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Research paper

A qualitative study of adolescents and young adults' experience and perceived needs during the first wave of the COVID-19 pandemic



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ABSTRACT

Aims: COVID-19 has led to unprecedented public health measures such as school and university closures across the world. While initial surveys show an increase in anxiety, we have little information on the subjective experience of adolescents and young adults (AYAs). The aims of this study were to understand the lived experience and needs of AYAs related to home confinement and preventive measures due to COVID-19.

Demographics and settings: A total of 25 AYAs (13–24 years old) with diverse gender, age, or health conditions, living in Québec (Canada), were interviewed in May 2020, during the COVID-19 home confinement period.

Methodology: Four virtual focus groups were held via a virtual video-conferencing platform (Zoom®). Thematic analysis was conducted.

Results: Thematic analysis revealed five main themes: (1) challenges and opportunities related to the experience of home confinement; (2) variable risk perception of COVID-19 infection; (3) development of coping strategies to maintain well-being; (4) need for information and accompaniment; (5) apprehensions related to perceptions of the future.

Conclusion: AYAs did not feel considered in public health decisions, fostering an increase in anxiety, especially in more vulnerable AYAs living with chronic diseases.

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1. Introduction

Between March and June 2020, more than half of the world's population was instructed by their government to stay home as an emergency measure to prevent the spread of COVID-19. Governments also implemented school and university closures during the same period [1]. In total, more than 150 million adolescents and young adults (AYAs) from around the world, between the ages of 10 and 24, were affected by home confinement measures [2].

AYAs' experience of the pandemic and home confinement measures may differ from the experience of older adults since the former

experience the COVID-19 crisis during critical biopsychosocial developmental periods, which may lead to important long-term consequences [3]. Indeed, adolescence and young adulthood is characterized by important psychological and social changes during which social learning is crucial for optimal development [4]. COVID-19 and the related confinement measures could pose a threat to this process.

An early study from China showed that the rates of depression and anxiety among AYAs increased significantly during the home confinement period [5]. This increase may be due to reductions or suspensions of several protective services provided through schools and the health sector, as well as to loss of protective social networks, which were deeply impacted by COVID-19 [6]. In a systematic review on the impact of COVID-19 on mental health outcomes in children and adolescents, Nearchou et al [7], highlighted that the COVID-19

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pandemic is particularly associated with high levels of anxiety and depression among adolescents. These results are confirmed by the several national surveys. In France, a survey of children and adolescents ages 9–16 showed that adolescent mental health was more impacted than that of younger children, especially among girls, adolescents with difficult housing conditions, or those from families with low incomes [8]. In the United Kingdom a survey of AYAs aged 13–24 found that 40–50% of AYAs felt significantly more anxious during the COVID-19 period than before the pandemic, especially those in older age groups [9].

The COVID-19 pandemic has also led AYAs to quickly adopt preventive measures and change their daily health behaviors. AYAs with self-perceived risk and desire to protect others were significantly associated with higher adherence to preventive measures [10]. Likewise, higher perceived self-efficacy to take preventive measures was associated with a greater perceived severity of the COVID-19 disease [11]. Factors associated with higher risk perception included greater disease knowledge, presence of chronic disease, and use of immunosuppressants [10].

Currently, very few studies have explored with a qualitative approach the AYAs' real-life experience of the pandemic during the first wave [12]. While Fisher et al [13], highlighted that AYAs mainly experienced a disruption in school learning and felt anxious concerning their education, Ferguson et al [12], reported that although AYAs faced many challenges related to the pandemic, they also felt more at ease, with less stress and pressure, and they adopted several coping strategies including health-promoting activities, safe peer interactions, and hobbies in order to adapt to the situation. Therefore, AYAs' lived experience during the pandemic may have been variable, depending on contextual factors, although there is still limited evidence on this topic in the existing literature. Experience refers to the way in which individuals feel and make sense of particular events and make sense about it [14]. The emotions, behaviors, and well-being of AYAs related to COVID-19 are dependent on their interpretation of this reality according to their own standards, which are not the same as for the rest of the population. Thus, it is important to gain a better understanding of their perceptions during this period. Qualitative approaches are essential to achieve this goal. A qualitative approach allows us to understand individuals' internal logics and behaviors in response to important life stressors or situations and is appropriate when there is little knowledge about the research theme. Qualitative approaches also make it possible to consider AYAs as active participants in research, to recognize their autonomy of thought, and to give them a voice [15]. In order to study new phenomena, descriptive qualitative research is used to provide a comprehensive analysis useful for future theorization.

From this perspective, the aims of this study were to understand the experience, needs, and difficulties of AYAs during home confinement, and to explore their need for support. Our study also aimed to gather preliminary information that could guide the creation of adapted health interventions to enhance AYA mental health and autonomy during the current and future pandemics.

2. Methods

2.1. Virtual focus group

We conducted virtual focus groups to study AYAs' experience of the COVID-19 pandemic. Focus groups make it possible to explore the opinions, attitudes, beliefs, and motivations of people who share a common characteristic. By promoting interactions between subjects with diverse life experiences, focus groups improve the richness of responses provided on the themes explored [16]. Focus groups took place on a virtual teleconferencing platform (Zoom©) to respect social distancing and home confinement measures. Emerging research shows that virtual focus groups should be considered a

promising alternative to in-person groups when conducting research with adolescents. A study showed that virtual focus groups offer potential advantages such as promoting participant diversity and reaching more vulnerable populations [17]. We used various techniques to promote group dynamics (self-presentation, verbalization of common traits between subjects, presentation of the focus groups' objectives, etc.) as well as to promote in-depth exploration of the opinions expressed (open-ended questions, paraphrasing, question prompts, inviting participants to comment on other participants' responses, etc.).

2.2. Sampling

Recruitment took place by telephone from a register of 3037 respondents to a previous cross-sectional study on risk perceptions in the context of COVID-19 conducted in Quebec, Canada in April 2020 [10]. Sampling was purposely targeted (non-random), with the aim of capturing the diverse perspectives and sociodemographic characteristics of AYA respondents who participated in the aforementioned cross-sectional study [10]. In this way, we aimed to achieve a balanced ratio of boys/girls, teenagers (14–17 years)/young adults (18–22 years), disease-free/chronic disease, in school/engaged in working life.

2.3. Procedure

Two researchers, a postdoctoral student (MM) and a medical student (SS), both with previous training in conducting qualitative interviews, co-led four 60–90-min focus group sessions. Participants were asked to join the focus group sessions using a smartphone, a tablet, or a personal computer with a reliable Internet connection allowing for video and audio transmission. All focus groups were conducted in French. We used a semi-structured interview guide (Box I) to lead the sessions. Participants were informed that the following themes would be addressed in the discussion: the experience of home confinement, strategies put in place to maintain well-being during this period, need for information and/or support, perceptions of the future, deconfinement process, and possibility of participating in a future cohort study assessing youth mental health in the context of COVID-19. The themes were based on a review of the literature on the impacts of previous pandemics on youth mental health [18]. Participants were briefed on the topics to be discussed in the focus groups through a letter of invitation to participate in the study. Focus groups were video-recorded and transcribed verbatim in French. Only quotations for publication were translated into English.

Box I. Interview guide

-
- How are you feeling now, after several weeks of home confinement?
 - How has your perception of the situation evolved since the beginning of the home confinement period?
 - Can you describe a typical home confinement day?
 - How do you manage your social life since the beginning of the home confinement period?
 - Can you describe your hobbies during the current confinement period?
 - How do you get informed about the pandemic and how to remain healthy during the pandemic?
 - What possible resources do you use to take care of yourself and feel well during the home confinement period (and / or maintain your academic / professional activity?)
 - How do you see the future?
 - Do you feel able to adopt all social distancing and preventive measures on a daily basis? Can you explain? And would you be able to continue adopting them for a long time?
 - Do you feel that we will eventually be able to overcome the COVID-19 pandemic? Can you explain?
 - How do you feel about the deconfinement process?
-

2.4. Data analysis framework

Thematic analysis was conducted using NVIVO software. Thematic analysis allows one to analyze themes identified during focus group sessions through both deductive and inductive means. We cut the text corpus transversely to extract elements that referred to the same theme across the various focus groups. Consistent with the approach of Braun and Clark [19], we read transcripts and underlying meaning, developed codes to represent units of meaning, and elaborated themes by identifying patterns of meaning within and across transcripts to answer the research question: “What is AYAs’ perception and lived experience of the COVID-19 pandemic?” Two medical students with training in qualitative analysis (RNG, PAY) conducted primary coding, and reviewed this coding with other investigators (MM, SS). We used consensus among all study investigators to elaborate the final structure of themes, subthemes, and codes.

2.5. Ethics

The study was approved by the research ethics board of Sainte-Justine University Hospital (2020–2864). Participants were approached by phone and the study was explained in detail with sufficient time allowed for answering their questions. Once participants agreed to take part in the focus groups, a secured electronic consent form was sent to them. This form contained all details about the time, duration, content, and methods of recording for the virtual focus groups. All participants signed the consent form as well as a release for their information to be video-recorded.

3. Results

3.1. Participant characteristics

A total of 25 AYAs participated in the virtual focus groups with a minimum number of four participants per session. Four focus groups (FG) were held: two on May 7 (FG 1 and 2) and two on May 22 (FG 3 and 4), 2020. The meaning saturation principle [20] was used to decide when to end study recruitment. This principle is based on determining whether the questions brought about in the research are sufficiently and relevantly posed in the focus groups, to the point at which a new focus group would not provide a renewed understanding of the studied phenomenon. Home confinement measures were in effect for both dates. FG 1 and FG 3 included adolescents aged between 14 and 17 years inclusively, and FG 2 and FG 4 included young adults aged 18 to 22 years inclusively. There was a comparable number of males and females involved. More than half of the participants had a chronic disease (such as type 1 diabetes, inflammatory bowel disease, or asthma), most were enrolled in an academic

institution, and a small proportion worked before the pandemic (Table 1). All participants were residents of the province of Quebec, Canada, and their first language was French.

3.2. Thematic analysis

Five main themes illustrating AYAs’ perception and lived experience of the pandemic, especially with regard to home confinement, emerged during the analytic process: (1) challenges and opportunities related to home confinement; (2) variable risk perception of COVID-19 infection; (3) development of coping strategies to maintain well-being during home confinement; (4) need for information and support; and (5) apprehension related to negative perceptions of the future and of the deconfinement process. Themes and subthemes reported by participants are listed in Supplemental table S1.

3.2.1. Theme 1: challenges and opportunities related to the experience of home confinement

AYAs reported increased levels of anxiety during home confinement. Some AYAs associated an important part of this anxiety with uncertainty about the future, especially among university students and youths who were employed before the pandemic. Similarly, AYAs identified the absence of structure in their daily routine as another source of anxiety, especially as they lacked time to adapt. AYAs living by themselves, and those with a mental health disorder, expressed that significant anxiety was associated with a feeling of under-simulation during their daily routine. The word “boredom” was mentioned often by study participants, especially those living alone, many of whom reported increased boredom during home confinement, with days that were long and empty.

“We forget the days of the week, we forget what date it is, we forget what time it is. Everything looks the same.” (18-year-old female participant)

AYAs mentioned that home confinement had a negative impact on their social life. Lack of social stimulation was very difficult for many, especially for those living alone and those who previously had a stimulating social life. The cancelation of important rites of passage (e.g., graduation) caused significant sadness. Furthermore, AYAs reporting higher levels of anxiety during home confinement reported having less supportive social networks during this period. AYAs living with their family identified having regular contact with their family as an important way to socialize. The impacts of the COVID-19 pandemic on academic activities largely preoccupied AYAs, especially those with academic difficulties before the pandemic. Several AYAs felt incapable of following online classes. They argued that studying at home caused them additional stress and that they were less able to focus. Some added that they perceived a lack of monitoring compared with in-person learning (i.e., at school), which further

Table 1
Participant characteristics.

	Overall	Focus group 1	Focus group 2	Focus group 3	Focus group 4
Total, n	25	8	6	7	4
Age, median (IQR), years	17 (15–19)	15 (14–17)	20 (19–20)	16 (14–17)	18 (18–20)
Gender, n (%)					
Male	11 (44)	3 (38)	2 (33)	4 (57)	2 (50)
Female	14 (56)	5 (62)	4 (67)	3 (43)	2 (50)
Employed before the pandemic (full-time or part-time), n (%)	7 (28)	3 (38)	3 (50)	1 (14)	0 (0)
Current academic institution					
High school	17 (68)	8 (100)	1 (17)	7 (100)	1 (25)
College	4 (16)	0 (0)	2 (33)	0 (0)	2 (50)
University	3 (12)	0 (0)	2 (33)	0 (0)	1 (25)
Not currently enrolled in an academic institution	1 (4)	0 (0)	1 (17)	0 (0)	0 (0)
Chronic disease, n (%)	15 (60)	4 (50)	5 (83)	4 (57)	2 (50)
Currently taking immunosuppressant medication, n (%)	4 (16)	1 (12)	2 (33)	1 (14)	0 (0)

IQR: interquartile range.

demotivated them and their fellow students from completing their academic year/degrees and pursuing further studies. This feeling was further accentuated among participants who planned to enroll in a new academic institution in the following academic year. For these reasons, AYAs claimed that dropping out would be more likely under those circumstances.

“I need the structure of a library, a classroom. In the classroom, I function perfectly, and I perform well. But online, I wouldn't be able to. I'm not capable and I don't think I'm the only one who feels this way in the world. So, I'm pretty sure that there must be other people who are going through the same situation as I am, who don't have either the environment, or the surroundings, or anything that encourages them, that discourages them from continuing their studies.” (18-year-old female participant)

However, positive or improving experiences were reported by some participants, such as having more time to rest or the feeling of being protected while at home. Many AYAs described their state since the beginning of the home confinement period using positive terms: “It's OK”; “All is well”; “I feel good” etc. Some AYAs also said that they gradually accepted the situation and believed that their well-being had increased over time.

3.2.2. Theme 2: variable risk perception of COVID-19 infection

AYAs who did not have a chronic disease or who were not taking immunosuppressant medication said that they were generally not too worried about contracting the virus. However, they were worried for the elderly and those around them living with a chronic disease, especially when these were family members. AYAs living with a chronic disease felt concerned by the lack of scientific data on the effects of the virus on people living with a chronic disease and were preoccupied by the lack of information to guide the deconfinement process. In general, they also felt that they were not being taken care of.

“They talk about people in their 70 s and older who are going to remain vulnerable for a long time, but they don't talk much about the young people who are at risk, so I find those things tough.” (15-year-old female participant)

Several AYAs had relatives who had contracted the virus. Although some expressed that this did not significantly increase their risk perception of COVID-19 infection, they mentioned that knowing someone infected may help AYAs understand the severity of the situation. Additionally, lower risk perception was expressed among youth who did not have any family members or acquaintances infected by COVID-19.

3.2.3. Theme 3: development of coping strategies to maintain well-being during home confinement

AYAs affirmed that they tried to maintain social interactions during home confinement by organizing virtual meetings with friends and activities with family. Those who perceived important negative impacts on their social interactions put more effort into organizing social activities. Hobbies were an important part of participants' routine during home confinement. Several AYAs integrated physical activity and outdoor activities into their schedules. However, AYAs stated that a considerable amount of their time was spent in front of screens, playing video games or watching TV shows/movies.

“PS4,¹ PS4, PS4! And then Netflix, after I go to bed.” (17-year-old male participant)

Most AYAs dedicated time to schoolwork on a daily basis and some of them planned a fixed schedule for schoolwork. This time management and daily routine contributed to lower anxiety.

“I have my routine. I still have my exams so this keeps me busy. It's a good way of staying busy and it makes my days less empty.” (21-year-old female participant)

3.2.4. Theme 4: need for information and guidance

AYAs declared using governmental press conferences and newspapers as their main sources of information. Social media was rarely used as a source of information. While AYAs believed that it was important to stay informed, some underlined that government and public health institutions' communications were very repetitive and rarely provided new information. They also expressed that routinely watching press conferences and reading the news induced extra stress. Furthermore, AYAs asserted that there was a lack of clarity in the measures announced by the government and by public health institutions and that “annoying” contradictions were regularly reported. As such, a lack of trust was reported due to the perception of multiple pieces of false information circulating.

“I listen from time to time, but if you watch the news often, it will just feed your fear, I believe. But informing yourself from time to time is good, but always, no.” (17-year-old male participant)

“It's just a lot of uncertainty in the measures and sometimes, I would have liked the government in general to take more time so that when they announce measures, they are clear and specific.” (20-year-old female participant)

Several AYAs argued that they did not feel considered in public health decisions. They affirmed that most recommendations and preventive measures only took the elderly into consideration even though those decisions also had important impacts on AYAs' life. AYAs living with a chronic disease insisted on their need to obtain clear answers to their worries and questions about the effects of the virus. They also expressed that there were few public health messages that addressed their situation and shared that they felt abandoned by the system. Furthermore, AYAs declared that additional support from their teachers was essential during the present pandemic both for academic monitoring and accompaniment.

3.2.5. Theme 5: apprehensions related to negative perceptions of the future and of the deconfinement process

AYAs associated deconfinement with the possibility of meeting with friends and returning to school. They also acknowledged that the world would be different, and that the resumption of a “normal” life would be progressive. Several AYAs suggested that vaccination will be the only solution to overcome the pandemic and most of them believed that there would be a second wave of COVID-19 infections in the upcoming months. In addition to a perceived low self-efficacy, some AYAs stated that it would be difficult to adhere to preventive measures in the long term.

“It's going to be really progressive, but I think a lot of people have understood that we're not going to be able to go back to the life we had before, we really have to adapt. I think Quebecers have begun to understand that, we really have to adapt as we go along.” (15-year-old female participant)

Furthermore, regarding future deconfinement, several AYAs were worried about vulnerable populations such as the elderly and the immunosuppressed.

3.3. Suggestions expressed by AYAs to support youth during the COVID-19 pandemic

Analysis of the focus group transcripts allowed us to take note of suggestions expressed spontaneously by AYAs to support youth and to promote well-being during the pandemic period. The suggestions concern the following challenges: prevent mental disorders and/or addictive behaviors, inform and educate AYAs on preventive measures, protect vulnerable populations, and collect information from

¹ PS4 is the gaming console PlayStation 4.

Table 2
Suggestions expressed by AYAs to support youth during the COVID-19 pandemic.

Challenges to target	Suggestions
Prevent mental disorders and/or addictive behaviors	<ul style="list-style-type: none"> • Regularly assess the mental health of AYAs • Identify and support youths with academic difficulties or with mental health disorder • Organize (virtual) discussion groups to help reduce loneliness and share emotions and opinions with others
Inform and educate AYAs on preventive measures	<ul style="list-style-type: none"> • Create targeted public health campaigns for AYAs • Educate AYAs on how best to behave in social situations to respect COVID-19 prevention measures • Provide accessible and youth-friendly resources • Facilitate personalized communication and follow-up with health providers to discuss the current situation
Protect vulnerable populations	<ul style="list-style-type: none"> • Adopt specific health policies to support AYAs with chronic disease
Collect information from AYAs if a new home confinement period is coming	<p>To ask questions about:</p> <ul style="list-style-type: none"> • Presence of a confident • Quality of familial support • Level of fear associated with COVID-19 infection • Strategies put in place • Level of functioning of the social network • Level of functioning of the family unit

AYAs: adolescents and young adults.

AYAs if a new home confinement period is declared. These suggestions intersect with all five themes and are summarized in Table 2.

4. Discussion

Interviewing AYAs on their experience of the COVID-19 pandemic during home confinement of the first wave revealed important information about AYAs' lived experience, perceptions, and individual needs. This exploratory study highlights some points of vigilance and potential courses of action to help support AYAs' well-being and mental health.

Our results show that AYAs may have felt abandoned and forgotten in political discourses, poorly informed about their specific health situation, and left without an academic and/or professional continuity. This feeling of abandonment was accompanied by uncertainties about the future (Will activities be able to resume normally? When? How will social life be organized? etc.) and doubts about society's ability to cope with the COVID-19 pandemic (low confidence in society's ability to comply with long-term preventive measures).

This combination of findings reflects the expression of specific latent anxiety among AYAs about the pandemic. Anxiety is an emotion characterized by feelings of tension and worried thoughts that can lead to depression, substance use, or suicide. It is the most common mental health condition among youth with a population prevalence of approximately 15% among adolescents and young adults [21]. Consistent with current data, AYAs in our study were not expressing anxiety due to the fear of being infected [10]. Instead, their anxiety was primarily associated with the fear of being forgotten in public policies, of not being able to exist as “young people,” and the fear of not being supported in their personal development. Our study reveals that the COVID-19 pandemic could increase risk of anxiety among AYAs by adding a feeling of abandonment to the uncertainty about the future and the lack of confidence in our collective capacity to curb the pandemic. This in turn may lead to new forms of anxiety observed in recent years: health anxiety [22] or eco-anxiety [23]. These anxieties are caused by feelings developed in response to collective situations that are beyond individual control, and are less related to an individual's intimate or family situation than in traditional anxiety disorders. Thus, in the mid- and long term, manifestations of anxiety could increase among AYAs as a result of the current pandemic.

Hawke et al [24]. showed that mental health concerns related to the pandemic are highly prevalent among AYAs with physical health concerns. An explanatory hypothesis can be provided by our results. AYAs with chronic health conditions or mental health disorders

expressed a stronger feeling of abandonment from decision-makers and the public health system than their healthy peers. They highlighted the lack of information on COVID-19 related to their specific health condition, and the difficulty of adapting to a new lifestyle and sometimes accessing the care they needed. Indeed, home confinement during the COVID-19 pandemic could affect AYAs' dietary and physical activity habits, which are important parts of preventing and treating several different chronic health conditions [25]. For these AYAs with chronic medical conditions, it was important to be able to keep in touch with healthcare providers. Online or tele-consultation may be a promising avenue, although this was not specifically addressed by study participants.

More generally, although AYAs expressed a desire to maintain preventive measures after home confinement to limit the spread of the virus, they felt that there was a lack of information and adequate support to achieve this correctly. They reported feeling that their efforts (limiting social contacts, not going to school, not having a summer job, etc.) were not officially supported. Furthermore, as shown in a meta-analysis by Yeager et al [26]. AYAs tend to follow public health recommendations when they perceive that their needs and their autonomy are taken into account. To date, the protection of others has been the main motivation for adherence to preventive measures among AYAs [10]. Hence, if there is no feeling of reciprocity or at least of perceived support coming from public health agencies and decision-makers, it could explain why AYAs may decrease their vigilance and adherence over time.

AYAs are characterized by a greater reliance on peers [27] than among older individuals. Maintaining a normal adolescent or young adult lifestyle while carrying out preventive measures requires knowledge and skills (knowing the dangers of the multiplication of different contacts, applying preventive measures in social situations, having an emotional and sexual life without taking risks, etc.). It could be helpful to use popular social media to reach AYA populations [28] and share important educational messages. Adapting public health measures and interventions to take into account the specific developmental needs and lifestyles of AYAs may also help to improve their effectiveness. This point is especially important, given that coping strategies were a major predictor of the mental health of AYAs during the pandemic, as shown by a study conducted in China [29].

Finally, we observed several differences and nuances between study participants related to many themes in this study (e.g., more positive experiences vs. less positive experiences of home confinement, optimistic perceptions of the future vs. pessimistic perceptions of the future, etc.). These results are consistent with other studies [12,30]. For example, in India, Nathiya et al [30]. highlighted that

economical stressors, physical illness, female gender, and living in rural areas were predictors of mental health problems. If our qualitative study does not allow us to generalize the individual differences in perceptions observed, we can hypothesize that AYAs with a chronic condition or a mental disorder, those who dropped out of school, those in conflict with their parents, or those having very limited social relationships are more vulnerable to experiencing more negative mental health outcomes related to the current pandemic. Future research is needed to identify the predictors of increased vulnerability among AYAs in the context of a pandemic.

5. Study limitations

Our results must be considered in light of a number of limitations. First, our sampling method was not meant to be representative of the AYA population and may not be reflective of the perceptions and lived experience of all AYAs. For example, we did not select AYAs on the basis of socioeconomic criteria. Second, since participation was voluntary and based on response to an online survey, there was a risk of selection bias whereas AYAs participating in the study may have been more concerned or impacted by COVID-19 compared with the general AYA population. Third, since all focus groups were conducted virtually, it is not possible to determine whether an in-person mode of delivery would have enabled different types of interactions between study participants. In fact, online focus groups are limited by the fact that only one person can speak at a time (due to technological limitations). This may have limited the exploration of information when divergent views were expressed. However, AYAs were allowed to raise their hand to speak in the case of divergence with other opinions.

6. Conclusion

Our study provides novel insights into the lived experience of AYAs with and without chronic illness during the current COVID-19 pandemic. We identified five key themes suggesting that AYAs' mental health and well-being are significantly impacted by the pandemic and should be considered to help guide more effective governmental and public health measures. Future research is needed to improve our understanding of the risk and resilience factors among AYAs. Longitudinal cohort monitoring and interventional studies (e.g., with vulnerable populations) are logical next steps for our research.

Declaration of Competing Interest

None.

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Supplementary materials

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