

Comics in Health as Alternative Therapy: An Information and Therapeutic Resource for Post-COVID-19 Patients in Ayacucho, Peru

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ABSTRACT

The aim of this research was to determine the utility of comics, as an informative and therapeutic resource, in post-COVID-19 patients, in the area of influence of the Camisea project, which is delimited to cities such as Huanta, Tambo, and Cangallo, located in Ayacucho, Peru. The methodology included an observational design, with in and out surveys being conducted during the study. The first survey sought to discover the level of approach of post-COVID-19 patients with the use of comics, while the second examined the effectiveness and usefulness after being exposed to a brochure of four comics (Figure 1) that combined humor and information related to the recovery procedures for COVID-19. The research showed that the usefulness of comics as an informative and therapeutic resource in post-COVID-19 patients in the city of Ayacucho is very significant. This was confirmed by 96% of those surveyed, since they pointed out that the comics contributed to virus infection recovery and prevention.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is an infectious illness brought on by the SARS-CoV-2 virus. During the pandemic, several measures were taken to avoid mass contagion in many countries, including confinement, quarantine, and social distancing, which triggered the escalation of emotional state changes. These emotional state changes had a severe impact on quality of life, as well as on physical and mental health.¹ Many people have been emotionally affected by COVID-19, experiencing depression, stress, and other mental illnesses. In Peru, 28.6% (18–24-year-olds) of the population experienced depressive symptoms, having the largest depressive affectation. Similarly, 59.7% of Peruvians experienced stress as a result of the pandemic.² Furthermore, Peru is one of the Latin American countries most severely affected by COVID-19, with the highest infection lethality rate (ILR) in the world, being the country with the fifth-highest death rate in absolute terms due to its poor health system.³

On the contrary, the Ayacucho region, located in Peru, had approximately 616,000 inhabitants in 2017.⁴ Its capital is Huamanga, but the region also comprises other provinces such as Huanta, Tambo, and Cangallo, which are increasing the region's overall economic activities. During the pandemic, Ayacucho ranked fifth of a total of 25 regions, registering 54,119 accumulated positive cases and 2386 deaths since the start of the pandemic. During the first and second waves, the installed capacity of ICU beds was largely exceeded, while in inland regions, as in the case of Ayacucho, the queues for access to this service were impressive. The reality is even more dramatic in the inner provinces of the Ayacucho region, where the health system does not work, despite being the first level of care for patients with COVID-19.

Comics are, according to McCloud, “Juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewer”.⁵ In the current context of health and overall, as an information tool, comics such as educational instructions may serve a variety of purposes, including raising awareness (disease symptoms), preparing patients (what to expect from a medical procedure), supporting the decision-making process (deciding between different treatment options), fostering self-management of chronic disorders, or just boosting knowledge and acceptance of a condition.⁶ On the contrary, post-COVID-19 patients need to be involved in their full or partial recovery by fulfilling a set of medical prescriptions and avoiding underestimation of the pandemic situation. In addition to medical attention, they require education, emotional, exercise, respiratory retraining, and nutritional support.⁷

Problems in pharmacological or non-pharmacological therapies sometimes stem from a lack of adherence by patients. For this reason, it is believed that improving information procedures could not only help to restore physical health in post-COVID-19 patients, but also an emotional recovery of a curative nature. One of the instruments that is considered useful to develop this objective is the inclusion of comics in the treatment of post-COVID-19 patients, a graphic tool that not only serves as an informative support, but also as a therapeutic resource. The current investigation focused on three provinces from Ayacucho, located in Peru, namely, Huanta, Tambo, and Cangallo.

MATERIALS AND METHODS

Study design

This investigation involved an observational design. Despite having administered two surveys at different

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times, the design was neither longitudinal nor prospective, since the indicators, at both times, were different, although complementary.

Study population and survey procedure

Based on this methodology, the survey was carried out on two dates separated by 15 days between. Regarding the study population, it was made up of men and women over 18 years of age who were inhabitants of the urban and peri-urban areas of the districts of the Camisea project's area of influence (Huanta, Tambo, and Cangallo), registered in the bank of central information of the Regional Health Directorate of Ayacucho, and were considered post-COVID-19 patients.

The male population was preferably taken into account, because, according to the National Center for Epidemiology, Prevention and Control of Diseases of the Ministry of Health (MINSA), in 2021, 51.3% of the cases of contagion corresponded to men. Likewise, the adult population affected by COVID-19 was prioritized because, as indicated by MINSA, the highest percentage of positive cases of COVID-19 according to the stage of life or age group corresponded to adults between 30 and 59 years of age, followed by older adults (60 years and over).

The target population consisted of 6803 patients affected by COVID-19 (DIRESA, April 2022) and recovered between 15 April and 15 May 2022 from the districts of Huanta (capital city), Tambo (city), and Cangallo (provincial capital). The sample size included 364 participants (300 from Huanta, the capital city; 32 from Tambo, a city; 32 from Cangallo, the provincial capital). The sample was of a multistage type. The error range was $\pm 4.89\%$, the confidence level was 95%, the representativeness level was 75.2%, and a 50%/50% heterogeneity was assumed, under the assumption of simple random sampling. This study was carried out on 29 and 30 April and 1 May 2022 for the input survey. The exit survey (Supplementary Material S1) was conducted between 13 and 15 May 2022.

The first survey served exclusively to measure the level of closeness between the patients and the comics in order to observe the expectations of the interviewees regarding the possibility of receiving information regarding COVID-19 through the comics. The second survey measured the usefulness of this graphic resource in post-COVID-19 patients. Between the first and second surveys, the delivery of graphic material to the interviewees that served to elicit responses during the exit survey were measured.

The graphic material to which this study refers was an informative and humorous comic. Its distribution was deliberate and carried out at the end of the first survey. There was a working hypothesis that patients did not have much contact with this type of graphic tool, so it was expected that the interviewees would not recognize the comics as the main information tool regarding COVID-19. Two weeks after the first survey, the same people were visited, considered as the study sample (post-COVID-19 patients) in whom the second survey was conducted to measure the impact of the humorous information organized in the humorous cartoon.

Statistical analysis

We used SPSS software version 28.0.0. (IBM, New York, NY, USA) for statistical analysis and stratified clustering.

Ethical aspects

This study was approved by the Universidad Nacional de San Cristobal de Huamanga (approval number 005-2022-UNSCH-CU). The survey was anonymous and lacked personally identifying information. The purpose of the study was communicated in writing to the participants and provided to them. If they were able to participate, they were requested to complete the questionnaire. If they were

unable or unwilling to participate, they were offered to submit a blank questionnaire page or to not receive the questionnaire document, thereby allowing them to opt out. All of the procedures were carried out in accordance with applicable rules and norms (Declaration of Helsinki). To protect patient privacy, our study removed all personal patient information from the database.

RESULTS AND DISCUSSION

The therapeutic utility of comics

The contribution of the comics to the fulfillment of prescriptions made by the healthcare personnel in Tambo, Huanta, and Cangallo, which 96% of the population was helped by this material.

As can be seen from the Figure 1, regarding the comics provided to the interviewees after the administration of the first survey, the level of consumption of the comics was measured as very high, as confirmed by 96% of the respondents. Regarding the difference, 4% mentioned that the comics had not helped to comply with the recommendations and indications provided by healthcare personnel. The reasons were diverse but were not of statistical significance.

According to Figure 2A, 41.1% of the population stated that the comics were understandable, while 30.8% indicated that the content was funny and humorous. Although these concepts share different meanings, their use in the survey as alternatives was circumstantial and functional, given the existence of rationality in the common sense of Peruvian society in general, which finds a certain analogy between grace, comedy, and humor. On the contrary, 14.2% believed that the comics were relaxing, since they helped to mitigate the stress and emotional tension experienced during the pandemic, especially the period of contagion, while 8.1% indicated that the comics were exciting, and 4.7% favored other similar options. However, it should be noted that, in all cases, the responses revealed a series of favorable virtues that place the comics in a privileged situation, as a means of communication intended to provide vital information on COVID-19 based on its informative capacity and humorous content.

In Figure 2B, 44.7% opted for the comics of Gareca, a well-known soccer coach character in the sports world, whose message focused on diet; 22.2% favored that of Magaly Solier, an Ayacuchana actress, who focused her message on emotional support as part of the emotional

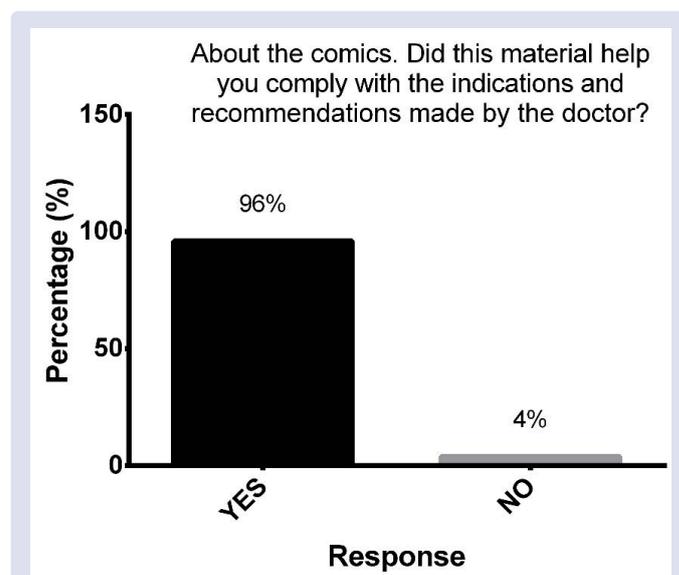


Figure 1: Percentage of interviewees who replied the following question "Did this material help you comply with the indications and recommendations made by doctor?"

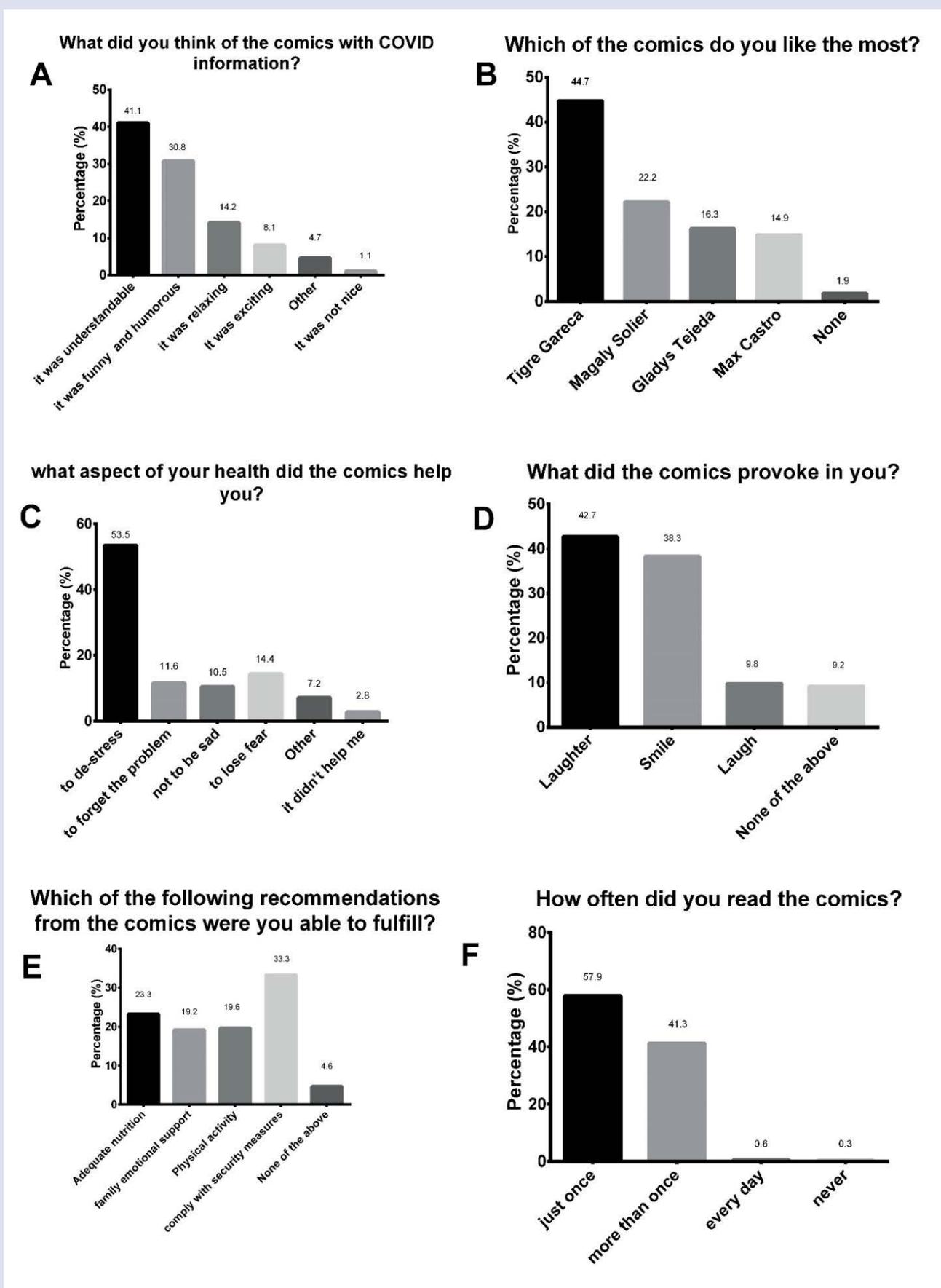


Figure 2: Response to the questionnaires of participants of the districts of Tambo, Huanta, and Cangallo (Ayacucho, Peru)

containment required by people affected by the COVID-19 virus; 16.3% opted for that of Gladys Tejada, identified as a provincial athlete, who starred in the comics with a message about physical activity as a way to eliminate pathogens and reduce the incidence of a relapse against COVID-19, taking advantage of its protective factor⁸. Finally, 14.9% opted for Max Castro, a singer from Ayacucho who, in the comics, proposed recommendations according to those surveyed that allowed them to comply with biosafety measures. Only 1.9% indicated that they did not like any character considered in the comic.

It is true that the opinion offered by the respondents does not represent objective data regarding the help provided by the comics to post-COVID-19 patients, since it is a record of their perception and not another way of measuring their behavior or the state of their emotions. However, the data derived from perceptions, also called "subjective appropriation of reality", do not imply false information; what is more, these data continue to be reliable, since assimilation is developed on an objective element: A "pictorial image."

In Figure 2C, 53.5% of those surveyed perceived that in terms of their health, the comics allowed them to mitigate stress. As it has been possible to demonstrate, stress disorders, anxiety, depression, somatization, and behaviors related to an increase in alcohol and tobacco consumption, due to the fear and uncertainty generated by the unknown effects of COVID-19,⁹ have been the main psychosocial manifestations registered throughout the world. For this reason, a response that favors destressing, as the first response option, is valuable, especially if it represents slightly more than half of the respondents. It is for this reason that it was inferred that humorous stories constitute an important therapeutic resource. If this percentage is added to previous data comprising 11.6% who considered the comic as a useful resource to "forget the problem of the disease," as well as 10.5% who highlighted the comics' ability to "reduce sadness" and 14.4% who indicated that they helped them to "lose their fear," then we have a cumulative frequency of 90%, which is highly significant.

The information provided in Figure 2D supports the data recorded in Figure 2E. To the question "What impact did the comic have on an emotional level?" the recurring option was "laugh," "smile," and even "laughter"—three drive discharges¹⁰ that retain an intrinsic connection with positive emotions, sensations, and moods.¹¹ According to this figure, 42.7% of those surveyed indicated that the comics caused laughter and allowed them to react to funny stimuli. For 38.3%, the impact was a smile, something that translated into a gesture that, in no way, ceased to represent the effect of a drive, associated with positive emotions. Meanwhile, for 9.8%, the comics managed to start a laugh, a fact that could mean a climax of satisfaction and happiness. This being the case, the three spontaneous manifestations of energy release or "emotional decompression"¹² become transgressors of inertia and bodily static, of boredom.

Figure 2E shows that 33.3% of those surveyed indicated that they complied with the biosafety measures considered in the comics; 23.3% specified that they complied with the diet; 19.6% mentioned that they complied with physical activities, such as walking, running, and jumping, as suggested by the cartoon starring Gladys Tejada. On the contrary, 19.2% reported that, based on the Max Castro cartoon, they were able to provide family members affected by COVID-19, as well as themselves, the emotional support to overcome this difficult situation through various actions such as the company, attention, and care of the person, complying with biosecurity measures, thus becoming a powerful family network. Only 4.6% of the responders indicated that they had not been able to comply with the recommendations or biosafety measures reproduced in the comics.

An important piece of information shown in Figure 2F is the frequency of consumption of the comics among post-COVID-19 patients. Of those surveyed, 57.9% stated that they reviewed and read the comics

only once, no more. The reasons were multiple and were recorded as open response alternatives. Some examples included having to share the brochure with the other members of the household, who also requested to review the humorous cartoons, since they found in the graphic material important information for the care and prevention of COVID-19. However, what is relevant about this indicator was found in the "more than once" category, which translated into 41.3%.

CONCLUSION

This research showed that the usefulness of comics as an informative and therapeutic resource in the treatment of post-COVID-19 patients in the city of Ayacucho is very significant, as confirmed by 96% of those surveyed, since they pointed out that the comics contributed to virus disease recovery and prevention. Regarding the therapeutic utility, the results were also conclusive. Although 56% believed that the comics were "funny and humorous," as a result of the accumulated frequency of categories, 90% of those surveyed indicated that the usefulness of this graphic resource allowed them to mitigate stress, sadness, fear, anxiety, depression, and somatization. The comics, according to 90% of those surveyed, aroused three types of drive discharges: laughter, smiles, and guffaw—representing the climax of satisfaction and good humor.

It must be taken into account that to alleviate a problem, especially one of an emotional nature, the observation of health professionals regarding patients' conditions are not enough. It is imperative to interact with the latter's subjectivity and to stimulate their willingness in order for the therapeutic process to work. This activates a third intersubjective process, which does not nullify the degree of objectivity that therapy requires. This was the idea when incorporating humorous stories as a therapeutic resource. The contributions of this study to the recovery process of patients affected by COVID-19 from the emotional side, although functional, was proven through the perceptions of those surveyed and was reflected in the different manifestations of emotional improvement. In conclusion, it was shown that the comic served to stimulate the therapeutic process of patients affected by COVID-19.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author upon reasonable request.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

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