use cartoons. The stigma of having an ED in the Latino population is greater than the stigma of having depression or other mental health condition (Cachelin & Striegel-Moore, 2006; Reyes-Rodríguez et al., 2013), and cartoons have the ability to assuage anxiety about sensitive topics while disclosing valuable medical information (Moll, 1986). A rough draft of the graphic design for each *fotonovela* version was revised by the research team to ensure that each character was properly represented. After reaching consensus, the *fotonovelas* were printed in colour on glossy paper. Revised *fotonovela* versions were presented in separate focus groups and in-depth interview according to participants' age (adult or adolescent) and sex (female or male). The input from the focus group discussions were integrated in the final versions of the *fotonovelas*.

### Procedure

#### Data collection

Three separate focus groups and one in-depth interview were conducted with adults and adolescents to gather feedback about the *fotonovelas*. Consent forms and demographic information were collected before the focus group or in-depth interview discussion. Two facilitators led the discussion using pre-established guidelines (see Table 1) and one observer took notes. Focus groups and the in-depth interview were conducted in Spanish with adults and in English or Spanglish with adolescents. The discussions took place either in a community based mental health clinic or church facilities. The familiarity and comfort of those settings provided a safe environment for the Latino population living around the area. A group discussion/in-depth interview of approximately 1-h duration was conducted for each group. All participants were provided with a copy of the *fotonovela* and were read it by the facilitator at the beginning of each group discussion and in-depth interview. All discussions were audiotaped and participants received a small incentive of \$10 in gratitude for their time. Snacks and childcare were provided.

#### Focus groups/in-depth interview feedback analysis

In addition to the notes taken by the focus groups' observer during the focus group discussions, two members of the research team summarized the audio-taped sessions. Recommendations by participants were categorized by the main two topic areas: graphic art and content of the *fotonovela* story. Audio sessions were not transcribed because the guideline questions were directed to obtain feedback and recommendation for the *fotonovelas*.

**Table 1** Focus group guideline.

Domain	Question
Art graphic	<ol style="list-style-type: none"> <li>1. In general, what do you think about the material in the <i>fotonovela</i>?</li> <li>2. How attractive or familiar is the graphic art?</li> <li>3. How appropriate do you think the versions are for your gender?</li> <li>4. How appropriate do you think the art is for your age?</li> <li>5. Do you think there is a change that could improve the graphic art?</li> <li>6. Do you think the length of the dialogue is adequate?</li> <li>7. Is the format of the <i>fotonovela</i> adequate or does it need some change?</li> </ol>
Content	<ol style="list-style-type: none"> <li>1. How clear and simple did you find the dialogue in the <i>fotonovela</i>?</li> <li>2. Did you have a problem understanding one of the dialogues or did you find a word difficult to understand?</li> <li>3. Would this material have helped you find help for eating disorders?</li> <li>4. Is there some information that is not included that would be good to include?</li> <li>5. What do you think about the use of <i>fotonovela</i> to educate Latinos about eating disorders?</li> <li>6. Did the format and dialogue help you understand more about eating disorders?</li> <li>7. Any other comment you would like to make?</li> </ol>

## Results

### Sample

A total of 17 Latino/Latina heritage adults (14 females; 3 males) and 10 adolescents (9 females; 1 male) participated in the study. Eighty-eight percent (88.2%;  $n=15$ ) of adults self-identified as Mexican and 11.8% ( $n=2$ ) did not report their nationality. Sixty percent (60%;  $n=6$ ) of adolescents self-identified as Mexican, 20 percent ( $n=2$ ) self-identified as Dominican, and 20 percent (20%;  $n=2$ ) self-identified as American. Adult ages ranged between 20 and 47 years ( $M=37$ ;  $SD=7.72$ ). For adolescents the age ranged between 13 and 17 years ( $M=14.5$ ,  $SD=1.34$ ). In terms of education, most of the adults reported elementary school education level (35.3%;  $n=6$ ) followed by high school or college education level (29.4%;  $n=5$ ) and middle school education level (17.6%;  $n=3$ ). Three adults did not report their education level (17.6%). For adolescents, 50% ( $n=5$ ) reported middle school education level and 50% ( $n=5$ ) a high school education level.

### Adolescent focus groups

Two main topics guided the focus-group discussion: graphic art (i.e., appealing, characters) and content (i.e., length, story, title). Additional comments were encouraged at the end of the discussion. A detailed description of discussed themes across groups is included in Table 2. In the adolescent female group the graphic art and characters were well accepted. They found the *fotonovela* interesting, more appealing, and more eye-catching than a traditional brochure. When asked about their thoughts on the *fotonovela*, one participant said that they thought that the *fotonovela* was “*interesante*” [interesting].

No changes were suggested for the graphic art or characters. In terms of the content, participants mentioned that the story was well developed and realistic. The length of

the story was found to be adequate. Two main suggestions by adolescent females were to add more English or Spanglish within the peer dialogues and to clarify differences between EDs. For example one participant said “*más diferencia entre bulimia y anorexia*” [more difference between bulimia and anorexia].

Only one participant showed up to the adolescent male focus group. Therefore, we conducted an in-depth interview in English with him. The participant found the graphic appropriate and visually pleasing. He said, “*It’s realistic*” and “*cartoons want you to keep reading. If it is very boring you don’t want to read it.*” The participant suggested that the use of cartoons was better than photos, mentioning that “*actual pictures are too boring...too realistic.*” He found the length of the *fotonovela* suitable and the format interesting and relatable for adolescents. On the other hand, the participant found some words that could be difficult to understand for non-Spanish speakers. He also was unclear about where he would go for help if he were to have an ED. He also mentioned that in real life the teacher/adult would be more likely to approach the student with the ED, instead of the student seeking help by himself, and we modified the *fotonovela* story accordingly.

### Adult focus groups

Two separate focus groups with adult females were conducted. In both groups, the overall impression was positive. They found the graphic art and title appealing to Latinas. Also, they preferred the *fotonovela* to a traditional brochure because they found the images to be more engrossing than just text. In the first focus group one of the participants said “*llama más la atención*” [grabs more the attention]. Similarly, the second participant said “*no nos gusta leer, nos llamaría la atención*” [we don’t like to read, it grabs our attention]. Another participant said that “*es interesante*” [it is interesting] and another participant from this group supported others’ comments about graphic materials saying “*...máximo cuando hay puras letras, cuando todo lo que*



**Table 2** Feedback from focus group discussions.

Focus group	Graphics	Content	Changes made
<b>Adults</b>			
Females	<ul style="list-style-type: none"> <li>• Attractive and visually pleasing</li> <li>• Attention-grabbing</li> <li>• Self-identified with the characters</li> <li>• Protagonist looks overweight, which could cause misconceptions about who can suffer from EDs</li> </ul>	<ul style="list-style-type: none"> <li>• Appropriate length</li> <li>• Entertaining and informative</li> <li>• Story is relatable and believable</li> <li>• Motivates to seek help if suffering from an ED</li> <li>• Unfamiliar with the word “<i>atración</i>” (Spanish translation of binge eating)</li> </ul>	<ul style="list-style-type: none"> <li>• Included definitions of EDs in the information sheet</li> </ul>
Males	<ul style="list-style-type: none"> <li>• Aesthetically pleasing</li> </ul>	<ul style="list-style-type: none"> <li>• Sends message that EDs can happen to anyone</li> <li>• Perfect length for topic at hand</li> <li>• More information on consequences of EDs is needed</li> <li>• Changing the title of the <i>fotonovela</i> to something more alarming might attract more Latin men to read it</li> </ul>	<ul style="list-style-type: none"> <li>• Added more material to the information sheet</li> <li>• Changed title to something more urgent so as to grab the attention of Latino men</li> </ul>
<b>Adolescents</b>			
Females	<ul style="list-style-type: none"> <li>• Visually pleasing</li> <li>• <i>Fotonovela</i> is more attractive and inviting than a regular brochure</li> </ul>	<ul style="list-style-type: none"> <li>• Story is believable</li> <li>• Family dynamic is relatable to Latin homes</li> <li>• Length of story is good, not too long or short</li> <li>• Brings awareness to the possible consequences of EDs</li> <li>• Different types of EDs are not defined well enough to differentiate between them</li> <li>• Adding English and making it Spanglish is more representative of Latina teen life</li> </ul>	<ul style="list-style-type: none"> <li>• We added definitions of EDs on the information sheet</li> <li>• Changed script from Spanish to Spanglish, with English used with peers and Spanish at home</li> </ul>
Males	<ul style="list-style-type: none"> <li>• Graphics are attractive</li> <li>• Would choose <i>fotonovela</i> over a brochure</li> <li>• Comic book/animation feel is more entertaining rather than overtly realistic like with pictures</li> </ul>	<ul style="list-style-type: none"> <li>• Informative but not boring</li> <li>• Story is realistic</li> <li>• <i>Fotonovela</i> is not too complex for the intended age-group</li> <li>• Length of book is great</li> <li>• Arrows or numbers might be helpful to follow along with the storyline</li> </ul>	<ul style="list-style-type: none"> <li>• Gradual detailed edits made it easier to follow script without the need of numbers.</li> </ul>

*está escrito, no llama la atención.*” [...even more when there are just words, when all is written, don’t grab the attention].

In terms of the content, the participants felt that the *fotonovela* covered most of the important information about EDs and that it was easy for them to self-identify with the story. For example, one of the participants mentioned “*está bastante claro y este, deja bien identificado como lo que es bulimia, el tema que se trató, que a veces confundo eso y está bien claro todo*” [it is quite clear and it is well identified like what bulimia is, the topic that was discussed that, sometimes I get it confused, and everything is clear]. However, one participant expressed concern that the main character was a bit overweight which, could be misleading, considering that people with different body types can suffer from an ED. She said “*En mi opinión, la que está sufriendo el*

*problema se ve un poco gordita en la foto. Normalmente cuando tienen ese problema, a veces no están así de gordas, no como lo pinta la foto, están en un peso normal, más que ellas, psicológicamente se ven con más sobrepeso, eso es lo que yo pienso.*” [In my opinion, who is suffering the problem looks a little bit fat in the graphic. Usually, when they have that problem, sometimes they are not fat like in the photo, they are in a normal weight, but psychologically, they are looking themselves more overweight, that is what I think]. Finally, one participant mentioned that the differences between EDs were not fully explained or developed in the *fotonovela* story.

The adult male group found the story appropriate for the target group. One participant said “*está enfocada (la fotonovela) prácticamente en nosotros los latinos, y es la realidad cuando hay juegos de fútbol*” [it is focused (the

*fotonovela*) practically to us, the Latinos, and it is the reality when we have football games]. Another participant said “*una forma sencilla de dar información, sin darnos cuenta*” [it is a simple way of give us information, without realizing it]. They thought that having the *fotonovela* written in Spanish was appropriate for the target group, and that the story accurately reflects the Latino’s habits and culture. Nevertheless, the adult male group participants did not find the title appealing. One of the participants mentioned “*Pienso que para llamar la atención en los latinos, siento yo, que debería ponerle enfoque a consecuencias que tiene el comer sin darse cuenta, o comer descontroladamente, qué es lo que puede pasar... enfermedades.*” [I think that to grab the attention of Latinos, I feel that, it should put more emphasis on consequences of eating unwittingly or eating out of control, what could happen... illnesses]. Another participant said “*un título que nos llevara a pensar un poquito*” [a title that makes us to think a little bit]. They suggested for the title to focus on the health consequences of EDs in order to catch attention and therefore encourage males to read the story.

### Editing process and final versions

The feedback from all participants was discussed by the research team and consensus was reached about the changes to be incorporated in each *fotonovela*. In the adult *fotonovelas*, most of the edits were made in the male version. The original title was “*José y sus retos con la comida*” [José and his challenges with food] and based on participants’ feedback was changed to “*José manejando las consecuencias de no comer saludablemente*” [José dealing with the consequences of not eating healthy]. In both of the adult versions, we modified the information sheet at the end of the story to clarify the differences between the different EDs. Following participant feedback, in the adolescent female version, the use of Spanglish was added across the dialogue among peers and the use of Spanish was kept within the dialogue with parents to better reflect the reality of Latino families with different levels of acculturation. In both adolescent versions (female and male) the information sheet was modified in the same way as in the adult versions. In order to have polished final products, several retouches and final detailed edits were made to the art graphics in all four versions of the *fotonovelas*. Final *fotonovelas* full script versions are available through the university web page link <http://www.med.unc.edu/psych/eatingdisorders/LearnMore/informacion-en-espanol/fotonovelas>).

### Discussion

We developed *fotonovelas* to educate the adolescent and adult Latino populations about EDs. Based on the receptivity that we found in this study, the *fotonovela* appears to be a culturally sensitive avenue to educate and raise awareness about EDs among Latinos in the United States. To the best of our knowledge, the *fotonovelas* we developed are the first culturally sensitive psychoeducational materials about EDs that are directed to Latinos in the United States.

Currently, traditional ED educative materials in Spanish (i.e., brochures, pamphlets) are not culturally tailored for Latinos. Psychoeducational materials that are culturally competent for a specific population could enhance the educative process (Unger et al., 2013) and treatment outcomes (Miranda et al., 2005). Furthermore, a study that explored Latinos’ connections to communication channels for health goals in the United States found strong connections of Latinos to ethnic media versus mainstream media (Wilkin & Ball-Rokeach, 2006). In our study, participants mentioned that they were more prompt to read the *fotonovelas* because they were “eye catching” and because they could relate to the story. In contrast, they did not find traditional brochures with only text “eye catching” or something they could relate to. Having materials that catch the attention of the population that they are intended to educate, therefore motivating the potential reader to engage with the psychoeducational material is an initial and important step in the education and awareness process. Also, the self-identification of the readers with the story or with the characters could have an impact in reducing stigma, which is a barrier that has been associated with seeking care for EDs (Becker et al., 2010), especially in the Latino population (Reyes-Rodríguez et al., 2013). If an individual self-identifies with a character in a story, they might be more likely to view the character in the story as a role model, which would increase the changes of the individual engaging in the targeted behaviour changes (Hernandez & Organista, 2013). Other studies using *fotonovelas* for health literacy have demonstrated their effectiveness as compared with traditional educative materials, specifically with the Latino population (Hernandez & Organista, 2013; Unger et al., 2013). Future research should test the effectiveness of our four *fotonovela* scripts.

This study has some limitations. This was a low budget study with an allotted one-year period for completion. Due to time constraints, it was not possible to recruit more male participants, especially adolescents, in order to obtain more feedback. Another limitation of the study was our inability to develop more than one script for each group, limiting the possibility to portray diverse scenarios in which EDs can occur. For example, the fact that EDs occur in people with different body shapes is impossible to represent in a single story. Different scripts should be developed in order to capture the wide range of possibilities in which Latinos/as can be affected by EDs. Despite these limitations, the creation of these four *fotonovelas* is an important first step towards providing a culturally competent intervention to educate and raise awareness about EDs among Latinos in the United States.

Traditional materials that are only translated in Spanish but are not culturally adapted for Latinos fail at addressing barriers to treatment (i.e., stigma, family privacy, and acculturation) that have been identified in the Latino population with EDs (Reyes-Rodríguez et al., 2013). In contrast, the *fotonovela* format has demonstrated a promising potential to educate Latinos about mental health issues in our study and others (Cabassa et al., 2011; Unger et al., 2013). A comprehensive approach, in which the recognition and integration of cultural elements are incorporated in interventions for Latinos in order to decrease health disparities, is imperative.

## Ethical disclosures

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this study.

**Confidentiality of data.** The authors declare that no patient data appear in this article.

**Right to privacy and informed consent.** The authors declare that no patient data appear in this article.

## Conflict of interest

The authors declare no conflict of interest.

## Acknowledgements

This research was supported by IBM Junior Faculty Development Award and NIMH grant (K-23-MH087954) to MLR at the University of North Carolina at Chapel Hill. Dr. Bulik is a grant recipient from Shire and acknowledges funding from the Swedish Research Council (VR Dnr: 538-2013-8864). The NIMH had no further role in study design; in collection; analysis and interpretation of data; in the writing of the report; and in the decision to submit the paper for publication. We express our gratitude to all participants in this research.

## References

- Alegria, M., Woo, M., Cao, Z., Torres, M., Meng, X. L., & Striegel-Moore, R. (2007). Prevalence and correlates of eating disorders in Latinos in the United States. *International Journal of Eating Disorders*, 40(Suppl.), S15–S21.
- American Psychological Association. (2003). Guidelines on multicultural education, training, research, practice and organizational change for psychologists. *American Psychologist*, 58, 377–402.
- Becker, A. E., Franko, D. L., Speck, A., & Herzog, D. B. (2003). Ethnicity and differential access to care for eating disorder symptoms. *International Journal of Eating Disorders*, 33, 205–212.
- Becker, A. E., Hadley Arrindell, A., Perloe, A., Fay, K., & Striegel-Moore, R. H. (2010). A qualitative study of perceived social barriers to care for eating disorders: Perspectives from ethnically diverse health care consumers. *International Journal of Eating Disorders*, 43, 633–647.
- Britigan, D. H., Murnan, J., & Rojas-Guyler, L. (2009). A qualitative study examining Latino functional health literacy levels and sources of health information. *Journal of Community Health*, 34, 222–230. <http://dx.doi.org/10.1007/s10900-008-9145-1>
- Cabassa, L. J., Contreras, S., Aragon, R., Molina, G. B., & Baron, M. (2011). Focus group evaluation of “Secret Feelings”: A depression fotonovela for Latinos with limited English proficiency. *Health Promotion Practice*, 12, 840–847.
- Cabassa, L. J., Molina, G. B., & Baron, M. (2012). Depression fotonovela: Development of a depression literacy tool for Latinos with limited English proficiency. *Health Promotion Practice*, 13, 747–754. <http://dx.doi.org/10.1177/15248399103675781524839910367578>
- Cachelin, F. M., & Striegel-Moore, R. H. (2006). Help seeking and barriers to treatment in a community sample of Mexican American and European American women with eating disorders. *International Journal of Eating Disorders*, 39, 154–161. <http://dx.doi.org/10.1002/eat.20213>
- Franko, D. L., Becker, A. E., Thomas, J. J., & Herzog, D. B. (2007). Cross-ethnic differences in eating disorder symptoms and related distress. *International Journal of Eating Disorders*, 40, 156–164.
- Hernandez, M. Y., & Organista, K. C. (2013). Entertainment-education? A fotonovela? A new strategy to improve depression literacy and help-seeking behaviors in at-risk immigrant Latinas. *American Journal of Community Psychology*, 52, 224–235. <http://dx.doi.org/10.1007/s10464-013-9587-1>
- Hernandez, M. Y., & Organista, K. C. (2015). Qualitative exploration of an effective depression literacy fotonovela with a risk Latina immigrants. *American Journal of Community Psychology*, 56, 79–88. <http://dx.doi.org/10.1007/s10464-015-9729-8>
- Hinojosa, M. S., Nelson, D., Hinojosa, R., Delgado, A., Witzack, B., Gonzalez, M., et al. (2011). Using fotonovelas to promote healthy eating in a Latino community. *American Journal of Public Health*, 101, 258–259. <http://dx.doi.org/10.2105/AJPH.2010.19899410172258>
- Kessler, R. C., Berglund, P. A., Chiu, W. T., Deitz, A. C., Hudson, J. I., Shahly, V., et al. (2013). The prevalence and correlates of binge eating disorder in the World Health Organization World Mental Health Surveys. *Biological Psychiatry*, 73, 904–914. <http://dx.doi.org/10.1016/j.biopsych.2012.11.020>, pii:S0006-3223(12)01028-1
- Kessler, R. C., Shahly, V., Hudson, J. I., Supina, D., Berglund, P. A., Chiu, W. T., et al. (2013). A comparative analysis of role attainment and impairment in binge-eating disorder and bulimia nervosa: Results from the WHO World Mental Health Surveys. *Epidemiology Psychiatric Sciences*, 1–15. <http://dx.doi.org/10.1017/S2045796013000516>, pii:S2045796013000516
- Kirova, A., & Emme, M. (2008). Fotonovela as a research tool in image-based participatory research with immigrant children. *International Journal of Qualitative Methods*, 7, 35–57.
- Marques, L., Alegria, M., Becker, A. E., Chen, C. N., Fang, A., Chosak, A., et al. (2011). Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health care access for eating disorders. *International Journal of Eating Disorders*, 44, 412–420.
- Miranda, J., Bernal, G., Lau, A., Kohn, L., Hwang, W. C., & La Framboise, T. (2005). State of the science on psychosocial interventions for ethnic minorities. *Annual Review of Clinical Psychology*, 1, 113–142.
- Moll, J. M. (1986). Doctor-patient communication in rheumatology: Studies of visual and verbal perception using educational booklets and other graphic material. *Annals of the Rheumatic Diseases*, 45, 198–209.
- Reyes-Rodríguez, M., Ramírez, J., Davis, K., Patrice, K., & Bulik, C. M. (2013). Exploring barriers and facilitators in the eating disorders treatment in Latinas in the United States. *Journal of Latina/o Psychology*, 1, 112–131.
- Sberna Hinojosa, M., Hinojosa, R., Nelson, D. A., Delgado, A., Witzack, B., Gonzalez, M., et al. (2011). Salud de la mujer: Using fotonovelas to increase health literacy among Latinas. *Progress in Community Health Partnerships: Research, Education and Action*, 4, 25–30.
- Unger, J. B., Cabassa, L. J., Molina, G. B., Contreras, S., & Baron, M. (2013). Evaluation of a fotonovela to increase depression knowledge and reduce stigma among Hispanic adults. *Journal of Immigrant Minority Health*, 15, 398–406. <http://dx.doi.org/10.1007/s10903-012-9623-5>
- Valle, R., Yamada, A. M., & Matiella, A. C. (2006). Fotonovelas: A health literacy tool for educating latino older adults about dementia. *Clinical Gerontologist*, 30, 71–78.
- Wilkin, H. A., & Ball-Rokeach, S. J. (2006). Reaching at risk groups: The importance of health storytelling in Los Angeles Latino media. *Journalism*, 7, 299–320.