

# Improving Access to Mental Health Care through a Stepped Care Approach: Preliminary Results from a University Students' Sample

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## Keywords

Accessibility · Stepped care · Mental health care · University students · Prevention · Psychological therapies

## Abstract

**Introduction:** Recently, university counseling services have been faced with an increasing number of students seeking psychological support. However, human resources and time constraints limit the services to respond adequately. Recently, national guidelines for Mental Health Services in Higher Education recommended the stepped care approach to increase efficiency. The present study aimed to explore the implementation of a stepped care model in a Portuguese public university, analyzing students' sociodemographic and clinical characteristics, and presenting the flow of the stepped care approach and the students' waiting periods in each step. **Methods:** An observational study was conducted in the University of Coimbra's health services between May 2019 and June 2021. Descriptive statistics were performed to describe the sociodemographic and clinical characteristics of the sample, the flow of the stepped care approach, and students' waiting

periods. **Results:** We enrolled 295 students in the present study. The findings of this study revealed that over 40% had a clinical diagnosis of anxiety or depressive disorders. In terms of students' flow within the stepped care model, 82% of students sought psychological help through self-referral. Concerning the implementation of the stepped care model, results have shown that most students wait less than a month to access each step. **Discussion/Conclusions:** Although preliminary, our results suggest that the stepped care model might be a useful service organization, mainly in a community in which accessibility to services and speed of response are particularly important. Most students being self-referred highlight the importance of direct contact between the university community and the health services. Additionally, anxiety and mood disorders were the most prevalent diagnoses in our sample, which also points to the relevance of a stepped care approach, since other studies have highlighted its advantages for this kind of clinical population.

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## Melhorar o acesso aos cuidados de saúde mental através do modelo 'Stepped care': resultados preliminares de uma amostra de estudantes universitários

### Palavras Chave

Acessibilidade · "Stepped care" · Cuidados de saúde mental · Estudantes universitários · Prevenção · Terapias psicológicas

### Resumo

**Introdução:** Os Serviços de Saúde no contexto do Ensino Superior têm-se deparado recentemente com um número crescente de estudantes que procuram apoio psicológico. Contudo, a insuficiência de recursos humanos e as limitações de tempo influenciam negativamente a resposta adequada dos serviços. Recentemente, as diretrizes nacionais para os serviços de saúde mental no ensino superior recomendaram a abordagem "Stepped care" para aumentar a eficiência das respostas. O presente estudo teve como objetivo explorar a implementação de um modelo "Stepped care" numa instituição do ensino superior pública portuguesa, analisando as características sociodemográficas e clínicas dos estudantes, o seu fluxo pelas várias respostas do "Stepped care" e os tempos de espera em cada patamar.

**Métodos:** Foi realizado um estudo observacional nos serviços de saúde da Universidade de Coimbra entre maio de 2019 e junho de 2021. Foi utilizada estatística descritiva com o objetivo de descrever as características sociodemográficas e clínicas da amostra, o fluxo dos estudantes pelas várias respostas do "Stepped care" e os tempos de espera. **Resultados:** Foram incluídos 295 estudantes neste estudo. Os resultados indicam que mais de 40% dos pacientes tinham diagnóstico clínico de ansiedade ou perturbações depressivas. Quanto ao fluxo dos estudantes pelas várias respostas do "Stepped care", 82% procuraram ajuda psicológica por iniciativa própria. No que diz respeito à implementação do modelo "Stepped care", os resultados mostraram que a maioria dos estudantes esperou menos de um mês para aceder a cada patamar. **Discussão/Conclusões:** Os nossos resultados, ainda que preliminares, sugerem que o modelo "Stepped care" pode ser uma abordagem útil na organização de serviços, principalmente numa comunidade em que a acessibilidade aos serviços e a brevidade de resposta são particularmente importantes. A maioria dos estudantes procurou ajuda psicológica por iniciativa

própria, o que realça a importância do contato direto entre a comunidade e os serviços de saúde. A elevada prevalência de diagnósticos de perturbações de ansiedade e de humor na nossa amostra, é outro fator que reforça a relevância da abordagem "Stepped care" neste contexto, tendo em conta que estudos anteriores demonstraram as vantagens do modelo em populações clínicas com estes diagnósticos.

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### Introduction

Implementing health services in higher education institutions entails a commitment to improving health as a multidimensional and holistic construct encompassing physical, psychological, emotional, and social well-being [1]. Due to advantages such as accessibility, proximity to students, and less stigmatization potential, clinical services based on university campuses have been privileged contexts to provide mental health care. These services offer, among other clinical and preventive interventions, psychoeducational or psychotherapeutic interventions in both individual and group formats. Psychological interventions to improve mental health and well-being among university students have been shown effective, particularly those cognitive-behavioral therapy-based, with effects sustained over time [2].

The vulnerabilities and challenges young adults face, particularly university students, are widely known. Several physiological and health, psychological, relational, sociodemographic, and lifestyle risk factors associated with poorer mental health have been identified. Also, factors related to higher education have been associated with poorer outcomes regarding mental health, such as academic environment and sexual harassment [3]. Research over the past years has reported an increase in the severity and number of mental health problems in university students [4]. Although the overall impact of the pandemic on the education and mental health of university students is still undetermined, the COVID-19 outbreak and consequent restrictions and adaptations have likely further contributed to higher levels of psychological distress in students [5–7]. Consequently, university counseling services have faced an increasing number of students seeking support, presenting more complex needs, while being constrained by a limited capacity to provide one-to-one support [8]. This has forced services to limit their services either in terms of the

interventions delivered, the population served, or increased waitlist times [9].

These limitations signal that the traditional counseling center model is not adequate to respond to university students' needs. Stepped care models, which provide services with a systematic yet flexible structure while acknowledging the challenge of limited resources, have been recommended in several primary healthcare services and are particularly relevant in university counseling services [10].

The stepped care model is an organized and flexible approach to healthcare delivery, aiming to offer interventions proportionate to users' needs, meaning that the health services provide the appropriate form and intensity of care for everyone. It is based on the assumptions that (a) people have needs that match different levels of care; (b) finding the optimal level of care often depends on monitoring outcomes; and (c) moving toward higher levels of care based on these outcomes often increases cost-effectiveness [11]. As it applies to mental health care, it is an organizing framework of treatment and intensity recommended by the National Institute for Health and Clinical Excellence (NICE), and it allows improved access to psychological interventions [12, 13]. In stepped care models, as per NICE recommendations, the least complex intervention is proposed first, starting with low-intensity treatments (brief therapies, group treatments, and self-help approaches), to clients with mild-to-moderate psychopathology, although a higher intensity treatment in the first instance can also be recommended for more complex and severe presentations and specific disorders (as assessed by the therapist).

Following these recommendations, the University of Coimbra, in which over 25,000 students are enrolled every year, runs its healthcare clinical center. Mental health has been one of its main areas of focus, and the stepped care model was implemented in May 2019. This university health service works as a multidisciplinary team, including nurses, psychologists, general practitioners (GPs), and psychiatrists. Recently, in Portugal, the Ministries of Science, Technology and Higher Education; Health; and Parliamentary affairs launched the Programme for the Promotion of Mental Health in Higher Education [14]. This program which includes a detailed document with recommendations for clinical services within academic settings recommends the implementation of the stepped care approach in all mental health settings based in Portuguese higher education institutions [15].

The present study aimed to present preliminary results on the implementation of a stepped care approach to psychological services in the University of Coimbra's

health services. The aims were three-fold: to explore the implementation of the stepped care model, analyzing students' sociodemographic and clinical characteristics, presenting flow of the stepped care approach, and the patient's waiting periods in each step.

## Population and Methods

### *Type of Study and Population/Sampling*

This study is part of a larger project "*Implementing a stepped care model in providing mental health care for a university community*" that aimed at implementing the stepped care approach throughout a longer period with efficacy studies for the different therapeutic responses. This larger project was approved by the Ethics Committee of the Faculty of Medicine of the University of Coimbra (CE-106/2020). The present study followed an observational design. The sample was collected at the health services of the University of Coimbra, from May 2019 until June 2021. Inclusion criteria were being University of Coimbra's students and attending the psychology appointment. Exclusion criteria included not having an age above 18 years old and not being able to understand the Portuguese language.

### *Procedure*

Participants were recruited when seeking, or being referred to, the clinical psychology appointment. After recruitment, participants were enrolled in the different therapeutic options of the stepped care approach according to their needs and assessed at every step using different instruments (see below the procedure for each step).

### *University of Coimbra's Health Services' Stepped Care Approach*

In the majority of the cases, users seek the clinical psychology appointment via e-mail (self-referrals [SR]). When the e-mail content indicates thoughts or behaviors of self-harm or thoughts about death/suicide, the user skips automatically steps 1 and 2.

### *Step 1: StressLess*

StressLess is a brief online asynchronous self-help intervention that comprises 4 weekly emotional regulation-focused sessions. It aims at providing patients in the waitlist a set of practical emotional regulation strategies and information on psychological well-being. The psychology team contacts each patient before and after the intervention to clarify the procedures, and the team is available by e-mail during the 4 weeks.

**Table 1.** Interventions of low-to-moderate intensity

Groups	Referral	Format	Type
Psychotherapeutic group for anxiety	Through screening and psychology triage	Online	Acceptance, mindfulness, and compassion-based approach to anxiety symptoms
Psychotherapeutic group for depression	Through screening and psychology triage	Face-to-face	Cognitive-behavioral group therapy for depressive symptoms
Personal wellness group	Self-Referral	Face-to-face	Personal and academic coaching program
PhD wellness group	Self-Referral	Online	Skills promotion group for PhD students

*Step 2: Screening*

It consists of a brief structured evaluation using a checklist aiming at screening general symptomatology. This screening intends to reduce the waiting time for people on the waiting list, being able to refer users, when meeting criteria, to low-intensity interventions without the need to go through the psychology triage; and the early detection of more severe cases (e.g., with suicidal ideation), ensuring that they are quickly called for psychology triage. This screening is performed either by a nurse with experience in mental health care or by psychologists.

*Step 3: Psychology Triage*

Referral to triage can be through screening appointment or medical appointment (university's GP appointments or on-campus NHS psychiatry appointments). Triage consists of an assessment, performed by clinical psychologists, using a semi-structured cognitive-behavioral interview, including an assessment of diagnostic criteria (according to the Diagnostic and Statistical Manual of Mental Disorders [16]), and a more comprehensive assessment of family history, family, and social relationships throughout development; current difficulties; maintenance factors; difficult thoughts, emotional responses, and dysfunctional behaviors; coping skills; among others. Participants were also assessed with a protocol of self-report questionnaires (self-administered, used for purposes outside the scope of the present study: Work and Social Adjustment Scale [17], Patient Health Questionnaire-9 [18], Generalized Anxiety Disorder Scale [19], and World Health Organization Quality of Life Scale-BREF [20]).

The next steps comprise psychological and psychotherapeutic interventions. These are based on cognitive-behavioral models, with a variable number of sessions according to the clinical presentation and patients' needs. Psychology individual appointments and group interventions are performed face-to-face or online, depending on clinical presentation criteria, patients' preference, or the format of the group intervention.

*Step 4: Group Psychological Interventions (Low-to-Moderate Intensity)*

Individuals with mild-to-moderate psychological disorders, at first and whenever possible, are referred to interventions of low-to-moderate intensity and are described in Table 1. Some of these interventions have psychotherapeutic goals and are only accessible through screening and triage, and others are available to all university students, aiming to promote the well-being and mental health of the community. Specific groups for the more prevalent difficulties were developed, and homogeneity of group members' difficulties was privileged (e.g., separate groups for anxiety and depression although high comorbidity can be observed) to facilitate sharing-specific difficulties (e.g., social anxiety-related difficulties).

*Step 5: High-Intensity Interventions*

Moving to a high-intensity intervention can occur when (a) the student does not accept the initially proposed intervention (e.g., students who do not want to participate in group interventions); or (b) after the initially suggested intervention there is no clear improvement in symptomatology, or a continued impairment is observed. Also, moderate-to-severe clinical conditions are directly referred to high-intensity interventions: medical intervention such as general practice (working in the university) and/or psychiatry (from the NHS with a protocol that allows psychiatrists to perform appointments on campus) and cognitive-behavioral individual psychotherapy.

*Statistical Analysis*

Statistical analyses were conducted using the Statistical Package for the Social Sciences (IBM SPSS, version 25.0). Descriptive statistics were performed to describe the socio-demographic and clinical characteristics of the sample, the flow of the stepped care approach, and patient waiting periods.

**Table 2.** Participants' sociodemographic and clinical characteristics

	Total sample (n = 295)
<b>Sociodemographic characteristics</b>	
Age, means (SD), years	23.62 (6.64)
Gender, n (%)	
Male	75 (25.4)
Female	220 (74.6)
Educational level, n (%)	
Undergraduate	184 (62.4)
Master's	74 (25.1)
Doctorate	32 (10.8)
Nongraduate courses/training	2 (0.7)
Nationality, n (%)	
Portuguese	245 (83.1)
Brazilian	26 (8.8)
Other <sup>a</sup>	24 (8.1)
<b>Clinical characteristics</b>	
Diagnosis (excluding personality disorders), n (%)	
Anxiety disorders	102 (34.6)
Depressive disorders	18 (6.1)
Neurodevelopmental disorders	9 (3.1)
Obsessive-compulsive and related disorders	4 (1.4)
Bipolar and related disorders	3 (1.0)
Schizophrenia spectrum and other psychotic disorders	3 (1.0)
Trauma- and stressor-related disorders	2 (0.7)
Feeding and eating disorders	2 (0.7)
Substance-related and addictive disorders	2 (0.7)
In assessment	31 (10.5)
No formal diagnosis, despite emotional difficulties or personality disorder/traits	119 (40.3)
Personality disorders, n (%)	
Borderline personality disorder	9 (3.1)
Obsessive-compulsive personality disorder	5 (1.7)
Dysfunctional personality traits	34 (11.5)
In assessment	31 (10.5)
Without personality disorder or dysfunctional traits	215 (72.2)
Other emotional difficulties, n (%)	
Anxiety symptoms (subclinical)	31 (10.5)
Depressive symptoms (subclinical)	16 (5.4)
Relational difficulties	16 (5.4)
Academic difficulties	16 (5.4)
Family relation difficulties	11 (3.7)
Nonpathological grief	7 (2.4)
Others	5 (1.7)
In assessment	31 (10.2)
Nonapplicable	163 (55.3)
<sup>a</sup> American, Angolan, Cape Verdean, Ecuadorian, French, Guinean, Hungarian, Italian, Mozambican, Pakistani, Romanian, Russian, Venezuelan (n <10).	

## Results

The sociodemographic and clinical characteristics of the total sample are presented in Table 2. The results showed that a total of 295 students sought psychological

help, with a mean age of 24. Most students were female, undergraduate, and of Portuguese nationality. The clinical assessment established that the disorders with the highest prevalence were anxiety disorders (35%) and depressive disorders (6%). Regarding personality

disorders, 12% showed dysfunctional personality traits, and 5% met the criteria for a specific personality disorder. Other emotional difficulties were found in 34% of the sample, such as subclinical anxiety and depressive symptoms and family relationships-related difficulties.

Figure 1 shows that people who sought clinical psychology appointments start their process via SR, referral from a medical appointment (GP or psychiatry [P]), or other services in the university or community (external referrals). At this stage, self-referred or externally referred students go to StressLess (step 1) followed by screening (step 2), and subsequently, triage (step 3). Students referred by the medical appointments go directly to triage (step 3) because it is assumed that the clinician performed the triage. After triage, students can be referred to therapeutic or skills promotion groups (step 4) or to cognitive-behavioral individual psychotherapy (step 5). When self-referred or externally referred students reach step 5, they can also access psychiatry appointments if needed.

Concerning the flow of the stepped care approach, the majority of students sought psychological help through SR (82%) and were, subsequently, referred to screening (78%). From screening, 64% of students were referred to triage and the majority had one clinical psychology appointment as its last step (85%). Regarding group interventions, 38% of students were referred directly from the evaluation steps, in which 29% came from screening and 9% of students came from triage (shown in Fig. 1).

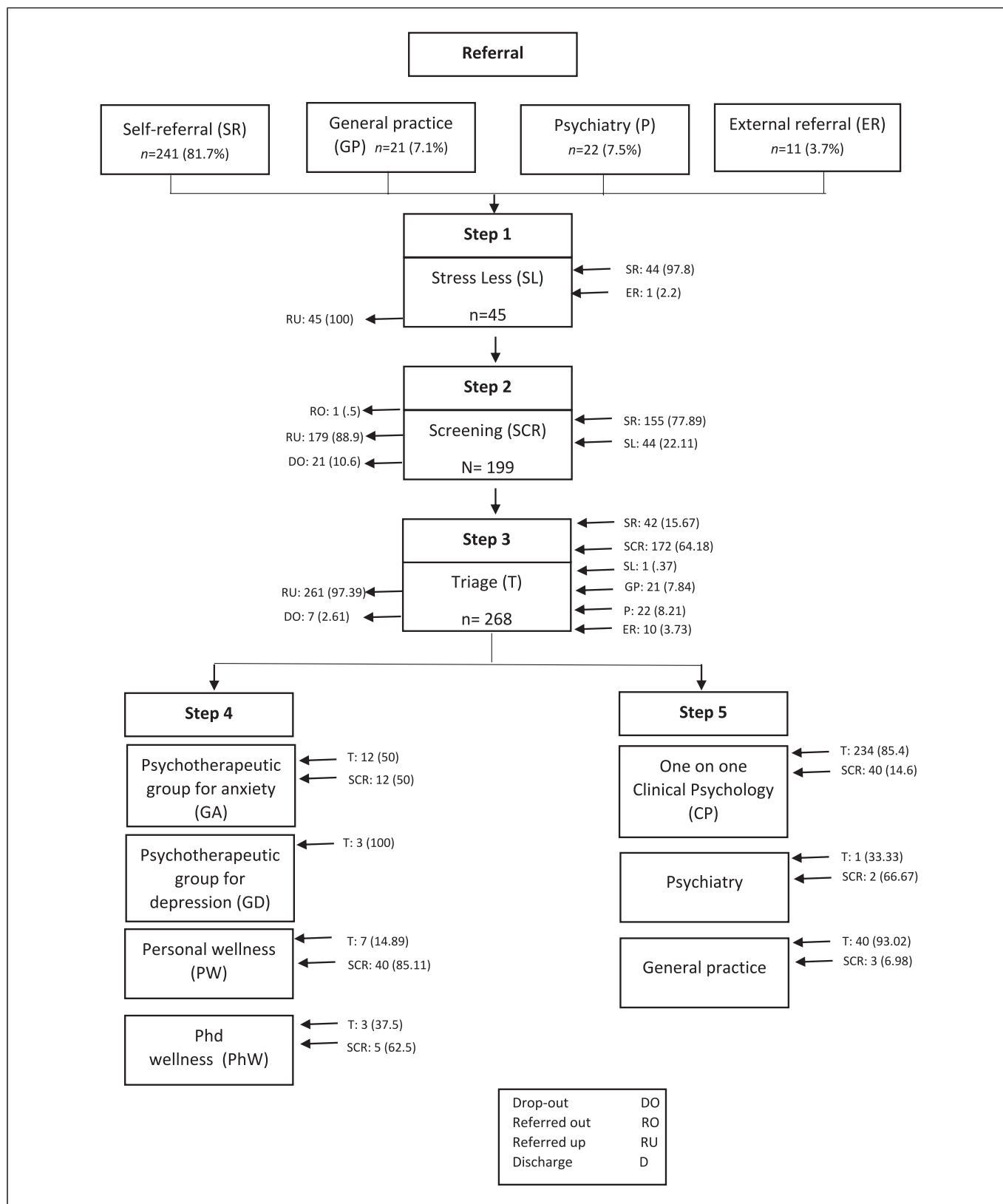
Regarding patient waiting periods, as illustrated in Table 3, most students experienced less than 2 months from the registration date until screening (49%), from screening until psychology triage (59%), and from triage until the first therapeutic response (81%). It is important to note that a minority of students had longer waiting times.

## Discussion

The purpose of the present study was to explore the implementation of a stepped care model analyzing patients' sociodemographic and clinical characteristics, to present the flow of the stepped care approach and the patient's waiting periods in each step. Our results showed that over 40% of patients had a diagnosis of anxiety or depressive disorders, highlighting the pertinence of using the stepped care model in our community. Prior studies [21–23] have found the advantage of stepped care models over care as usual, for anxiety and mood disorders.

Taking this into account, our treatments in each step include interventions targeting anxiety and depressive symptoms (e.g., the psychotherapeutic group for anxiety was the first low-intensity therapeutic intervention developed).

In terms of patient's flow within the stepped care model, it is worth noting that most patients were self-referred (over 80%). This direct contact between the university community and the health services is expected and important, indicating that people within that community are aware of the mental health interventions and support available. Regarding referrals, we had a similar number of patients being referred by general practice and psychiatry, suggesting that we have flexible stepped care (with patients stepping up and down in terms of interventions' intensity) with a team working on a multidisciplinary perspective. We observed a relatively low number of patients being referred to group interventions – 55 patients referred to preventive interventions and 27 patients to therapeutic groups. This result may be because health services in Portuguese higher education institutions are still mainly designed to deliver psychological support in a one-to-one format [24]. Consequently, most psychological support requests come with the expectation of receiving individual interventions, and proposals for other interventions are met with resistance. The groups with higher percentages were the first to be created within the study's timeframe, specifically the personal wellness and anxiety groups. With the implementation of the stepped care model, our results have shown that most patients wait less than a month to access each step. This is an initial indicator of the potential that the stepped care model might have regarding service organization, mainly in a community in which accessibility to services and speed of response are particularly important [10]. Although the waiting time seems adjusted to the context needs, some patients experienced longer waiting periods. We hypothesize that the phases of the academic context, such as holidays and academic breaks, might have influenced this result. This is congruent with previous studies showing that academic calendar fluctuations can significantly impact health services demand [25, 26]. To reduce waiting periods without any intervention, we implemented an active waiting list with the StressLess program, an autonomous online intervention offered at registration. Although the efficacy of the StressLess program has not been studied, online asynchronous psychoeducational interventions may be useful in this population by promoting empowerment and the development of basic emotional regulation skills.



**Fig. 1.** Patient pathways.



**Table 3.** Patient's waiting periods

	Total sample (n = 295)
Step 0 – step 2: waiting period length from registration date until screening	
0–1 month	108 (36.6)
1–2 months	35 (11.9)
2–3 months	13 (4.4)
3–4 months	23 (7.8)
4–5 months	4 (1.4)
More than 5 months	8 (2.7)
Did not have screening	104 (35.3)
Step 2 – step 3: waiting period length from screening until psychology triage	
0–1 month	147 (49.8)
1–2 months	26 (8.8)
2–3 months	3 (1.0)
3–4 months	4 (1.4)
4–5 months	0
More than 5 months	1 (0.3)
Did not have screening and/or triage	114 (38.6)
Step 3 – step 4/5: waiting period length from triage to first therapeutic response	
0–1 month	194 (65.8)
1–2 months	44 (14.9)
2–3 months	6 (2.0)
3–4 months	1 (0.3)
4–5 months	2 (0.7)
More than 5 months	0
Nonapplicable	48 (16.3)

Our study's findings are consistent with several other studies that have explored the implementation of stepped care models in mental health services. For instance, a study by Archer et al. [27] found that stepped care models improved access to psychological therapies and resulted in significant clinical improvements among patients with common mental health disorders. In the context of university settings, a study by Hunt and Eisenberg [28] highlighted the growing need for accessible mental health services for students and the potential benefits of implementing stepped care models. Their findings indicated that such models not only lead to positive clinical outcomes but also enhance service accessibility, which aligns with our results. Furthermore, Cuijpers et al. [29] conducted a meta-analysis of stepped care interventions and found consistent evidence of their effectiveness in treating depression and anxiety. Their analysis showed that stepped care models are as effective as traditional care methods but with the added advantage of being more cost-efficient and scalable. Our study contributes to this body of evidence by specifically focusing on a university student population and highlighting the improvements in ac-

cessibility. However, we acknowledge the need for follow-up data to fully understand the long-term impact of these interventions.

It is important to note that the study period, from May 2019 to June 2021, coincided significantly with the COVID-19 pandemic, which had substantial implications for mental health and service delivery. The pandemic exacerbated mental health issues among university students due to increased stress, anxiety, isolation, and uncertainty [30]. Consequently, the demand for mental health services surged during this time. Our implementation of the stepped care model during the pandemic presented both challenges and opportunities. The transition to remote learning and social distancing measures necessitated a rapid shift to telehealth services. This shift allowed us to continue providing mental health support despite physical restrictions. Studies have shown that telehealth can be an effective mode of delivering psychological interventions, comparable to face-to-face sessions [31]. However, the pandemic also introduced barriers such as technology access issues, variability in students' home environments, and increased overall stress levels, which could have influenced engagement and outcomes.



Despite these challenges, our findings indicate that the stepped care model was adaptable and continued to meet the students' mental health needs effectively during this period.

Despite these promising results, our study has some limitations. The efficacy of the stepped care model was not explored since data regarding the traditional model used in this health service were not available and comparison studies were not possible. A comparative analysis with traditional care models would contribute to a more comprehensive understanding of the efficacy of the stepped care approach. This would help delineate the strengths and limitations of each approach and provide evidence to support the wider adoption of stepped care in similar settings.

Going forward, the benefits of the stepped care model should be further explored through long-term waiting list time and flow of patient monitorization and evaluation. For instance, increasing the number of patients supported, particularly in low-intensity interventions, would be a valuable indicator of the stepped care model efficiency. Moreover, in this study, we were not able to assess pre- to post-intervention differences in each therapeutic response. Future studies might arise from this initial report assessing the efficacy of group and individual interventions. Furthermore, a subsequent study could include a clinical, functional, and social evaluation of the students who received the interventions to provide a comprehensive understanding of the impact of the stepped care model. Implementing a longitudinal study design would offer crucial insights into the long-term impact of the stepped care model on the mental health outcomes of university students. By tracking changes over time, the sustainability of improvements observed could be assessed and potential challenges or areas for refinement could be identified. Additionally, expanding the sample size and diversifying the participant pool would also strengthen the generalizability potential. A larger and more diverse sample would allow for a more robust analysis of the effectiveness of the stepped care model across groups with different sociodemographic and clinical characteristics, enabling health services to better tailor interventions to the specific needs of diverse student populations.

Although in need for replication and further study, our findings suggest the feasibility and potential benefits of implementing a stepped care approach in higher education settings. On a local level, the longitudinal assessment of the implemented stepped care approach, in terms of both improved accessibility to services and efficacy of the therapeutic responses provided, can

strengthen the evidence on the cost-effectiveness of our health services. This approach allows us to provide our community with easily accessible interventions tailored to their needs, as evidenced by our preliminary results. The University of Coimbra's stepped care approach has also been referenced as a good practice in this regard [24]; thus, other higher education settings might replicate both the approach and specific interventions. Regarding the implementation of the stepped care approach on a national level, as suggested by national guidelines [24], this would allow (a) a more effective use of mental health human resources, (b) reducing wait list times for psychology appointments, and also (c) a greater investment in preventive and early population-based interventions, ultimately providing students with mental health initiatives at different levels of need. Additionally, this nationwide implementation would provide a solid platform for more robust studies, with larger samples.

### Statement of Ethics

This study is part of a larger project "Implementing a stepped care model in providing mental health care for a university community" that was approved by the Ethics Committee of the Faculty of Medicine of the University of Coimbra (CE-106/2020).

### Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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### Author Contributions

Authors 1 and 2 analyzed the data and prepared the manuscript. Authors 3, 4, 5, and 6 interpreted the results and made a critical review of the manuscript. Authors 7, 8, 9, 10, and 11 revised the manuscript. Authors 12 and 13 conceived and designed the study, supervised data interpretation, and made a critical review of the manuscript. All authors approved the final manuscript.

### Data Availability Statement

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

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