


## Use of realistic simulation in a course of virtual mental health


*Uso da simulação realística em um curso de saúde mental virtual*

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### ABSTRACT

**Introduction:** Realistic simulation is a well-regarded technique for the training of health professionals, already used in educational institutions and offering the opportunity to acquire practical skills.

**Experience report:** Thus, in this investigation, we sought to describe the experience of the hybrid virtual improvement course, mediated by tutoring, focusing on the discussion of realistic simulation, which was the main tool for the training skills used.

**Discussion:** In this article, a quantitative qualitative approach was used to discuss the use of the realistic simulation methodology in a group of a mental health improvement course. The evaluation of the realistic simulation methodology by the participants was described, who evaluated it positively and expressed the need for this type of methodology in the training of professionals in the field of mental health.

**Conclusion:** Active methodologies are used in the academic environment and gain more importance in professional practice environments where challenges are constant and the training must dialogue with the student's work routine.

**Keywords:** Education, Virtual, Realistic Simulation, Mental Health, Interprofessional.

### RESUMO

**Introdução:** A simulação realística é uma técnica conceituada para a formação de profissionais de saúde já empregada nas instituições de ensino e que oferece a oportunidade de aquisição de habilidades práticas.

**Relato de experiência:** Assim neste trabalho, buscou-se descrever a experiência do formato de aperfeiçoamento virtual híbrido, mediado por tutoria, com foco na discussão da simulação realística, que foi a principal ferramenta para o treinamento de habilidades utilizada.

**Discussão:** Neste trabalho, utilizou-se a abordagem quantitativo-qualitativa para discutir o uso da metodologia de simulação realística em uma turma de um curso de aperfeiçoamento em saúde mental. Descreve-se a avaliação da metodologia de simulação realística feita pelos participantes, que a consideraram positiva e expressaram a necessidade desse tipo de metodologia nas formações de profissionais da área de saúde mental.

**Conclusão:** As metodologias ativas são utilizadas no ambiente acadêmico e ganham mais importância em ambientes de prática profissional onde os desafios são constantes e a formação deve dialogar com a rotina de trabalho do cursista.

**Palavras-chave:** Educação Virtual; Simulação Realística; Saúde Mental; Interprofissional.

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Chief Editor: Rosiane Viana Zuza Diniz.

Associate Editor: Cristiane Barelli.

Received on 08/27/23; Accepted 09/24/24.

Evaluated by double blind review process.

## INTRODUCTION

Mental health has been a relevant topic for governments, organizations and individuals who have sought services in this field, aiming at a better quality of life. However, it is estimated that the percentage of people with mental disorders who cannot access treatment varies between 32% and 85%, while only 1% of the world's health workforce consists of mental health professionals<sup>1</sup>.

Therefore, government actions that qualify existing health services are urgently needed aiming to expand care for the population. The Mental Health Gap Action Programme (mhGAP)<sup>2</sup>, launched in 2008 by the World Health Organization (WHO), provides guidance for the care of people with disorders caused by mental, neurological conditions and substance abuse (MNS) and their caregivers, as well as to overcome the differences between the available resources and the great need to provide these services.

In Ceará, a state in the northeast region of Brazil, actions have been carried out to qualify human resources within the scope of the Health Care Networks (RAS, *Redes de Atenção à Saúde*) since 2017<sup>3</sup>, using as a reference the mh-GAP Interventions Manual (MI-mhGAP) version 1.0, launched by the WHO in 2010. Aiming to train instructors and supervisors in the application of this material, the Training of Trainers and Supervisors (ToTS)<sup>2</sup> version 2.0, launched in 2015, was used. This state was one of the pioneers in the country to organize two ToTS immersion workshops, which took place in 2018 and 2019, training 81 health professionals from different professional categories<sup>4</sup>. Subsequently, in mid-2020, the educational project began: "Mental health care and psychosocial care: assessment, management and follow-up in the territories", or SMAPS-CE, an acronym that can be represented as mental health in primary health care or mental health and psychosocial care<sup>5</sup>.

The project aims to train professionals who work in the Family Health Strategy (ESF, *Estratégia Saúde da Família*), Polyclinics, Specialized Outpatient Clinics, Psychosocial Care Centers (CAPSs, *Centros de Atenção Psicossocial*), and other strategies of the Health Care Network (RAS) of Ceará. It aimed at developing in the participants the knowledge, skills and attitudes necessary to carry out effective and quality actions to embrace people with MNS conditions, using the MI-mhGAP (versions 2.0<sup>6</sup> and humanitarian<sup>7</sup>) in the assessment, management and follow-up of the user in non-specialized services, especially in Primary Health Care (PHC). It also aims to expand access to care in non-specialized services, using the resources available in the territory, including matrix support, based on a care escalation model<sup>8</sup>.

In view of the scenario brought about by the SARS-COV-2 pandemic, it was necessary to redefine the performance

of SMAPS and produce a remote model, with the use of digital tools for active teaching-learning and the use of virtual environments, which also allowed reaching remote regions, such as the Cariri region, in the south of the state. The MI-mhGAP modules of introduction, essential care and practices, depression, suicide, psychosis, substance use, childhood, grief, acute stress and others were adapted, in addition to various materials on territory, care models, supervision and local issues guided by the principles of community and territorial psychosocial care, focusing on the local reality, the specificities of the population and the health system in Ceará.

Studies such as that by Viana<sup>9</sup> point to the insecurity and feeling of unpreparedness by family health professionals regarding the approach to the mental health topic with the Brazilian Unified Health System (SUS – *Sistema Único de Saúde*) users. To remedy this technical deficiency, realistic simulation was used in the training to develop skills for the assessment, management and follow-up of people with MNS conditions.

The realistic simulation was the free translation adopted in this context for the original term of the ToTS material, or roleplay. It is considered a well-established technique among health education courses and stands out among the theoretical-methodological assumptions of reference educational institutions<sup>10</sup>. In addition, it is a resource widely used in undergraduate and graduate health courses worldwide<sup>11,12</sup>.

The simulations offered the professionals in training the opportunity to practice skills that will be used in future clinical practice and help to consolidate the teaching-learning process<sup>13</sup>. Therefore, they should not be used as an optional or disposable part of the training.

Several course formats have been carried out since 2020, including hybrid virtual basic and improvement courses, asynchronous virtual courses mediated by tutoring, and in-person workshops<sup>14,15</sup>. The aim of this study was to describe the experience of the hybrid virtual improvement format, mediated by tutoring, focusing on the discussion of realistic simulation, which was the main tool for the used training skills.

## EXPERIENCE REPORT

This is an experience report aimed at describing and discussing the use of the realistic simulation methodology or roleplay in the virtual format in one of the classes of the improvement course in 2021.

The improvement course class had 180 class-hours, 48 synchronous hours, 96 asynchronous hours and 36 hours to carry out activities in smaller tutorial learning groups (realistic simulation and activities in the work environment). It was structured in three modules: 1) Introduction to the course; 2) Clinical (basic and advanced) and 3) Territory, mental health

and psychosocial care. The composition of the class consisted of two-thirds of health professionals with higher education in primary care (ESF physicians and nurses) and one-third of mental health professionals (Family Health Support Center, Outpatient Clinics and Psychosocial Care Centers), as well as some managers from the same geographic region of Ceará, totaling 93 enrolled individuals. The participants were selected and indicated by the municipal managers through an official release document<sup>15</sup>.

The classes took place in a virtual hybrid manner, from May to September 2021, with professionals from the Cariri region (municipalities of Juazeiro do Norte, Iguatu and Cariús) in Ceará. Professionals from the municipality of Sobral were included aiming to train them to expand the course. Health residents in the areas of family and community medicine, psychiatry and multiprofessional family health, mental health and public health also participated.

The course was scheduled in eight synchronous (fortnightly) moments of four hours and sixteen synchronous hours in smaller groups for the practice of realistic simulation exercises and discussion of activities for the work environment. Activities in the work environment were proposed to each unit and, at the end of the course, the presentation of three products was carried out: local network map, situational diagnosis of the territory and report on the implementation of matrix support.

With the geographical distance between the participants, the teaching-learning process took place synchronously (following the principles of in-person teaching) and asynchronously, using various resources such as video classes, video cases, interactive booklets, podcasts and other activities made available in the virtual learning environment (VLE).

For the asynchronous moments, educational resources made available in the Modular Object-Oriented Dynamic Learning Environment (Moodle)<sup>16</sup> were used, a free software, customized in an interactive virtual space, which allows the sharing of diversified didactic materials. The course educational resource database included: nine multimedia books, fourteen video classes, nine podcasts, ten subtitled video cases, nine activities in the work environment, eight other various activities, nine evaluative post-tests, three evaluation forms and sixteen recorded synchronous moments, in addition to a virtual library with mh-GAP manuals and other references.

In the synchronous moments, active teaching-learning methodologies were used, such as brainstorming with word clouds<sup>14</sup>, realistic simulation in small groups and with evaluation scripts, management and monitoring of conditions, dialogued presentations using chat and audio, discussions in large and small groups, clinical cases, storytelling (personal history), exhibition of video-cases, and experience reports, among others.

Google Meet was used in the meetings with everyone (dialogued presentations, moments of self-care, evaluation) and in separate rooms consisting of the members of the four tutorial learning groups (TG) to encourage greater participation and exchange among the participants. The links to access the virtual rooms were forwarded in WhatsApp® *groups* whose function was also to facilitate communication and understanding of the students during the course.

To apply the realistic simulation methodology in SMAPS, the participants were subdivided into small groups of four to five people, with the support of a coordinator/facilitator (working in the specialized mental health network), and instructed to organize themselves as they chose. Thus, they could carry out the activity in the work environment or outside it, in person or virtually, at the time that was best for everyone.

Four simulation scripts of the ToTS material were used during the course, with the topics: depression, suicide, psychosis and other important mental health problems<sup>1</sup>. The scripts were sent and clarified in the synchronous meeting on the subject. There was a script for the interpretation of the professional, the person who seeks help and one for the observer. The observer also had the support of a competency assessment instrument to provide feedback to the student who interpreted the role of the health professional. The activity lasted an average of twenty minutes per simulation, and the students were encouraged to change roles and repeat the exercise so that everyone could interpret the three roles, if possible, within their reality.

Having an observer in a consultation with a patient can be embarrassing for the consultation itself and, often, supervision is based only on reports from participants and case discussions. This challenge worsens at a time when these skills must be developed in virtual training. The use of realistic simulations in distance training requires the support of a technology team and close support from the facilitators, and patience must be exercised because the first experiences tend to be slow or incomplete due to the professionals' lack of familiarity with the technology involved. In synchronous training, this challenge can be greater.

Thus, it was considered appropriate to organize the division of the groups to ensure that everyone could experience all or as many roles as possible (professional, patient, observer, family member accompanying the patient, etc.), also prioritizing that the group coordinator was a professional from the specialized network, so that the activity would function as a matrix support strategy focused on permanent education. This strategy, associated with the fact that it gives autonomy to the groups for the meetings, was used to reduce the challenges related to some students' shyness and the use of technology.

Data collection took place from August to October 2022. The analysis was based on data extracted from the Unified Management Academic System (SAGU, *Sistema Acadêmico de Gestão Unificada*)<sup>17</sup> and the Virtual Learning Environment (Moodle)<sup>3</sup> platform, as well as form spreadsheets from Googleforms with enrollment data and a specific one to evaluate the simulation methodology. The simulation evaluation form had three items: “how good”; “what a pity” and “how was it”<sup>19</sup>, and the students were invited to answer freely, in a discursive way, about the positive and negative aspects and suggestions. The quantitative data were expressed in descriptive statistics through tables. The qualitative data were categorized and analyzed using Minayo’s thematic analysis<sup>20</sup>.

It should be noted that the present study is an integral part of the research “Evaluation of the pedagogical project TOHP/MHGAP/SMAPS – Mental Health Care and Psychosocial Care: evaluation, management and follow-up in the territories”, assessed and approved by the Research Ethics Committee, on June 4, 2021, through Opinion Number 4,754,424.

It should be noted that all participants digitally signed the Informed Consent Form (ICF) available in the virtual learning environment (VLE) of the courses. The ICF was prepared as determined by Resolution number 466/2012<sup>21</sup> regarding research involving human beings and followed the guidelines of the National Research Ethics Commission (CONEP, *Comissão Nacional de Ética em Pesquisa*) for data collection from human beings through virtual environments.

## DISCUSSION

For the class being studied, 93 registrations were received for the course, and 67 (72.04% of those enrolled)

actually started the course. Of those who started, 71.64% (48) were approved, 22.38% (15) failed and 5.9% (4) dropped out. Among the graduates, 68.8% were female (33). The age range ranged from 23 to 54 (with a mode of 33 years). Among the professionals’ training, the nursing category was the one with the largest number of participants (33.3%), followed by physicians (27.1%) and psychologists (16.7%), respectively. Other professional categories were also part of the training process, as shown in detail in Graph 1.

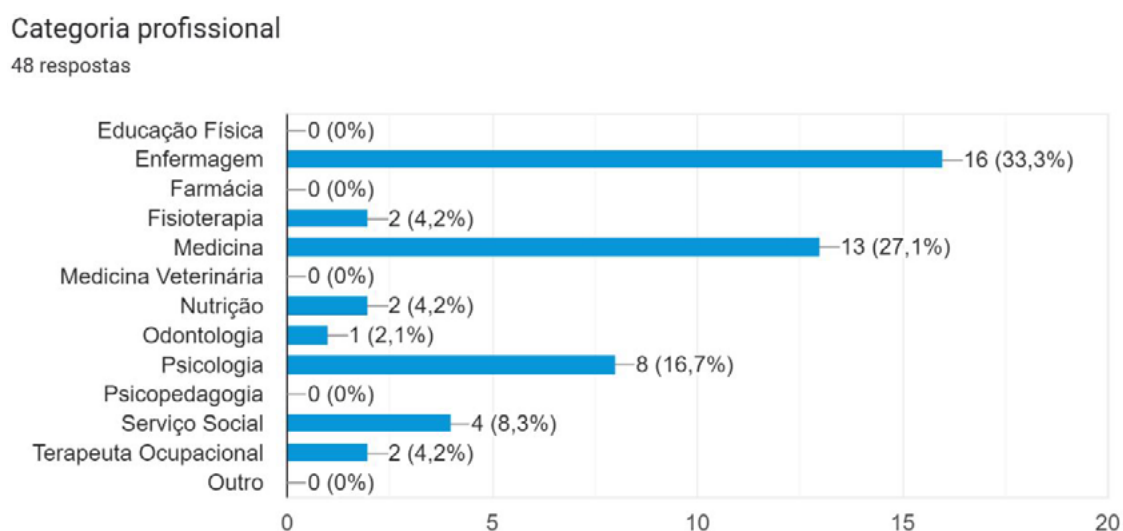
These professionals were primarily working in the primary health care network (39.6% - 19), followed by the specialized network (31.3% - 15) and management (6.3% - 3). Health residents represented 22.9% (11), mainly from the areas of psychiatry and multiprofessional areas with an emphasis in the community. This information is shown in Graph 2.

The evaluation form of the realistic simulation methodology had a response rate of 54.16% (26 of the 48 approved participants responded). Only one group was able to carry out the activity in person with their peers in the workplace. The others used the Google-Meet tool for the activity and held the meetings outside their usual working hours.

Regarding the topic “how good”, the 26 answers were valid. But in the “what a pity” topic, seven answers were excluded from the analysis and in the “how was it” there were four exclusions because they were unrelated to the topic or had not been answered. The 67 valid responses were then read thoroughly and four thematic categories emerged: evaluation, potentials, challenges and suggestions.

The students were unanimous in evaluating the methodology as positive, using terms such as “excellent”, “loved it”, “positive”, “dynamic”, “good”, “methodology that makes a difference”, “inspirational”, “exemplary”, “very good”, “realistic”,

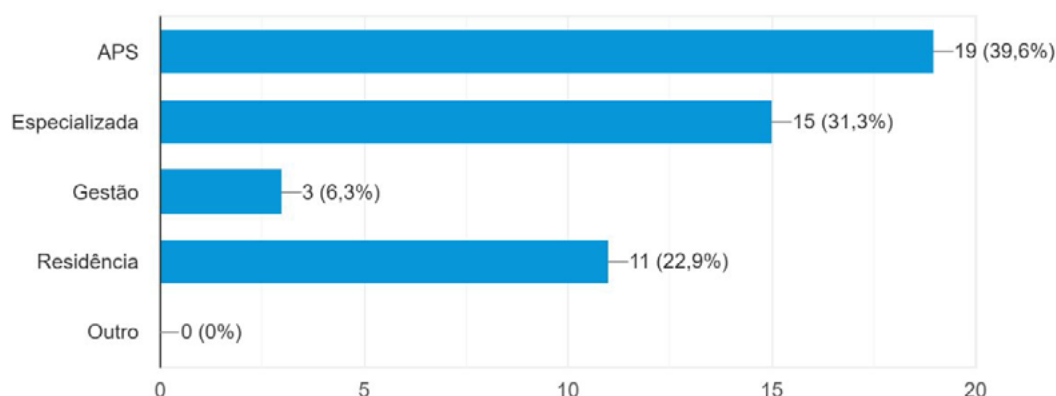
**Graph 1.** Graduates’ professional category.



Source: prepared by the authors.

**Graph 2.** Level of care where the graduates of the educational action worked.

Local de trabalho  
48 respostas



Source: prepared by the authors.

“wonderful” and “stimulating moments”. This phrase from a participant illustrates the positive evaluation:

*“I had never experienced roleplay experiences, but they are very stimulating.”*

(#S24)

The effectiveness of creating controlled realities for the learning environment is corroborated in studies such as the ones by Negri et al.<sup>22</sup> (2019) and Tun et al.<sup>23</sup> (2015). This active methodology stood out from other educational practices applied during the course. This reality confirmed by Salvador et al.<sup>24</sup> (2019) includes the pedagogical planning and preparation of activities aiming to ensure their full realization.

Butafava et al.<sup>25</sup> reinforces in a study with medical students that the students’ perception of these active methodologies is satisfactory. This study reports that the experience of realistic simulation has stood out in the feedback of students in the health area.

Regarding the potentials, the multi and interprofessional perspective was greatly reinforced, which allows sharing ideas and knowledge and learn from colleagues from different areas. Having a methodology that makes it possible to practice what was being discussed in the course also emerged as a relevant category:

*“Having a moment to simulate an ideal service and learn from other professionals!”*

(#S5)

*“It is an inspirational experience, it allows us to use what we have studied”*

(#S17)

The learning potential of realistic simulation is considerable, considering that it allows the subject to develop practical skills in controlled environments, and can occur in

several formats with high adaptability to the available resources. Thus, it has been used in several training courses in the health field: psychodiagnosis, Appiani et al.<sup>26</sup>; emergency, Munroe et al.<sup>27</sup>; obstetrics, Brady et al.<sup>28</sup>; pediatrics, Prego et al.<sup>29</sup>; among other health specialties.

During the course, the feedback on this practice proved to be another important element of the methodology, considering that an activity assessment was carried out right after the scene with the team and later together with the tutor. In addition to all these factors, the playful and dynamic factors consolidate the realistic simulation as the best evaluated and cited methodology among the course participants.

Despite being in a virtual course during the COVID-19 pandemic, the possibility of interacting with each other, promoting socialization, and expanding communication among students was another great potential listed by the students, who also reinforced as such the possibility of receiving feedback (there was a competency-based evaluation script for this) from the colleagues.

Other potentials mentioned involved the issue of the methodology being experiential, dynamic, reflective, promoting empathy when experiencing the different roles (professional, patient and observer), in addition to allowing the training of skills for the use of telehealth.

The challenges in relation to time management and the fact that the methodology is carried out virtually were what drew attention in this analysis:

*“It’s difficult to organize the schedules of all participants online”*

(#S4)

*“Too bad we don’t have more time”*

(#S5)



*"What a pity we didn't have the opportunity to hold it in person"*

(#S26)

The difficulty of interaction in the first meeting of the group and the lack of more details in the scripts also emerged from the answers:

*"Difficulty in face-to-face interaction in the first interview"*

(#S2)

*"The cases do not depict many details"*

(#S8)

As suggestions, most of the students brought the need to expand the course load, allocating more time to the realistic simulation methodology, in addition to having geographically face-to-face moments:

*"Increase time of performance"*

(#S9)

*"think of strategies so that there is a mandatory time for the activity"*

(#S4)

It was also suggested to improve the activity guidelines, making them clearer and more objective:

*"Explain the activity better."*

(#S10)

*"A script with more information."*

(#S8)

The answers also reinforced the validity and the need to insist and expand the use of the methodology in the course:

*"I think we maintain and insist on this method"*

(#S25)

*"More role play in training courses"*

(#S23)

One student also mentioned the possibility of replicating the methodology:

*"I loved this technique and I will use it in my teaching activities"*

(#S3)

In the field of mental health, from the perspective of psychosocial care, realistic simulation adapts to the reality of the multiprofessional team, integrating specialized knowledge and favoring extremely complex cases in the daily life of the service.

Context-specific realities of realistic simulation in the field of mental health in distance learning contexts do not have abundant literature<sup>30</sup>, but they are produced in several parts of the world: the United States, the United Kingdom,

Canada, Australia, Iran, Taiwan, predominantly with the use of "standardized cases" as offered in the course. The same study states that there is a lack of literature to attest to the results among patients. However, satisfactory data are presented for professionals in training.

It is necessary to strengthen this type of methodology in the area of mental health, considering the challenges that this area faces and the great need for training for primary and specialized care teams, situations to which realistic simulation can contribute with great success. The development of skills in the health area, especially those related to communication, diagnosis and case management skills, including individual and group psychotherapeutic approaches, is a great challenge in the area of mental health, which brings great potential for the use of this methodology.

## FINAL CONSIDERATIONS

The results of the present study show the importance of systematically disseminating methodologies that respect the creative capacity of the subjects involved in the learning process, challenging them to seek solutions to the problems in their own work reality. Active methodologies, such as realistic simulation, which has already been used in the academic and postgraduate environments, gain even more relevance in professional practice environments where challenges are constant and training must dialogue with the student's work routine.

Considering the challenge of continuing to train human resources in mental health, ensuring adherence and satisfaction of knowledge at the end of the course, the results demonstrated in the present study are perceived as positive.

## AUTHORS' CONTRIBUTIONS

André Luís Bezerra Tavares, Thiago Sousa Félix, Viviane Nóbrega Gularte Azevedo, Sandra Fortes contributed to the study conception, construction and synthesis of the material. Cidianna Emanuely Melo do Nascimento contributed to the construction and synthesis of the material, and review of the manuscript.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

## SOURCES OF FUNDING

The authors declare no sources of funding.

## REFERENCES

1. World Health Organization. mhGAP Training Manuals: for the mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings – version 2.0 (for field testing). Geneva: WHO; 2019 [acesso em 1º mar 2023]. Disponível em: <https://iris.who.int/bitstream/handle/10665/259161/WHO-MSD-MER-17.6-eng.pdf?sequence=1&isAllowed=y>.

2. World Health Organization. mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings: mental health Gap Action Programme (mhGAP): version 1.0. Geneva: WHO; 2010 [acesso em 10 abr 2022]. Disponível em: <https://apps.who.int/iris/handle/10665/44406>.
3. Secretaria de Saúde do Estado. QualificaAPSUS Ceará: qualificação da atenção primária à saúde do Ceará. Fortaleza: Secretaria de Saúde; 2017 [acesso em 17 out 2022]. Disponível em: <https://www.saude.ce.gov.br/qualificaapsus/>.
4. Tavares ALB, Sombra Neto LL, Silva KM, Campos EM de, Fortes S. Treinando instrutores para o uso do Manual de Intervenção Mental Health GAP (MI-mhGAP) no Ceará-Brasil. *Dialog Interdis Psiq S Ment*. 2023;2(1):58-67 [acesso em 1º abr 2023]. Disponível em: <https://revistas.uece.br/index.php/dipsm/article/view/8613>.
5. Escola de Saúde Pública Paulo Marcelo Martins Rodrigues. Cuidados em saúde mental e atenção psicossocial (SMAPS): avaliação, manejo e seguimento nos territórios. Fortaleza: ESP; 2020 [acesso em 17 out 2022]. Disponível em: <https://espvirtual.esp.ce.gov.br/?project=a-lacuna-de-cuidado-em-saude-mental-mhgapavaliacao-manejo-e-seguimento>.
6. World Health Organization. mhGAP Intervention Guide – version 2.0. Geneva: WHO; 2019 [acesso em 1º mar 2023]. Disponível em: <https://www.who.int/publications/i/item/9789241549790>.
7. Organização Pan-Americana da Saúde. Manejo clínico de condições mentais, neurológicas e por uso de substâncias em emergências humanitárias. Guia de Intervenção Humanitária mhGAP (GIH-mhGAP). Brasília: Opas; 2020.
8. Tavares ALB, Faria NF, Lopes FES. Cuidados em Saúde Mental e Atenção Psicossocial: avaliação, manejo e seguimento nos territórios (SMAPS CE): manual do aluno. Fortaleza: Escola de Saúde Pública Paulo Marcelo Martins Rodrigues; 2021.
9. Viana DM. Saúde mental e atenção primária: compreendendo articulações e práticas de cuidado na Saúde da Família no Ceará [dissertação]. Fortaleza: Universidade Federal do Ceará; 2016. 222 p.
10. Escola de Saúde Pública do Ceará Paulo Marcelo Martins Rodrigues. Projeto político pedagógico. Fortaleza: Escola de Saúde Pública do Ceará; 2020 [acesso em 17 out 2022]. Disponível em: <https://www.esp.ce.gov.br/wp-content/uploads/sites/78/2021/04/PPP-2024-2027-1.pdf>.
11. Al-Elq AH. Simulation-based medical teaching and learning. *J Family Community Med*. 2010;17(1):35-40 [acesso em 25 abr 2022]. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3195067/pdf/JFCM-17-35.pdf>.
12. Yamane MT, Machado VK, Osternack KT, Mello RG. Simulação realística como ferramenta de ensino na saúde: uma revisão integrativa. *Revista Espaço para a Saúde*. 2019;20(1):87-112 [acesso em 25 nov 2020]. Disponível em: <https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1008011>.
13. Sociedade Beneficente Israelita Brasileira Albert Einstein. Saúde mental na APS: guia de instruções para multiplicação do MI-mhGAP. São Paulo: Ministério da Saúde; 2022 [acesso em 2 abr 2023]. 17 p. Disponível em: <https://planificasus.com.br/arquivo-download.php?hash=9ce84b0067e-d0f07d8219c5fbf53768a51e66dba&t=1692130530&type=biblioteca>.
14. Tavares ALB, Andrade AT, Benício LFS, Neiva DA, Dahl CM. SMAPS-CE: ampliando citado à educação em saúde mental. *Cadernos ESP*. 2022;16(3):124-9. doi: <https://doi.org/10.54620/cadesp.v16i3.872>.
15. Tavares ALB, Sousa AAS, Coutinho AJF, Cândido CC, Fortes S. Cuidados em saúde mental e atenção psicossocial: avaliando novos processos educacionais em tempos de pandemia no Ceará. *Rev Bras Educ Saúde*. No prelo 2023.
16. Moodle. About moodle – moodledocs. 2022 [acesso em 7 mar 2023]. Disponível em: [https://docs.moodle.org/401/en/About\\_Moodle](https://docs.moodle.org/401/en/About_Moodle).
17. Escola de Saúde Pública do Ceará Paulo Marcelo Martins Rodrigues. Sagu. Fortaleza: ESP; 2020 [acesso em 17 out 2022]. Disponível em: <https://academico.esp.ce.gov.br/>.
18. Escola de Saúde Pública Paulo Marcelo Martins Rodrigues. Cuidados em saúde mental e atenção psicossocial (SMAPS): avaliação, manejo e seguimento nos territórios. Fortaleza: ESP; 2020 [acesso em 17 out 2022]. Disponível em: <https://espvirtual.esp.ce.gov.br/?project=a-lacuna-de-cuidado-em-saude-mental-mhgapavaliacao-manejo-e-seguimento>.
19. Carmona F, Bollela VR. Desenvolvimento docente para educação remota emergencial em 2020: a experiência da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo (FMRP-USP). *Medicina*. 2021;54(supl 1) [acesso em 2 abr 2023]. Disponível em: <https://www.revistas.usp.br/rmrp/article/view/185559>.
20. Minayo MC de S. O desafio do conhecimento: pesquisa qualitativa em saúde. São Paulo: Hucitec; 2014.
21. Brasil. Resolução nº 466, de 12 de dezembro de 2012. Brasília: Conselho Nacional de Saúde; 2012 [acesso em 2 abr 2023]. Disponível em: <https://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf>.
22. Negri EC, Pereira Júnior GA, Cotta Filho CK, Franzone JC, Mazza A. Construction and validation of simulated scenario for nursing care to colostomy patients. *Texto Contexto – Enferm*. 2019;28:e20180199. doi: <https://www.scielo.br/j/tce/a/n6sLRQdSHz76v6QYxjBzvXy/>.
23. Tun JK, Alinier G, Tang J, Kneebone RL. Redefining simulation fidelity for healthcare education. *Simul Gaming*. 2015;46(2):159-74 [acesso em 31 maio 2023]. Disponível em: <http://journals.sagepub.com/doi/10.1177/1046878115576103>.
24. Salvador CA de B, Toniosso JP, Nogueira LDP, Laredo SP. Simulação realística, estratégia metodológica para a formação de profissionais na área da saúde: uma revisão integrativa. *Rev Bras Educ Saúde*. 2019;9(4):58-64 [acesso em 31 maio 2023]. Disponível em: <https://www.gvaa.com.br/revista/index.php/REBES/article/view/6466>.
25. Butafava EPDA, Oliveira RAD, Quilici AP. Satisfação e autoconfiança de estudantes na simulação realística e a experiência de perpetuação do saber. *Rev Bras Educ Med*. 2022;46(4):e166 [acesso em 2 abr 2023]. Disponível em: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0100-55022022000400211&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-55022022000400211&tlng=pt).
26. Appiani E, Fainberg E, Llauro M, Kleiner Y. Uma experiência no ensino do psicodiagnóstico: técnica do role-playing. In: Ocampo MLSD, Arzeno MEG, Piccolo EGD. O processo psicodiagnóstico e as técnicas projetivas. 5a ed. São Paulo: Martins Fontes; 1986.
27. Munroe B, Buckley T, Curtis K, Morris R. Designing and implementing full immersion simulation as a research tool. *Australas Emerg Care*. 2016;19(2):90-105 [acesso em 31 maio 2023]. Disponível em: <https://linkinghub.elsevier.com/retrieve/pii/S1574626716000021>.
28. Brady S, Bogossian F, Gibbons K. The effectiveness of varied levels of simulation fidelity on integrated performance of technical skills in midwifery students – a randomised intervention trial. *Nurse Educ Today*. 2015;35(3):524-9 [acesso em 31 maio 2023]. Disponível em: <https://linkinghub.elsevier.com/retrieve/pii/S0260691714003529>.
29. Prego J, Gerolami A, Más M, Morosini F, Cedrés A, Rocha S, et al. Simulación de alta fidelidad en emergencia pediátrica: primera experiencia en la formación de posgrados y residentes de Pediatría. *Revista Médica del Uruguay*. 2014;30(4):247-54 [acesso em 31 maio 2023]. Disponível em: <http://www.scielo.edu.uy/pdf/rmu/v30n4/v30n4a05.pdf>.
30. Williams B, Reddy P, Marshall S, Beovich B, McKarney L. Simulation and mental health outcomes: a scoping review. *Adv Simul*. 2017;2(1):2 [acesso em 31 maio 2023]. Disponível em: <http://advancesinsimulation.biomedcentral.com/articles/10.1186/s41077-016-0035-9>.



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