Caring for a university community during the COVID-19 pandemic: Development of an online psychological support service (UCare)

pacja.org.au/2021/04/caring-for-a-university-community-during-the-covid-19-pandemic-development-of-an-online-psychological-support-service-ucare

Ana Sofia Caetano, Maria João Martins, Ana Carvalhal de Melo & António Queirós

Introduction

SARS-CoV-2, the virus responsible for the new COVID-19 disease, was initially detected in December of 2019. It rapidly spread all over the world, obliging the World Health Organization (WHO) to recognise the emergency of a pandemic on March 11, 2020. On September 10, 2020, there were approximately 28 million people already infected and more than 900,000 deaths across the world (Worldometers, 2020). In Portugal, the first detected case was reported on March 2, 2020 (Directorate-General for Health [DGH], 2020). By March 18 a state of emergency was declared, imposing a set of national preventive actions: closing universities, schools, public spaces, and nonessential businesses, along with measures that entailed physical distancing, national travel restrictions, and home-confinement, among others (European Centre for Disease Prevention and Control [ECDC], 2020).

Although these measures were deemed effective to control the spread of COVID-19, studies from previous outbreaks with implementation of similar actions, such as during the SARS or the Ebola outbreaks, have shown that they increase affected population levels of anxiety, depression, post-traumatic stress, anger issues, and sleep disturbances (Jeong et al., 2016; Wu et al., 2005; Ribeiro et al., 2020; Reynolds et al., 2008). These negative consequences to mental health were further reinforced by: the dissemination of the disease, with increasing numbers of infected cases; the exhaustive and often non-scientific media coverage, which spread fear and uncertainty; and, a shortage of available psychology and psychiatric support mechanisms (Tan et al., 2020; Hao et al., 2020, Tran et al. 2020a).

Supporting the Higher Education Community's Mental Health

The University of Coimbra (UC), Portugal, founded in 1290, has over 25,000 students (20% of whom are international students) and employs around 3,300 people (academic, research, and technical staff). The number of students enrolled in different course types are displayed in Table 1.

Table 1: University of Coimbra’s Distribution of Students by Course Type

	N	%
Undergraduate	9,912	37.2 %
Masters	10,920	41.1%
Doctoral	2,885	10.8%
Non graduate / Training	2,906	10.9%

UC runs its own healthcare clinical centre, providing health care support to the community. Mental health wellbeing is one of the main areas of focus. A multidisciplinary team, including nurses, psychologists, general practitioners, and psychiatrists, develops specifically-designed programs to prevent and treat mental health problems, which are a growing concern in higher education. In fact, several studies have shown there is a higher-than-average probability of developing mental disorders in early adult life, mainly during the period in which many attend university (Auerbach et al., 2018; Karwig, Chambers & Murphy, 2014; Mowbray et al., 2006; Neves & Dalgalarrondo, 2007; Wittchen, Nelson & Lachner, 1998). Several reports have shown an increase in the severity and number of mental health problems in university students (Cook, 2007; Karwig et al., 2014; Osberg, 2004; Silveira, Norton, Brandão & Roma-Torres, 2011). Risk factors for the development of mental health problems during this period include adaptation to new learning and living contexts away from family and usual friends, new peer acceptance challenges, time management, financial concerns, and future employment perspectives (Auerbach et al., 2018; Bewick, Koutsopoulou, Miles, Slaa & Barkham, 2010; Cook, 2003; Hill, Farrelly, Clarke & Cannon, 2020; Karwig et al., 2014; Silveira et al., 2011; Verger et al., 2008). Therefore, higher education institutions must provide easily accessible health services specialised in the specificities of their communities. These services aim to detect and intervene in psychopathology, reducing academic failure (Auerbach et al., 2018; Kitzrow, 2003; Mowbray et al., 2006; Silveira et al., 2011; Wang et al., 2020).

COVID-19 Protective Measures Impact on Higher Education

In Portugal, the suspension of on-site teaching activities in higher education institutions due to the declaration of the state of emergency and consequent mandatory quarantine created new academic challenges, the major one being the need to adapt to a new online “non-stop learning” system (Sun & Su, 2020). Research showed that this caused profound changes in the community’s routine, increasing uncertainty levels and psychological vulnerability (Jurcik, et al., 2020; Wang et al., 2020).

Even though the overall impact of the pandemic on education and mental health of the university members is still undetermined, some studies have begun to show that it might be considerable (Tang, et al., 2020; Wang et al., 2020). Given these expected effects, the development and implementation of psychological interventions in universities, aimed at diminishing the emotional consequences on its community members, seems crucial (Odriozola-González, Planchuelo-Gómez, Irurtia & De Luis-García , 2020; Maia & Dias, 2020). The improvement of psychological support services in the context of universities' health and counselling services is therefore mandatory, directing special attention to students finishing their degrees, those whose relatives or friends are isolated or infected, and those facing financial difficulties. Services should help students to maintain or adopt healthy lifestyle behaviours, such as good study and sleep habits, physical exercise (Sun & Su, 2020), and preventing social isolation (Hu & Huang, 2020). Online interventions, including psychotherapy and psychological support, have been privileged and are especially useful to reach individuals in prophylactic isolation or mandatory quarantine (Erekson, Bailey, Cattani, Fox & Goates-Jones, 2020; Zhou et al., 2020). The potential of online solutions in reducing the consequences of COVID-19 has already been documented (Zhou et al., 2020), and meta-analyses have shown no significant differences between in-person and online therapy outcomes (Barak, Hen, Boniel-Nissim & Shapira, 2008; Berger, 2017; Price-Robertson, Bloch-Atefi, Snell, Day & O'Neill, 2020).

The Present Paper

In March 2020, UC's Healthcare Services' Mental Health Team, anticipating the possibility of an imposed confinement declaration, developed an emotional support service available to the UC community, UCare. The present paper intends to share the experience of implementing this new instrument to address the perceived needs of the academic community. Demographic information about service users is presented, an outline of interventions offered is provided, and users' perspectives are evaluated. Implications and future directions are discussed.

UCare: A Psychological Support Service

UCare, launched on the first day of the mandatory confinement, was designed to respond to the challenges and symptomatology brought about by the pandemic context, as well as to maintain compliance with preventive and protective measures. Proposed interventions took into consideration national and international recommendations for this kind of service (i.e., DGH, 2020; WHO, 2020; Order of Portuguese Psychologists [OPP], 2020). Individual sessions were delivered by psychologists through video calls, audio, or text. Information on coping skills and emotional regulation strategies was offered, providing preventive or remediation interventions for emotional suffering. UCare also developed and disseminated psycho-educational materials specially designed to help the community deal with the emerging challenges. Data was collected to characterise the population seeking the services of UCare, reasons for contact, and performed interventions. An evaluation of the service was achieved through users'' feedback obtained by an online questionnaire. UCare was advertised through UC's formal communication channels and

social networks. All members of the UC community (students, teachers, technical staff, and family members) were eligible to use the service. Appointments were scheduled by email, usually taking place during the same week.

User Characteristics

Between March 20 and July 22, 2020, 56 users contacted UCare. Ninety one percent of the users were students, while the remaining 9% were researchers. Female users were more prevalent (see Table 2). The mean age was around 28 years old (see Table 3). The majority of students were undergraduate, followed by doctoral students (see Table 4). A significant number of support requests (61.4%) were made by the UC's international members: 31 (54.4%) were Brazilian, 1 (1.8%) Chilean, 1 (1.8%) Ecuadorian, and 1 (1,8%) Chinese (see Table 5).

Table 2: Users' Gender Distribution

Gender	n	%
Male	16	28.6
Female	40	71.4

Table 3: Users' Age Distribution

M	SD	Min	Max
28.19	8.06	18	49

Table 4: Student Users' Course Types

Undergraduate degree (%)	Master degree (%)	Doctoral degree (%)	Non-graduate training (%)
50.98	17.65	29.41	1.96

Table 5: Prevalence of Portuguese and International Users

Portuguese users (%)	International users (%)
38.6	61.4

Direct Support

Direct intervention was conducted through individual online sessions, which ranged from 30 to 60 minutes in duration, and which were delivered by clinical psychologists. Users were asked to choose one of the available intervention formats, providing their desired level of anonymity and context convenience . At the beginning of sessions, general data was collected (e.g., age, academic information, and nationality), which was used for population characterisation purposes only, and the UCare aims and interventions were explained. A checklist, developed to register the reasons for contact, major complaints or concerns, and performed interventions, was used.

Ninety individual sessions were provided: 75.4% through video calls, 19.3% on audio, and 5.3% using text. Sixty-seven percent of the users had a single session, 17% had two sessions, and 19% had three to eight sessions.

Reasons for Contact

Users mainly reported concerns regarding academic issues (50%), time management difficulties during isolation or confinement (42.7%), anxiety (42.7%), isolation (39%), sleep disorders (23%), fear of infection (21%), and exacerbation of previous psychopathology (21%) (more than one reason could be selected). The majority of users (71%) reported other concurrent difficulties, including depression symptoms raised by isolation or confinement, financial status' worries, concerns with infected loved ones and fears from having been in contact with someone infected, information requests about available mental health services, decision-making (i.e. change of area of studies, enrolment in an exchange program, quitting the PhD program), family problems exacerbated by confinement, medical doubts about COVID-19, self-discovery processes, and compulsive eating.

Interventions Provided

Interventions were not intended to psychotherapeutically address psychopathological symptoms. Rather, the aims were: to provide information; to help users reach emotional stabilisation; and, to provide mental health, lifestyle, and academic strategies to be used in the short-term. Interventions included emotional debriefing (85.7%), time management strategies (57%), emotional regulation (37.5%), sleep quality improvement techniques (26.8%), guided practice of emotional regulation strategies (14.3%), and, in some cases, emotional stabilisation (12.5%). Information about how to manage procrastination (12.5%) and symptoms from previously existing psychopathology (12.5%) was also provided. In 53.6% of cases, strategies were given: how to manage uncertainty; the importance of maintaining a routine, good work and study methods, and leisure and relaxation activities; information about healthy relationships (professional or personal); helping others to manage emotions; adoption of protective behaviours to minimise the risk of infection; and information about UC's Healthcare Services' clinical psychology services. These interventions were not mutually exclusive and were usually combined.

Materials Provided

Alongside individual sessions, the UCare team made available a set of materials (i.e., flyers, tip sheets, monitoring records, and tutorials) developed to provide information on common difficulties. Over a quarter (28.6%) of UCare users were provided with tip sheets. Over half of users (53.6%) were provided with flyers on topics such as study methods (21.4%), procrastination (17.9%), sleep hygiene (12.5%), and healthy lifestyles (1.8%). A smaller proportion of users were provided with monitoring records and tutorials about breathing (9%) and relaxation techniques (5.4%).

Referrals

At the end of each session, psychologists assessed the need to reschedule a new UCare session or to provide referral to a specialised appointment in UC Health Services. Thirty four percent of users were referred to UC Health Services' clinical psychology services and 5.4% to UC Health Service's medical or nursing services. Thirty percent scheduled a new UCare session and 10.17% were instructed to contact UCare again if needed (without a previously scheduled appointment). In 3.5% of cases, users were counselled to contact the National Health Service telephone support line (SNS24). In 1.8% of cases, users were instructed how to explore credible online sources of information.

Indirect Support

UCare also offered indirect interventions. A "week with UCare" initiative was organised, releasing daily online information on a variety of themes: behavioural, cognitive, social, mastery and pleasure tasks, and meditational and emotional strategies, all of which were specifically designed to assist users to face the challenges of confinement and pandemic context. Several webinars, workshops, and training sessions were also held, mainly organised as answers to student associations' requests.

UCare User Satisfaction Survey

The UCare project and users' satisfaction survey were approved by an evaluation committee of the Portuguese Psychologists' Board.

An online survey was conducted to measure UCare users' levels of satisfaction with the intervention. Using 5-point Likert scales, the survey measured the following parameters: satisfaction and usefulness of the care provided; usefulness of the information, exercises, or strategies delivered/practiced; probability of using the service again in case of need; and probability of recommending the service to other people. A link to the survey was provided to users right after their first UCare session, and only once. A total of 46 (82.1% of UCare users) questionnaires were received.

Table 6: Perceived Usefulness of UCare

	Provided Information (%)	Provided exercises and strategies (%)	General Assessment (%)

Not useful	0	0	0
Somewhat useful	0	2.2	0
Useful	10.9	13	10.9
Moderately useful	41.3	50	32.6
Very useful	47.8	34.8	54.3

As shown in Table 6, all users (100%) considered the provided information “useful,” “moderately useful,” or “very useful,” and 97.8% evaluated strategies and exercises recommended in the same manner. On a global assessment, 100% of users also evaluated the UCare appointment as “useful,” “moderately useful,” or “very useful”. Satisfaction levels were also unanimously positive: 63% were “extremely satisfied,” 26.1% “moderately satisfied” and 10.9% “satisfied”.

Table 7: Information About Other Indicators of UCare Acceptability

	Establish new contact with UCare in case of need (%)	Recommend UCare to a friend (%)
Not probable	0	0
Somewhat probable	4.3	0
Probable	15.2	2.2
Moderately probable	23.9	34.8
Extremely probable	56.5	63

As shown in Table 7, all users considered the hypothesis to establish a new contact, if needed, with 56.5% declaring it as “extremely probable”. Similarly, 63% indicated it was “extremely probably” that they would recommend UCare to a friend.

Discussion

Facing the enormous changes and challenges brought by the COVID-19 pandemic and their expected psychosocial impact, universities were challenged to find ways to provide emotional support to their communities. Due to national compulsory confinement, in March 2020 UC embraced a pedagogical shift, adopting on-line learning approaches. The UC Healthcare Services developed a set of online emotional support interventions intended to help its community to cope with psychosocial challenges raised by the pandemic and consequent protective measures, UCare. This paper has shared UC's experience of developing and implementing UCare, intending to provide the reader with a demographic characterisation of its users and early data on their perception.

UCare was predominantly used by students. This is congruent with the usual challenges and psychological stressors of early adulthood in general (Cook, 2003; Silveira et al., 2011; Verger et al., 2009), and specifically the vulnerability to psychological impact regarding the pandemic (Jurcik, et al., 2020; Wang et al., 2020). Having PhD students account for approximately one third of UCare users (while being scarcely more than 10% of the student population) highlights the need to focus attention and develop specific interventions for this group (Sun & Su, 2020).

The majority of users had only one contact with UCare. Engagement in a single session is common in this type of service. UCare intends to support users (the majority without identified psychopathology) providing coping tips, psychoeducational materials, and training in brief and simple emotional regulation strategies. Autonomy to use these skills is strongly encouraged, although scheduling further sessions is possible.

The existence of UCare has brought to light several difficulties and challenges the UC community currently faces. The most prevalent problems were connected to academic difficulties (e.g., changes in academic goals and deadlines). This is in line with challenges identified for this specific period, such as the need to adapt to new teaching-learning methodologies, tools, and routines (Sun & Su, 2020), which have the potential to increase uncertainty and consequently psychological distress (Jurcik, et al., 2020; Wang et al., 2020). International research has stated that the adaptation to new formats of teaching and learning is an important stressor in these communities (Dewaele, Magdalena, & Saito, 2019; Rohman, Marji, Sugandi & Nurhadi, 2020). With the pandemic evolution and the expected requirement to maintain physical distancing, the need to help the community manage worry and uncertainty, particularly regarding the academic area, seems the main focus to be addressed. Similarly, other relevant and ongoing issues are providing information about how to set boundaries while working or studying from home, time management enhancement skills, and tackling procrastination. UCare was used to transmit information about how to maintain healthy lifestyle behaviours, improve sleep hygiene, and reduce anxiety and fear of infection. The importance of university health services providing information on these issues during the pandemic has been already stressed (Sun & Su, 2020).

It is worth acknowledging some limitations of the presented results. The relatively small sample size and its non-representative nature limit the generalisability of results. The outcomes should be interpreted with caution due to their preliminary nature. UCare is still available and used by the UC community, therefore collected data is expected to become more robust. Nevertheless, early dissemination of findings may show to other universities the feasibility of the implementation of such a service in a short period. The results do not allow inferring the efficacy or the impact of the interventions provided, which would only be possible through controlled or longitudinal studies. Considering the type of service provided by UCare, where the need to preserve anonymity is a keystone, it was impossible to establish follow up contacts. Users completed the online satisfaction questionnaire only once, after the first session, since it would not be feasible to control which ones would still be engaging afterwards. This fact can possibly lead to higher likelihood of indicating satisfaction rather than dissatisfaction.

Notwithstanding the mentioned limitations, the study has important strengths, namely: highlighting the timely development and provision of a psychological support line for a university community; the different formats available for the intervention (text, audio or video calls); the broad nature of the inclusion criteria (UCare is not a student-only line); and, the extremely positive results obtained in the user satisfaction survey. Furthermore, UCare has allowed the early identification of potential risk groups as well as different types of psychopathology on a considerable number of users, who were promptly referred to clinical psychology or medical appointments.

UCare's team reflection concluded for the need to maintain the support line, which in fact is still being used by the community at the time of publication. Lessons learned from the implementation of UCare created the opportunity to develop new answers to emerging challenges. As an example, this experience resulted in the provision of online psychology appointments—a completely new reality for UC. Further psychological care is being given to some of the UCare users through webinars and online sessions. The importance of developing training or therapeutic group sessions focused on specific themes has emerged as another way of delivering interventions. In the future, special attention will be given to post-graduate students, especially PhD students, promoting the adoption of active integration mechanisms in the community, and aiming to diminish the pervasive effects of competitiveness and perfectionism, among others. In order to reduce stigma among the general and academic community, mental health literacy initiatives will be developed and implemented. The predicted return to classes inside UC premises, in the beginning of the academic year, will increase social contacts, which can be a challenge for maintaining preventive measures (i.e., social distancing and mask wearing). Thus, online sessions where students can practice assertive communication might stand as an opportunity to promote a safer interactional context in UC.

In conclusion, UCare seems to be a useful resource to prevent and diminish emotional difficulties, thus improving the UC community's mental health. The UCare implementation also allowed UC to identify the challenges the community is currently facing, which in turn

facilitated the development of specific measures to address them. It is hoped that other universities can benefit from the outline of UCare offered in this paper.

Authors

Ana Sofia Caetano *(Master in Clinical Psychology) is a psychologist working at University of Coimbra's Health Services. Her main clinical interests focus on the development of iniciatives to prevent mental health issues among the academic population and on psychotherapeutic interventions with adults, based on cognitive-behavioral and third-generation models.*

Maria João Martins *(PhD in Clinical Psychology) is a clinical psychologist working at University of Coimbra's Health Services. Her main clinical interests include implementing and evaluating psychotherapeutic and preventive interventions, in individual and group formats, particularly with young adults.*

Ana Carvalhal de Melo *has a degree in Psychology from the Faculty of Psychology and Educational Sciences of the University of Coimbra and a Master in Clinical Cognitive-Behavioral and Systemic Psychology from the same faculty. She is a psychologist at the Health Services of the University of Coimbra, a psychodrama director by the Portuguese Society of Psychodrama, and a family therapist by the Portuguese Society of Family Therapy. Her main clinical interests are anxiety disorders, in particular performance anxiety.*

António Queirós *(Master in Occupational Medicine) is a physician and Director of the University of Coimbra's Health Services, a clinical centre that provides health care support to the community. He leads a multidisciplinary team, which includes nurses, psychologists, general practitioners, psychiatrists, gynaecologists, ophtalmologists, occupational health physicians, and dentists. As a doctor, he provides general practice, occupational medicine, and travel medicine appointments.*

References

Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., et al. (2018). The WHO Mental Health Surveys International College Student Project (WMH-ICS): Prevalence and distribution of mental disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 57*(10), S297. https://doi.org/10.1016/j.jaac.2018.07.723

Barak, A., Hen, L., Boniel-Nissim, M., & Shapira, N. (2008). A comprehensive review and a meta-analysis of the effectiveness of internet-based psychotherapeutic interventions. *Journal of Technology in Human Services*, *26*(2-4), 109-160. https://doi.org/10.1080/15228830802094429

Bewick, B., Koutsopoulou, G., Miles, J., Slaa, E., Barkham, M. (2010). Changes in undergraduate students' psychological well-being as they progress through university. *Studies in Higher Education 35*, 633–645. https://doi.org/10.1080/03075070903216643

Berger, T. (2017). The therapeutic alliance in internet interventions: A narrative review and suggestions for future research. *Psychotherapy Research, 27*(5), 511-524. https://doi.org/10.1080/10503307.2015.1119908

Cook, L. J. (2007). Striving to help college students with mental health issues. *Journal of Psychosocial Nursing and Mental Health Services*, *45*(4), 40-44. https://doi.org/10.3928/02793695-20070401-09

Dewaele, J., Magdalena, A. F., & Saito, K. (2019). The effect of perception of teacher characteristics on Spanish EFL learners' anxiety and enjoyment. *The Modern Language Journal*, *103*(2), 412-427. https://doi.org/10.1111/modl.12555

Directorate-General for Health. (2020). Directorate-General for Health. https://covid19.min-saude.pt/

European Centre for Disease Prevention and Control (2020). Joint European roadmap towards lifting COVID-19 containment measures. European Centre for Disease Prevention and Control. https://ec.europa.eu/info/sites/info/files/communication_ _a_european_roadmap_to_lifting_coronavirus_containment_measures_0.pdf

Erekson, D. M., Bailey, R. J., Cattani, K., Fox, S. T., & Goates-Jones, M. K. (2020). Responding to the COVID-19 pandemic at a university counseling center: Administrative actions, client retention, and psychotherapy outcome. *Counselling Psychology Quarterly*, 1-15. https://doi.org/10.1080/09515070.2020.1807914

Hao, F., Tan, W., Jiang, L., Zhang, L., Zhao, X., Zou, Y., Hu, Y., Luo, X., Jiang, X., McIntyre, R. S., Tran, B., Sun, J., Zhang, Z., Ho, R., Ho, C., & Tam, W. (2020). Do psychiatric patients experience more psychiatric symptoms during COVID-19 pandemic and lockdown? A case-control study with service and research implications for immunopsychiatry. *Brain Behavior and Immunity*, *87*, 100–106. [published online ahead of print, 2020 Apr 27]. https://doi.org/10.1016/j.bbi.2020.04.069

Hill, M., Farrelly, N., Clarke, C., & Cannon, M. (2020). Student mental health and well-being: Overview and future directions. *Irish Journal of Psychological Medicine*, 1-8. https://doi.org/10.1017/ipm.2020.110

Hu, B., & Huang, X. (2020). Connectedness under social distancing – a support group practice report. *Counselling Psychology Quarterly*, 1-8. https://doi.org/10.1080/09515070.2020.1782841

Jeong, H., Yim, H. W., Song, Y., Ki, M., Min, J., Cho, J., & Chae, J. (2016). Mental health status of people isolated due to Middle East respiratory syndrome. *Epidemiology and Health*, *38*, e2016048. https://doi.org/10.4178/epih.e2016048

Jurcik, T., Jarvis, G. E., Zeleskov Doric, J., Krasavtseva, Y., Yaltonskaya, A., Ogiwara, K., Sasaki, J., Dubois, S., & Grigoryan, K. (2020). Adapting mental health services to the COVID-19 pandemic: Reflections from professionals in four countries. *Counselling*

Psychology Quarterly, 1-27. https://doi.org/10.1080/09515070.2020.1785846

Karwig, G., Chambers, D., Murphy, F. (2014). Reaching out in college: Help-seeking at third level in Ireland. ReachOut Ireland. https://au.reachout.com/wp-content/uploads/2015/11/research-report-final-lo-res.pdf

Kitzrow, M. A. (2003). The mental health needs of today's college students: Challenges and recommendations. *NASPA Journal*, *41*(1). https://doi.org/10.2202/0027-6014.1310

Maia, B. R., & Dias, P. C. (2020). Ansiedade, depressão e estresse em estudantes universitários: O impacto da COVID-19. *Estudos de Psicologia* (Campinas), *37*. https://doi.org/10.1590/1982-0275202037e200067

Mowbray, C. T., Megivern, D., Mandiberg, J. M., Strauss, S., Stein, C. H., Collins, K., Kopels, S., Curlin, C., & Lett, R. (2006). Campus mental health services: Recommendations for change. *American Journal of Orthopsychiatry*, *76*(2), 226-237. https://doi.org/10.1037/0002-9432.76.2.226

Neves, M. C., & Dalgalarrondo, P. (2007). Transtornos mentais auto-referidos em estudantes universitários. *Jornal Brasileiro de Psiquiatria*, *56*(4), 237-244. https://doi.org/10.1590/S0047-20852007000400001

Odriozola-González, P., Planchuelo-Gómez, Á., Irurtia, M. J., & De Luis-García, R. (2020). Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Research*, *290*, 113108. https://doi.org/10.1016/j.psychres.2020.113108

Order of Portuguese Psychologists. (2020). Order of Portuguese Psychologists. https://www.ordemdospsicologos.pt/pt/covid19

Osberg, T. M. (2004). A business case for increasing College mental health services. *Behavioral Health Management*, *24*(55), 33-36.

Price-Robertson, R., Bloch-Atefi, A., Snell, T., Day, E., & O'Neill, G. (2020). Reflections on psychotherapy and counselling from COVID-19 lockdown. *Psychotherapy and Counselling Journal of Australia*, *8*(1).

Reynolds, D., Garay, J., Deamond, S., Moran, M., Gold, W., & Styra, R. (2007). Understanding, compliance and psychological impact of the SARS quarantine experience. *Epidemiology and Infection*, *136*(7), 997-1007. https://doi.org/10.1017/S0950268807009156

Ribeiro, E., Sampaio, A., Gonçalves, M. M., Taveira, M. D., Cunha, J., Maia, Â., Matos, M., Gonçalves, S., Figueiredo, B., Freire, T., & Soares, T. (2020). Telephone-based psychological crisis intervention: The Portuguese experience with COVID-19. *Counselling Psychology Quarterly,* 1-15. https://doi.org/10.1080/09515070.2020.1772200

Rohman, M., Marji, Sudjimat, D. A., Sugandi, R. M., & Nurhadi, D. (2020). Online learning in higher education during Covid-19 pandemic: Students' perceptions. *Journal of Talent Development and Excellence*, *12*(1). https://doi.org/10.18662/rrem/12.1sup2

Silveira, S., Norton, A., Brandão, I., & Roma-Torres, A. (2011). Saúde mental em estudantes universitários, *Acta Medica Portuguesa*, *24*(S2): 247-256.

Sun, Q., & Su, Y. (2020). Psychological crisis intervention for college students during novel coronavirus infection epidemic. *Psychiatry Research*, *289*, 113043. https://doi.org/10.1016/j.psychres.2020.113043

Tan, B., Chew, N., Lee, G., Jing, M., Goh, Y., Yeo, L., Zhang, K., Chin, H., Ahmad, A., Khan, F., Shanmugam, G., Chan, B., Sunny, S., Chandra, B., Ong, J., Paliwal, P., Wong, L., Sagayanathan, R., Chen, J., Ying Ng, A., . . . Sharma, V. (2020). Psychological impact of the COVID-19 pandemic on health care workers in Singapore. *Annals of Internal Medicine*. [published online ahead of print, 2020 Apr 6]. https://doi.org/10.7326/M20-1083

Tang, W., Hu, T., Hu, B., Jin, C., Wang, G., Xie, C., Chen, S., & Xu, J. (2020). Prevalence and correlates of PTSD and depressive symptoms one month after the outbreak of the COVID-19 epidemic in a sample of home-quarantined Chinese university students. *Journal of Affective Disorders*, *274*, 1-7. https://doi.org/10.1016/j.jad.2020.05.009

Tran, B. X., Dang, A. K., Thai, P. K., Le, H. T., Le, X. T. T., Do, T. T., Nguyen, T. H., et al. (2020). Coverage of health information by different sources in communities: Implication for COVID-19 epidemic response. *International Journal of Environmental Research and Public Health*, *17*(10), 3577–3589. https://doi.org/10.3390/ijerph17103577

Verger, P., Combes, J., Kovess-Masfety, V., Choquet, M., Guagliardo, V., Rouillon, F., & Peretti-Wattel, P. (2008). Psychological distress in first year university students: Socioeconomic and academic stressors, mastery and social support in young men and women. *Social Psychiatry and Psychiatric Epidemiology*, *44*(8), 643-650. https://doi.org/10.1007/s00127-008-0486-y

Wang, Z., Yang, H., Yang, Y., Liu, D., Li, Z., Zhang, X., Zhang, Y., Shen, D., Chen, P., Song, W., Wang, X., Wu, X., Yang, X., & Mao, C. (2020). Prevalence of anxiety and depression symptom, and the demands for psychological knowledge and interventions in college students during COVID-19 epidemic: A large cross-sectional study. *Journal of Affective Disorders*, *276*, 1173. https://doi.org/10.1016/j.jad.2020.07.116

Wittchen, H. U., Nelson, C. B., & Lachner, G. (1998). Prevalence of mental disorders and psychosocial impairments in adolescents and young adults. *Psychological Medicine*, *28*(1), 109-126. https://doi.org/10.1017/S0033291797005928

World Health Organization. (2020). Considerations in adjusting public health and social measures in the context of COVID-19: Interim guidance. World Health Organization. https://apps.who.int/iris/handle/10665/331773

Worldometers. (2020, April 7). COVID-19 coronavirus pandemic: Coronavirus cases. Worldometers. https://www.worldometers.info/coronavirus/#countries

Wu, K. K., Chan, S. K., & Ma, T. M. (2005). Posttraumatic stress, anxiety, and depression in survivors of severe acute respiratory syndrome (SARS). *Journal of Traumatic Stress*, *18*(1), 39-42. https://doi.org/10.1002/jts.20004

Zhou, X., Snoswell, C. L., Harding, L. E., Bambling, M., Edirippulige, S., Bai, X., & Smith, A. C. (2020). The role of telehealth in reducing the mental health burden from COVID-19. *Telemedicine and E-Health*, *26*(4), 377–379. https://doi.org/10.1089/tmj.2020.0068

Return to Articles