



EDUCATIONAL TECHNOLOGIES IN ADOLESCENT EMPOWERMENT ABOUT DEPRESSION

TECNOLOGIAS EDUCACIONAIS NO EMPODERAMENTO DO ADOLESCENTE ACERCA DA DEPRESSÃO

TECNOLOGÍAS EDUCACIONALES EN EL EMPODERAMIENTO DEL ADOLESCENTE ACERCA DE LA DEPRESIÓN

Mateus Andrade Ferreira¹, Marcelo Costa Fernandes², Geísa Batista Leandro³, Alwsca Layane Gonçalves Rolim⁴, Mayara Evangelista de Andrade⁵

ABSTRACT

Objective: to describe the experience of the use of educational technology as a way of empowering the public school adolescent about depression and the factors associated with it. **Method:** this is a descriptive study, of experience report type, from interventions performed by members of the research group Laboratory of Information and Communication Technologies in Health, from a federal university. It is reported that the actions occurred through the application of an educational game developed by the team to work on the topic of depression in adolescence. **Results:** through the educational activity associated with the game, the creation of a favorable context for the dialogue about the factors associated with depression in adolescents was provided, based on the ludicity and the active interaction of the participants. **Conclusion:** an environment favorable to the sharing of health knowledge for students was made possible through the use of educational technology, being a strategy to encourage the empowerment of adolescents in the search for self-care. **Descritores:** Adolescent; Depression; Health Education; Educational Technology; Health Promotion; Education.

RESUMO

Objetivo: descrever a experiência do uso da tecnologia educativa como forma de empoderar o adolescente de escola pública sobre a depressão e os fatores associados à mesma. **Método:** trata-se de estudo descritivo, tipo relato de experiência, oriundo de intervenções realizadas por integrantes do grupo de pesquisa Laboratório de Tecnologias de Informação e Comunicação em Saúde, de uma universidade federal. Informa-se que as ações ocorreram mediante a aplicação de um jogo educativo desenvolvido pela equipe para trabalhar a temática depressão na adolescência. **Resultados:** proporcionou-se, por meio da atividade educativa, associada ao jogo, a criação de um contexto favorável ao diálogo acerca dos fatores associados à depressão em adolescentes, a partir da ludicidade e da interação ativa dos participantes. **Conclusão:** percebeu-se um ambiente favorável ao compartilhamento do conhecimento em saúde para os estudantes viabilizado pela utilização de tecnologia educativa, sendo estratégia no incentivo ao empoderamento dos adolescentes na busca do autocuidado. **Descritores:** Adolescente; Depressão; Educação em Saúde; Tecnologia Educacional; Promoção da Saúde; Educação.

RESUMEN

Objetivo: describir la experiencia del uso de la tecnología educativa como forma de empoderar al adolescente de escuela pública sobre la depresión y los factores asociados a la misma. **Método:** se trata de un estudio descriptivo, tipo relato de experiencia, oriundo de intervenciones realizadas por integrantes del grupo de investigación Laboratorio de Tecnologías de Información y Comunicación en Salud, de una universidad federal. Se informa que las acciones ocurrieron mediante la aplicación de un juego educativo desarrollado por el equipo para trabajar la temática depresión en la adolescencia. **Resultados:** se proporcionó, por medio de la actividad educativa, asociada al juego, la creación de un contexto favorable al diálogo acerca de los factores asociados a la depresión en adolescentes, a partir de la ludicidad y de la interacción activa de los participantes. **Conclusión:** se percibió un ambiente favorable al compartir el conocimiento en salud para los estudiantes viabilizados por la utilización de tecnología educativa, siendo estrategia en el incentivo al empoderamiento de los adolescentes en la búsqueda del autocuidado. **Descritores:** Adolescente; Depresión; Educación en Salud; Tecnología Educacional; Promoción de la Salud; Educación.

^{1,4}Academics, Federal University of Campina Grande / UFCG. Cajazeiras (PB), Brazil. Email: mateus0297@gmail.com ORCID iD: <https://orcid.org/0000-0002-9301-3673>; Email: alwscarolim@hotmail.com ORCID iD: <https://orcid.org/0000-0003-3688-9588>; ²PhD, Federal University of Campina Grande / UFCG. Cajazeiras (PB), Brazil. Email: celo_cf@hotmail.com ORCID iD: <https://orcid.org/0000-0003-1626-3043>; ^{3,5}Nurses, Federal University of Campina Grande / UFCG. Cajazeiras (PB), Brazil. Email: geisabatista16@hotmail.com ORCID iD: <https://orcid.org/0000-0002-2579-8691>; Email: mayaraeandrade@hotmail.com ORCID iD: <https://orcid.org/0000-0001-5256-2169>

INTRODUCTION

It is known that adolescence is a phase of transition from childhood to adulthood, full of changes and new situations for those who experience it. It is also considered a period of vulnerability to diverse events, including the occurrence of diseases, including depression, which can develop serious signs and symptoms. It is necessary, therefore, approaches that seek to help adolescents in this process, and educational technologies, specifically educational games, are effective tools throughout this process.

It is understood the period of adolescence, according to the Ministry of Health (MH), as well as to the World Health Organization (WHO), ten and 19 years. By the Statute of the Child and Adolescent (SCA), in their turn, adolescents are those between the ages of 12 and 18, but in this research, it will be adopted as proposed by the MH and WHO.¹

In this sense, one of the many situations that adolescents are exposed to, depression is defined as a type of mood disorder characterized by sadness, decreased energy, lack of interest in performing activities, loss of self-esteem, feelings of guilt, sleep or appetite disorders, and problems with concentration for at least two weeks.² Mood swings may be marked by irritability and instability in adolescents.³

Currently, depressive disorders are considered the main causes of disability worldwide³, and in Brazil, according to the National Household Sample Survey (NHSS), the prevalence of depression is about 4, 1%.⁴

Adolescence is presented, although depression affects individuals in any cycle of life, as one of the populations most vulnerable to the development of depression, since this is a period marked by intense physical, mental, social and emotional transformations, which may predispose to the development of this disorder.⁵ It is estimated, notwithstanding the current reality, depression as the main cause of disability in adolescence, affecting, more frequently, young female.⁶

Based on these factors, it is a subject that deserves a great deal of attention in public health policies and professional actions, so that these situations can be found and the associated losses and comorbidities can be avoided through interventions that education as a way of knowing the theme and developing actions around it.⁷

For health education, a central role in health prevention and promotion actions is assumed, which is responsible for the

development of self-care and the confrontation of the health / disease process through a process of reconstruction of knowledge.⁸ It is associated with health education and an essential part of its process, for the use of educational technologies, such as aid in the creation of the learning environment, besides being a possibility to make this knowledge more accessible to the population, in a playful and interactive way.

The theoretical content, in the process of applying these technologies, should be based on the knowledge available in the literature, bringing knowledge in a complete and non-exhaustive way,⁹ being educational games one of the main technologies that may be present in this process, favoring learning to achieve the goals of health education.

OBJECTIVE

- To describe the experience of the use of educational technology as a way to empower the public school adolescent about depression and the factors associated with it.

METHOD

This is a descriptive study, of the type of experience, from interventions performed by members of the research group of the Laboratory of Information and Communication Technologies in Health (LICTH), Federal University of Campina Grande, Cajazeiras-PB campus. The actions associated to the extension project "Information Technology in Health: preparing the professional of tomorrow".

The purpose of this group and project is to promote empowerment, as well as provide critical thinking and learning about health, using digital media, blogs, videotapes, scientific and short critical reviews. In addition to computer science, the group performs interventionist actions, based on the creation of educational games that deal with health and community issues.

The interventions were carried out in three schools of the state education network, in the municipality of Cajazeiras, State of Paraíba, with adolescents of the eighth and ninth years of Elementary School and high school classes, during the months of November and December of 2017. They gave the use of conversation wheels and an educational game focused on the theme of depression in adolescence.

The activities took place through the officialisation of the game applicability, the evaluation of the target audience and the availability and interests of educational institutions. They were promoted in the

mentioned classrooms, with the presence of the students, as well as with the professor responsible of the used timetable. They had the same duration of one and a half hours, being possible the application in more than one class of the same institution, totalizing, at the end of the activities, six groups visited. There was a need, when possible and viable, through space and conformities with teachers, of class joints for the applicability of the game.

RESULTS

It is called the game used in the interventions of "Health Roulette" whose purpose was to empower the target audience regarding depression. It is a roulette divided between values or the following indications: "Passa a vez", "Pay Prenda" and "Desde tudo". Players are divided into two groups and each of them selects a leader with the role of team spokesperson.

It is decided by the leaders of the teams between them, for the beginning of the game, who will start the game, by means of "even or odd". The roulette wheel alternates, answering questions related to the topic addressed, and each correct answer will be assigned the value indicated in the roulette, making a summation at the end of the game, and the answers can only be considered valid when passed by the leader. The team is won that, at the end of the game, present the highest number of points.

It is added that when, when spinning the roulette wheel, it stops at the "Pass a turn" indication, the spinning group loses the opportunity to answer the question of that round. It offers, by "Pays Prenda", the option of the team to realize some friendly dynamics that results in additional punctuation; already "Loses everything" cancels the points won by the team at any point in the game.

Before the application of the game, the team conducted a conversation with students about depression in order to make them feel welcome, to exchange information, as well as to make room for participants could express their knowledge and experiences related to the subject.

During the activities, several points regarding depression in adolescents were discussed, and it was possible to work on basic concepts on this topic, as well as to demystify common and erroneous statements still present in the local culture. Technology was shown to be useful for the practice and evaluation of knowledge constructed in a more attractive way to the adolescent

context, demonstrating, through the activity, the deficiencies about the subject and the gains obtained after the intervention.

It was noticed that in several classes there were reports of depression of the adolescent himself, family or friends, and during the interventions, several cases were presented by the students, and some of them were participative, with ease of counting the situations faced, but at times there were denials due to the experience of such situation, showing how this theme is present in the day to day of these people and the importance of addressing this issue.

The game was thus contributed to the construction of knowledge about this disease, how it can be diagnosed, what signs and symptoms, forms of treatment and how to deal with situations that are suggestive of this problem, in order to diagnose and treat these cases, preventing the occurrence of aggravations or even of suicides.

DISCUSSION

Through the educational activities developed, it aimed at the empowerment of adolescents about depression, that is, fostering their autonomy, impelling them the ability to decide on issues that concern their health.¹⁰ It presents itself as, the process of health education as an important means of promoting health and, consequently, the development of the capacities of social actors through the socialization of information and public awareness.

One should see the school, too, as an environment for health promotion. It can be carried out in an infinite number of interventions adapted to the reality of its students, becoming effective while respecting the specificities of each one and valuing the independence and the initiative of the students.¹¹

It was crucial to approach the subject with the adolescents for the effective development of the practice. It was possible, in welcoming and listening to the knowledge and experiences that each one brought with him on the subject, a direction of the debate, because, as Freire defends¹², teaching requires respect for the knowledge that the students possess so that the new knowledge can be constructed from the interactions created in the learning environment.

The educational attitudes must be effective in order to be effective on different themes, using diverse methodological approaches that favor dialogue between those involved and respect the characteristics of the

population.¹³ It is understood that the construction of knowledge is an action shared between people, being possible from the social interaction, since it is from the social relations that converge the mental functions. It is fundamental, in this sense, that health education actions be built from horizontal dialogues between professionals and users, promoting the emancipation of the individual in the development of individual and collective health.¹⁴

It is also essential to promote health among adolescents, the use of appropriate methodologies that involve them, while allowing critical reflection on the reality in which they live and enable them to be protagonists of their own construction process of knowledge. In view of this, educational technologies, especially educational games, are seen as effective instruments for health promotion and community empowerment practices, since it involves the adolescent public in questions and reflections specific to their age group, unlike tax and punctual educational methodologies that do not recognize the real needs of social actors.¹⁵

Thus, the importance of the use of playfulness in educational health activities is emphasized, as they stimulate the participation, communication, expression and emotional satisfaction of the participants, helping also in the determination of the themes addressed.¹⁶ In this perspective, educational games appear as effective tools, since they stimulate learning, since they establish a connection between play and reality, facilitating the awareness of the target audience¹⁷ and thus confirming the relevance of the use of educational technologies in the production of differentiated health care.¹⁸

It is analyzed that, as in Vygotsky's constructivist theory, the educator was able to assume the role of mediator¹⁹, seeking to create, through these educational interventions, a problematic environment to approach the main points about the subject, encouraging adolescents to discussion, presentation and discussion of your questions.

It was stimulated, through the educational game, to create spaces for the production of knowledge about depression, in a playful and engaging way, giving adolescents the role of active subject in the construction of their knowledge, as well as aligning them with the reality in which they are inserted.

CONCLUSION

It is important to choose the mechanisms to be used in effective approaches to the topics that generate discussions during the adolescence phase in order to correspond to the expectations that have emerged during the interventions, as well as to promote knowledge-sharing environments and, especially, of experiences and experiences around the topic under discussion.

There are shortcomings in the use of technological resources in educational environments with the purpose of constructing and fixing content in a playful way, linked to an old educational model, in which there is no awareness of the student through the formation of opinions around existing problems among classmates. This problem was evidenced when in the applicability of the technology in study, in which certain students, when knowing about the subject and having been victims of such an affectation, refused to participate.

In view of the context in which they were inserted, the difficulty of some participants amidst the approach to the theme and their lack of information on what could make the relationship between them and the same one clearer.

The aim of this report is to encourage the awakening of health professionals to idealize and implement educational interventions in a wide range of settings, especially in the educational environment, with a view to working on subjects that are sometimes surrounded by taboos, such as depression in adolescence, with a view to working to promote health and prevent injuries, in a differentiated and dynamic way.

REFERENCES

1. Ministério da Saúde (BR), Secretaria de Atenção à Saúde, Departamento de Ações Programáticas e Estratégicas. Proteger e cuidar da saúde de adolescentes na atenção básica [Internet]. Brasília: Ministério da Saúde; 2017 [cited 2018 June 15]. Available from: http://189.28.128.100/dab/docs/portaldab/publicacoes/saude_adolescentes.pdf
2. Barros MBA, Lima MG, Azevedo RCS, Medina LBP, Lopes CS, Menezes PR, et al. Depression and health behaviors in Brazilian adults - PNS 2013. *Rev Saúde Pública*. 2017 June; 51(Suppl 1):8s. Doi: <http://dx.doi.org/10.1590/s1518-8787.2017051000084>
3. World Health Organization. Relatório Mundial da Saúde: saúde mental: nova

concepção, nova esperança [Internet]. Geneva: WHO; 2002 [cited 2018 July 15]. Available from: https://www.who.int/whr/2001/en/whr01_dj_message_po.pdf

4. Ministério do Planejamento, Orçamento e Gestão (BR), Instituto Brasileiro De Geografia e Estatísticas, Diretoria de Pesquisas, Coordenação de Trabalho e Rendimento. Pesquisa Nacional por Amostra de Domicílios: um panorama da saúde no Brasil: acesso e utilização dos serviços, condições de saúde e fatores de risco e proteção à saúde 2008 [Internet]. Rio de Janeiro: IBGE; 2010 [cited 2018 June 15]. Available from: http://bvsms.saude.gov.br/bvs/publicacoes/nad_panorama_saude_brasil.pdf

5. Melo Ak, Siebra AJ, Moreira V. Depression in Adolescents: review of the literature and the place of phenomenological research. *Psicol cienc prof.* 2017 Jan; 37(1):18-34. Doi: <http://dx.doi.org/10.1590/1982-37030001712014>

6. World Health Organization. Saúde para os adolescentes do mundo: uma segunda chance na segunda década. Geneva: WHO; 2014.

7. Coutinho MPL, Pinto AVL, Cavalcanti JG, Araújo LS, Coutinho ML. Relação entre depressão e qualidade de vida de adolescentes no contexto escolar. *Psic Saúde Doenças.* 2016 Dec; 17(3):338-51. Doi: <http://dx.doi.org/10.15309/16psd170303>

8. Moura IH, Silva AFR, Rocha AESH, Lima LHO, Moreira TMM, Silva ARV. Construction and validation of educational materials for the prevention of metabolic syndrome in adolescents. *Rev Latino-Am Enfermagem.* 2017 Oct; 25: e2934. Doi: <http://dx.doi.org/10.1590/1518-8345.2024.2934>.

9. Cortes CT, Rangel YN, Tuya ASS. El uso de las TIC en las prácticas académicas de los profesores de la Benemérita Universidad Autónoma de Puebla. *REDIE.* 2017 sept;19(3): 115-25. Doi: <http://dx.doi.org/10.24320/redie.2017.19.3.1270>.

10. Baldoino LS, Silva SMN, Ribeiro AMN, Ribeiro EKC. Health education for adolescents in the school context: a related experience. *J Nurs UFPE on line.* 2018 Apr; 12(4):1161-7. Doi: <http://dx.doi.org.ez292.periodicos.capes.gov.br/10.5205/1981-8963-v12i4a230656p1161-1167-2018>

11. Garmy P, Berg A, Clausson EK. Supporting positive mental health development in adolescents with a group cognitive intervention. *Br J Sch Nurs.* 2014 Feb; 9(1):24-9. Doi: [10.12968/bjsn.2014.9.1.24](https://doi.org/10.12968/bjsn.2014.9.1.24).

12. Freire P. Não há docência sem discência. In: Freire P. *Pedagogia da autonomia: saberes necessários à prática educativa.* São Paulo: Paz e Terra; 2014. p. 12-20.

13. Viero VSF, Farias JM, Ferraz F, Simões PW, Martins JA, Ceretta LB. Health education with adolescents: analysis of knowledge acquisition on health topics. *Esc Anna Nery Rev Enferm.* 2015 July/Sept; 19(3):484-90. Doi: <http://dx.doi.org/10.5935/1414-8145.20150064>.

14. Souza V, Gazzinelli MF, Soares AN, Fernandes MM, Oliveira RN, Fonseca RM. The game as strategy for approach to sexuality with adolescents: theoretical-methodological reflections. *Rev Bras Enferm.* 2017 Apr; 70(2): 376-83. Doi: <http://dx.doi.org/10.1590/0034-7167-2016-0043>

15. Barreto RMA, Cavalcante ASP, Mira QLM, Vasconcelos MIO, Brito MCC. Shares in health education for public teen: an integrative review. *Rev APS [Internet].* 2016 Apr/June [cited 2018 June 15]; 19(2): 277-85. Available from: <https://aps.ufjf.emnuvens.com.br/aps/article/view/2475/974>

16. Gurgel SS, Taveira GP, Matias EO, Pinheiro PNC, Vieira NFC, Lima FET. Educational games: didactic resources utilized at teaching health education classes. *REME rev min enferm.* 2017 Oct;21:e-1016. Doi: [10.5935/1415-2762.20170026](https://doi.org/10.5935/1415-2762.20170026)

17. Baghaei N, Nandigam D, Casey J, Direito A, Maddison R. Diabetic Mario: Designing and Evaluating Mobile Games for Diabetes Education. *Games Health J.* 2016 Aug ;5(4):271-8, 2016. Doi: <https://doi.org/10.1089/g4h.2015.0038>.

18. Deguirmendjian SC, Miranda FM, Zem-Mascarenhas SH. Serious Game desenvolvidos na Saúde: Revisão Integrativa da Literatura. *J Health Inform [Internet].* 2016 July/Sept [cited 2018 June 15]; 8(3):110-6. Available from: <http://www.jhi-sbis.saude.ws/ojs-jhi/index.php/jhi-sbis/article/view/410/267>

19. Lima VV. Espiral construtivista: uma metodologia ativa de ensino-aprendizagem. *Interface comun saúde educ.* 2017 June; 21(61): 421-34. Doi: <http://dx.doi.org/10.1590/1807-57622016.0316>

Submission: 2018/05/12

Accepted: 2018/12/14

Publishing: 2019/01/01

Corresponding Address

Marcelo Costa Fernandes
Universidade Federal de Campina Grande
Unidade Acadêmica de Enfermagem
Rua Sérgio Moreira de Figueiredo s/n - Casas
Populares
CEP: 58900-000 - Cajazeiras (PB), Brazil