From Burnout to Resilience During Online Learning in the Pandemic Era: A Qualitative Study on Medical Students

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Abstract   During the pandemic, medical students worldwide faced an unexpected change in their life, including their shift to fully online learning. Personal factors and academic unreadiness often result in burnout in medical students. Hence, students need to develop their resilience and be well-adapted in their learning situations. We explored the influencing factors that cause burnout and how students achieve their resilience during online learning. This qualitative study was conducted a with phenomenology approach in the undergraduate programs in one of the Medical Faculties in Indonesia. Before the study began, we purposively screened the participants based on the Maslach Burnout Inventory-Student Survey (MBI-SS). In data collection, in-depth interviews were used for students in burnout categories. We performed member checking and multiple coders to interpret the themes. We screened 157 students with MBI-SS, and found 22 students in the burnout category, and 16 students agreed to have the in-depth interview. We found three central themes that emerged: (1) The academic stressor during pandemic learning caused the burnout symptoms; (2) The negative academic experience caused a higher academic stressor; and (3) The positive academic experience and supporting factors led students to resilience. According to the results, students' mental health is an important issue that needs to be considered in providing online learning for students during the pandemic. The

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implications of this study include the awareness of academic factors that influence burnout and resilience in students.

Keywords Burnout · Resilience · Online Learning · Qualitative study · Maslach Burnout Inventory

1 Introduction

The high demand for professionalism in medical doctors' performance during health services requires medical institutions to design a curriculum that facilitates all aspects of competence from the beginning of their program [1, 2]. The undergraduate program in the medical curriculum has the integrated goals of constructing knowledge, performing simulated clinical skills, and shaping professional behavior [1, 3].

In health professions education, the academic environment often causes stressful situations such as little tolerance for mistakes, competitiveness, and strict assessment regulations [4, 5]. The continuation of stressful situations can affect students' mental health or well-being, resulting in emotional and interpersonal responses called burnout. Students with burnout may experience a state of emotional exhaustion, avoidance of social interaction, and inefficacy in achieving their goals [4, 6]. Studies showed that burnout is relatively high among medical students and triggers drop-outs and other psychological disorders such as depression and suicidal tendencies [7, 8].

From a psychological perspective, a person can have the ability or resilience to 'survive' and 'rise up' from burnout. The power of resilience produces a stronger person after the burnout episode in their life [9, 10]. In the context of medical students, studies showed various influencing factors of resilience, such as their psychodynamic process and the supportive academic environment [9, 11]. Accordingly, the medical institution needs to facilitate the recovery of students with burnout, such as providing the students with a consultation to prevent further mental problems. Besides, medical institutions should explore the causes of burnout in their students related to the academic burdens [8, 12].

During the pandemic, many unexpected changes occurred. The heavy mental stress can be due to the uncertainty from personal experiences such as quarantine conditions, Coronavirus Disease-2019 (COVID-19) symptoms, or feeling the loss of a close person's death. During the COVID-19 pandemic, along with having a hard time, students are forced to adopt the fully online learning experience, including their assignments and assessment regulation [13, 14]. Recently, several studies have shown that the pandemic situation has increased the prevalence of burnout in medical students [12, 15].

With the increased potential for burnout in medical students during a pandemic, medical institutions should pay more attention to their student's mental health issues. However, the qualitative studies concerning the students' resilience ability in burnout situations are still very limited. Therefore, we focused on exploring the causes of

burnout and aimed to describe how students with burnout find their way to resilience in undergraduate medical education.

2 Methods

2.1 Context of Study

The study was conducted in an Indonesian Medical Faculty at the undergraduate level. Before the pandemic, students mostly engaged in learning with the face-to-face learning method, such as large class interactive lectures, small group learning and clinical skills laboratory activities. During the pandemic, all learning methods were converted to a synchronized online learning and asynchronized learning assignments.

2.2 Study Design

The qualitative inquiry method was used with the interpretive phenomenological approach to answer our research questions. This approach facilitates researchers to study the phenomenon in the respondents' life experiences [14, 16]. We aimed to explore a more profound understanding of the academic factors that contribute to burnout in students, as well as describe in-depth their burnout symptoms. Further, we explored the students' resilience experience.

2.3 Study Participants

Following the principles of qualitative inquiry, we collected the respondents purposively by the criteria of the burnout students. Before the study began, we screened the students using the Maslach Burnout Inventory-Student Survey (MBI-SS), which is a well-known instrument that is mostly used in detecting and monitoring burnout in health profession students [17, 18]. We screened 157 students in batch four of the undergraduate students with MBI-SS, and found 22 students in the burnout category. We provided the informed consent form to all of the students with burnout categories. Finally, consent was obtained from 16 students who agreed to participate in an in-depth interview about their burnout and resilience experiences.

2.4 Data Collection

We conducted the in-depth interviews with a recorded Zoom application facilitated by the first author (SMS) and two other authors (GPY and MFI). The duration of the in-depth interviews ranged from 40 to 80 min. Three authors coded the content individually, and discussed the themes of the transcripts to reach the consensus concerning the choice of codes after each of the interviews. To enhance triangulation of the data, the other authors discussed the coding and categories assigned to the development of emerging themes periodically. The guiding questions about burnout aspects and the resilience indicators were adapted from Findyartini et al. [19].

2.5 Data Analysis

Based on the phenomenological approach, we analyzed the respondents' life experiences and identified the common themes or phenomenon [14]. The analysis process started as we collected the interview data. The data were transcribed, coded, and categorized by three authors (SMS, GPY and MFI). All authors discussed the content regularly to interpret the themes. Finally, the authors constructed the central themes based on the content analysis of the burnout and resilience criteria. The trustworthiness of data collection and analysis was considered by all authors including: (1) Triangulate the data with multiple respondents and member checking (five voluntary respondents read and confirmed their interview transcripts); and (2) Triangulate with multiple coders and analyzers in performing data analysis.

3 Results

Our interview results from students with burnout showed three interrelated central themes: (1) The academic stressors during pandemic learning caused the burnout symptoms; (2) The negative academic experience caused a higher academic stressor; and (3) The positive academic experience and supporting factors led students to resilience. Figure 1 shows the framework of the identified themes.

Image information: The arrows represent the process from academic stressors to burnout symptoms and how supporting factors lead to students' resilience. The dashed line shows the inhibiting factors of resilience, such as negative academic experiences that possibly lead students back to the burnout cycle.
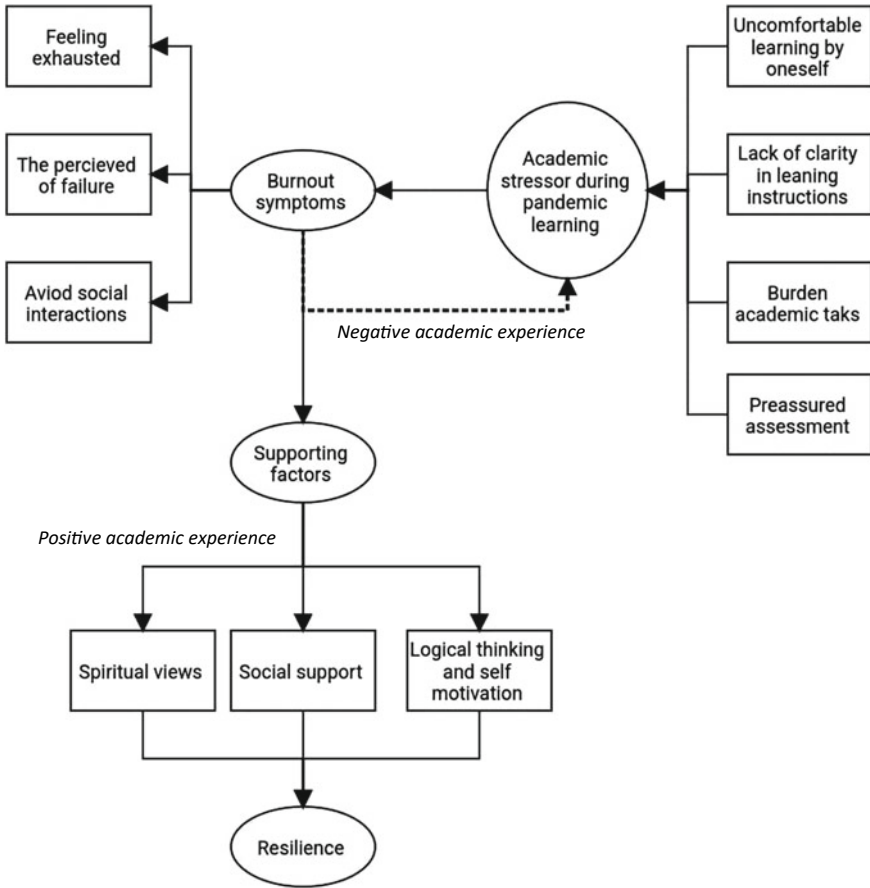
Fig. 1 The framework 'from burnout to resilience' of medical students during pandemic learning

3.1 Theme 1. The Academic Stressor During Pandemic Learning Caused the Burnout Symptoms

We interpreted these themes by identifying the categories of the academic stressors during pandemic learning and the burnout symptoms in students.

3.1.1 The Academic Stressor in Pandemic Learning

Students highlighted that academic stressors came from several aspects, including: (1) Uncomfortable feelings about learning by oneself; (2) Burden on academic tasks and lack of learning instruction, and (3) Pressured feelings during the online assessment. We interpreted these responses to indicate that the students were not ready to

be independent in their learning activities. It shows that the students had difficulties adapting to the changes in the academic situation during the pandemic, especially when they had to do their assignments all by themselves.

> I hate to be alone while studying, I don't have anyone to discuss or just asking 'how to deal with this assignment'.. (3rd year student_4)

Besides, the high load of learning tasks accompanied by the perceived challenges of its unclear instructions was one of the influencing factors that caused the academic stress. Some students also reflected that the lack of time management aggravated their burden from the learning tasks.

> Sometimes it feels impossible to run all tasks in one single time. (3rd year student_1).
>
>   I am bad at managing time, and I think that makes things even worse. (3rd year student_ 7).

The heavy online learning tasks aligned with the gravity of its assessment activities. We found the online assessment preparation caused stress for some students. The findings represent students' responsibility to provide good Internet connections, the software specification for their gadgets, and other external factors besides the preparation of learning materials. Additionally, the oral assessment in the online version seems exceptionally challenging for students related to unexpected situations during assessment activities.

> Maybe some students will easily provide the internet connections and the gadgets.. but not for me, and I've been through a lot of effort.. (2nd year student_4)

> I have experienced the oral assessment.. maybe I lost connections, and I did not have any good marks, even though I had no sleep (3rd year student_5)

> I lost my father and all family members got infected by COVID-19, but somehow.. I have to struggle for him.. (3rd year student_1)

We found the academic overload on the online learning and assessment process initiated a stressful learning situation during the pandemic. This academic stress caused some of the students' burnout and their personal 'hard' conditions.

3.1.2   The Burnout Symptoms

As we reached more profound levels of the interview with burnout students, we interpreted their burnout symptoms such as feeling exhausted and perceived failure and avoiding social interactions. We found the stressful situation led some students to feel tired even though they had already rested and they often experienced an empty feeling in their daily life. These low affections influenced the student's behavior change, such as wanting to be left alone and avoiding social interactions. The quotations representing these findings are as follows:

Table 1 Guiding questions

Aspects to explore	Guiding Questions
Burnout symptoms	• Have you experienced emotional exhaustion or low energy during online learning during the pandemic? • Have you experienced a negative perception of yourself in academic achievement during online learning in the pandemic era? • Have you experienced the feeling of incompetence or lack of academic achievement during online learning in the pandemic era?
Academic Factors caused burnout	• What do you think are the academic aspects or factors that caused you in that situation (emotional exhaustion or negative self-perception)?
Resilience experience and the influenced factors	• How do you feel right now? Have you felt better than before? • Have you felt a more satisfying life, positive self-perception, or better social interactions? • What do you think is a powerful aspect of your resilience experience?

At that time.. I feel no one there for me, I am all alone in the dark corner.. (2nd year student_2).

I quit following the social media for sometimes, it is hard to answer the 'how are you' questions from friends. (3rd year student_6)

The burnout symptoms are also found in students as they perceive failure. This perception is often caused by the perception of unfinished tasks or worries about the upcoming lousy experience.

I failed.. and I will continue to fail somehow.. (3rd year student_4).

It just felt like I am not good at any tasks, my grades are failing down.. I don't know what to do (3rd year student_1)

We interpreted that these academic stressors in online learning during the pandemic resulted in burnout in students. Besides, some students have complex personal situations that influence their mental health.

3.2 Theme 2. The Negative Academic Experience Caused a Higher Academic Stressor

In the following description, we divided the second and third themes based on the impact on students' burnout situation. In this study, we found students (4 of 16) were still in the burnout situation during the interviews indicated by a lack of answering the resilience questions. Therefore, in this second theme, we interpreted the negative experiences that caused a higher academic stressor for students. We found several negative educational experiences such as the lack of peer support and failure judgment from teachers or parents.

The quotations from students represent this theme are as follows:

I don't think I could pass this, he (the teacher) also told me I won't be a good doctor if I fail that assessment. (3rd year student_2)

   Since they all (peer group) started to avoid me, I feel worse. (3rd year student_3).

We identified that the negative experiences resulted in higher academic stressors in the students. In that way, we interpreted that this negative experience will inhibit the students from resilience and contribute to leading them back into burnout situations.

3.3   Theme 3. The Positive Academic Experience and Supporting Factors Led Students to Resilience

To get a deeper understanding of the resilience process in the students' interviews, we used guidance questions based on the aspect of resilience from Keyes, such as improved or positive emotions, psychological well-being, and better social interactions. We found most students (12 of 16) found their resilience after the burnout situation with supporting factors, such as: 1) External factors (positive academic experience, and social supports); and 2) Internal factors (spirituality, logical thinking, and personality). The quotations that represent these themes are as follows:

Yes, I do feel much better now, I am back to the strong version of me (3rd year student_9).

In one of the oral assessment sessions, the teacher told me to calm down and reduce my nervousness, and she listened carefully to my explanation and gave me an appreciation.. After that, I feel I can beat the other oral assessment with a better me.." (2nd year student_4)

   When I fail or lose, I will give myself some space to cry, it is okay, my father (has passed away) told me so, but after that, there will always be a path to get through, don't ever doubt in God's plan, he told me.. (3rd year student_1)

We found most of the students have found their way to resilience from burnout episodes in their life. The supporting factors often come from students' perceptions of hope and inner strengths. These perceptions came from inside or personal beliefs and were supported by external factors, including the positive experiences during the academic learning process.

4   Discussions

During the pandemic, many unexpected experiences may cause stress or mental health impairment. In medical students, adapting to online learning and its consequences on learning strategies and assessment regulation may cause a higher potential for the stressful aspects [13, 20]. Our findings represent the phenomenon of burnout in medical students, while interpreting the academic factors that caused or contributed to their burnout situations, and describing their path to resilience.

The academic factors that cause burnout during online learning are the learning activities and the assessment regulations [4, 6]. Our results are in line with previous studies that stated online learning increases burnout, especially in cycles of emotional exhaustion and cynicism [13, 19]. We also found there were specific factors that influenced the students' well-being in online learning during the pandemic, such as feeling uncomfortable learning by oneself, lack of clarity in learning instructions and burdensome tasks, and strengthening of their experience with the online assessment regulations. These results are aligned with the perspective of the culture on burnout stated in previous studies [7, 8, 19]. The context of this study represents the collectivist culture with stronger group preference than the individualist culture [18, 21]. The lack of students' adaptation to learning by themselves and the need for clear learning instructions represent the collectivist culture. Despite being culturally related, burnout is also related to the educational regulations in the institutions [5, 6]. In that way, the burden of tasks and lack of learning instructions during online learning could be applied as the evaluation remarks for the institution to prevent burnout in students.

In this study, we found the burnout symptoms were similar to the Burnout dimension from Maslach [16], such as emotional exhaustion, which represents the tired feeling after rest. The Cynicism dimension was found as the negative perception about students' social interaction with fears that represent their avoidance of social interaction. The Personal Accomplishment dimension showed the perception of failure in students' academic achievement. These burnout situations will result in more severe mental problems such as depression, as stated by Cheng et al. [5]. Based on that understanding, the institution should pay more attention to the increased potential for burnout in their students.

Resilience is a process for individuals facing a challenging situation involving psychological difficulty such as burnout. Medical students should be resilient due to their future challenges in the medical profession [9, 21]. Unfortunately, we found not all burnout students can express their resilience experience. These findings supported our interpretations to divide the themes into a negative experience in the educational process that inhibits the resilience process; and the positive experience in the educational process together with supporting factors that lead to students' resilience. This finding was related to the coping reserve mechanism of individuals as the response to challenges in life that determined whether they will undergo burnout or resilience situations [10, 11]. Our findings of negative experiences from students with burnout represent the academic factors that strengthen the existing stressors during the pandemic. Aligned with these findings, several studies showed the work environment of medical students became a fundamental aspect that caused burnout [4, 6, 21]. Despite this, we also found that most of our students could find their way to resilience from burnout situations. We interpreted this cycle to indicate that the supporting factors from internal (personal beliefs and personality) and external (social support) were strengthened by the positive academic experience.

Our study has several implications for educational institutions in facilitating supportive learning environments, especially during online learning in pandemic situations. Health profession institutions should provide a more positive experience

for students, such as a conducive and supportive learning environment, facilitate students' engagement in online learning, and evaluate the load of learning assignments and assessment regulations. This research also provides the awareness for health profession institutions to prevent burnout in students with the effort to reduce the negative experience during online learning. However, we are aware of the limitations of our study's findings, especially in one single education context in undergraduate education of one medical Faculty, which will not be readily generalized to a larger more diverse population of students.

5 Conclusions

Student's mental health needs to be considered in providing online learning during the COVID-19 pandemic. Our study found the main factors causing or contributing to students' burnout during online learning are the uncomfortable feeling of being alone, the burden of online assignments and assessments, and the lack of clarity in learning instructions. From students' burnout experiences, we found that positive academic factors were essential to building students' resilience. However, the negative educational experiences were formidable obstacles to reaching their resilience. Therefore, the implications of this study underscore the awareness of academic factors that influence students' burnout and resilience ability. Further studies are recommended to explore a deeper understanding of the resilience mechanism in medical students in other contexts, such as clinical education.

Authors' Contribution *Sylvia Mustika Sari*—developing a research proposal, collecting data, data analysis, and publication of the manuscript.

Arlisa Wulandari—developing research proposal, data analysis, and publication of the manuscript.

Ris Kristiana—developing research proposal, data analysis, and publication of the manuscript.

Luthfi Nurfuadi—developing research proposal, data analysis, and publication of the manuscript.

Gianita P Yuhana—developing the research proposal, collecting data, and data analysis.

Muhamad Fajar Ibrahim—developing a research proposal, collecting data, and data analysis.

Competing Interest   The authors declare that there are no competing interests related to the study.

Ethics Approval and Consent to Participate   The study was approved by Jenderal Achmad Yani University Institutional Review Board Number 002/M/KEPK/2022. The ethical consideration in the autonomy of respondents were provided by the informed consent and upholding the respondent's decision to give or not give the information—confidential aspect provided by the commitment of researchers to keep the data anonymous in publications.

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