

COVID-19 Pandemic Impact on Mental Health in First Year Secondary School Students

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Abstract

Confinement was a helpful measure to avoid virus propagation, but social isolation and the massive closure of face-to face activities in educational institutions, impacted negatively in mental health of students, it increased stress and anxiety in adolescents, affecting their communication skills in this significant step of interpersonal relationships, and the search for their identity. The lockdown in addition to stress and anxiety triggered fear emotions, frustration, worrying and anger, as well as changes in driving energy, diminishing interest and desires. This work aimed to analyze the impact on mental health in first year secondary school adolescents after the COVID-19 pandemic lockdown. **Method:** Qualitative and phenomenological research, 25 students of first year from a public secondary school of Mexico's metropolitan area participated in the study; they were girls and boys 12 - 13 years old. Data collection was through a semi-structured interview, testimonials and anecdotes, in two hour sessions, along a week; research team recorded the interviews, testimonials and anecdotes. A signed informed consent was obtained from school authorities, parents and the assent of students. Obtained qualitative data were analyzed according to De Souza Minayo. **Results:** Four categories emerged with sub-categories. **Category 1:** Anxiety crisis, sub-categories 1.1. In overcrowded places, 1.2. To speak in public, 1.3. Facing interpersonal relationships with peers. **Category 2:** Impaired self-concept, sub-categories 2.1. Deficient self-perception, 2.2 Continuous disqualification and 2.3. Deficient personal objectivity. **Category 3:** Emotions handling, and sub-categories 3.1 Deficient identification of emotions, 3.2 Deficient handling of emotions, 3.3 Maximized emotions. **Category 4:** Coping strategies, and sub-categories 4.1 Deficient coping strategies, 4.2 Self-injuries, 4.3 Solitude. **Conclusion:** In early adolescence and in the post-pandemic context tools to face them are

insufficient to develop social skills and coping strategies. Lockdown interrupted their socialization process, and their relationships with peers made them anxious and led them to risk behaviors. In this context alternatives to develop significant learning are needed, based on adolescents' self-awareness highlighting adaptation, communication, emotional intelligence, creative problem solving and resilience skills.

Keywords

Mental Health, Early Adolescence, After Confinement due to COVID-19

1. Introduction

Post-isolation context after COVID-19 pandemic impacted different areas of society, as well as in all stages of life, these prompted us to investigate and evaluate them since everything was uncertain. A common thought was that youngsters had no tools to face the situation, even though that children and adolescents of the digital age used more strategies to keep contact with friends and relatives, and this led to follow the phenomenon [1] [2]. The lockdown was a helpful measure to avoid SARS-CoV-2 virus propagation, but social isolation and the massive closure of face-to face activities in educational institutions, provoked an important increase of stress and anxiety in adolescents, affecting their abilities to communicate in this significant step of interpersonal relationships, and the search for their identity [1]. Facing this problematic, alternatives to develop significant learning based in adolescents' self-knowledge are required, highlighting adaptability, communication among peers, emotional intelligence, creative ways to solve problems, and resilience [3]. This work aimed to analyze the impact on mental health in first year secondary school adolescents after the COVID-19 pandemic lockdown. In addition to lockdown, stress and anxiety triggered fear, frustration, worrying and anger emotions, as well as changes in driving energy diminished their interest and desires [4] [5].

2. Methods

Qualitative and phenomenological research focused in experiences, emotions, behaviors and attitudes expressed by adolescents in their educational scenarios interacting with peers in the new normality. Phenomenology is a philosophical school founded by Edmund Husserl; it describes the critical attitude to face the factual reality obtained through experience, promotes liberty and expressiveness of the individual shown by secondary school students, as they experienced after the sanitary emergency due to COVID-19, emphasizing their current interpersonal relationships [6] [7]. Twenty five students of first year from a public secondary school of Mexico's metropolitan area participated in the study; they were girls and boys 12 - 13 years old, sampling was for convenience. Students that experienced confinement along the 2 years' pandemic, that participated in on line

classes of fifth and sixth grades. Data recording was through a semi-structured interview, testimonials and anecdotes [8], in an audiovisual room during two hours per session, along a week, from January nine to January thirteen of this year; questions involved aspects of self-concept, emotions and problematic situations most frequent getting back to in-person classes, research team recorded the interviews, testimonials and anecdotes. A signed informed consent was obtained from school authorities, parents and the assent of students. Obtained qualitative data were read, transcribed and shown to informants for their approval, then analyzed according to De Souza Minayo and Berenguera *et al.* methodology [9] [10].

2.1. Inclusion Criteria

Public secondary school first year students from the Nezahualcoyotl Municipality, State of Mexico, either sex of 12 - 13 years of age that experienced lockdown during the two years of pandemic, that attended virtual sessions of fifth and sixth grades of primary school level, with previous parent or guardian authorization, and adolescent's assent.

2.2. Information Collection

Information was collected along five sessions through semi-structured interview, written and verbal testimonials, focal group and observation of participant, sessions were recorded with informants' authorization.

2.3. Ethics and Legal Aspects

Ethics and legal aspects were based on the Declaration of Helsinki, principle 9 "It is the duty of physicians who are involved in medical research to protect the life, health, dignity, integrity, right to self-determination, privacy, and confidentiality of personal information of research subjects" [11]. Each student signed an assent letter and each parent or guardian signed an informed consent letter, according with the Nüremberg code and local law. A written permission by school authorities was obtained.

2.4. Data Analysis

Qualitative data analysis was under De Souza Minayo methodology, interviews were transcribed, data were read twice, and then shown to informants for confirmation, emerging categories and sub-categories were formed [12].

3. Results

Informants' status is shown in **Table 1**, anonymity was kept by assigning flowers names; 60% of the population were females and 40% were males.

After the qualitative data analysis four categories with sub-categories emerged supported by speeches, testimonials and the reference frame are shown in **Table 2**.

Table 1. Informants' characteristics.

Student	Age	Gender
Peony	12 years	Female
Iris	12 years	Male
Carnation	12 years	Female
Rose	12 years	Female
Chrysanthemum	12 years	Male
Violet	13 years	Female
Gladiolus	12 years	Female
Acacia	12 years	Female
Poppy	12 years	Female
Dahlia	13 years	Female
Geranium	12 years	Male
Camellia	12 years	Female
Cempoalxochitl	12 years	Male
Azalea	12 years	Female
Lily	12 years	Female
Telopea	12 years	Female
Tulip	12 years	Male
Pansy	12 years	Male
Bougainvillea	12 years	Male
Orchid	12 years	Female
Daisy	12 years	Female
Blue lotus	12 years	Male
Sandal	12 years	Male
Maple	12 years	Male
Jasmine	12 years	Female
Total	25	

Source: First year students from a public secondary school of Nezahualcoyotl Municipality, State of Mexico. January, 2023.

4. Discussion

Adolescence is a transitional step between childhood and adulthood, it requires to reach certain tasks that tag person's identity and emotional stability in order to be incorporated entirely to society [2], to do this it is necessary the proper context to develop communication skills for interpersonal relationships, *i.e.*, with family members, authorities and mainly with their peers; transition for both, children and adolescents was interrupted due to COVID-19 pandemic, leading to adaptation processes, unfinished in many cases, triggering problems that happened along the lockdown [13] [14]. Confinement in small overcrowded places, with no room to expand without facing conflicts are represented in the

Table 2. Emerging categories.

Category	Sub-category
1) Anxiety crisis	1.1) In overcrowded places
	1.2) To speak in public
	1.3) Facing interpersonal relationships
2) Impaired self-concept	2.1) Deficient self-perception
	2.2) Continuous disqualification
	2.3) Deficient personal objectivity
3) Emotions handling	3.1) Deficient identification of emotions
	3.2) Deficient handling of emotions
	3.3) Maximized emotions
4) Coping strategies	4.1) Deficient coping strategies
	4.2) Self-injuries
	4.3) Solitude

following emerging categories:

Category 1. Anxiety crisis, sub-categories 1.1. In overcrowded places, 1.2. To speak in public, 1.3. Facing interpersonal relationships, as shown in the following speeches:

[] *When I am in the classroom and peers start to speak, some of them take their facemask away and get to close, I feel distressed and with fear, I feel tremors in my hands, legs, all my body and want to cry, I do not have self-control and want to run away from the classroom, I feel stressed very fast.* **Acacia**

[] *I feel really bad when the teacher asks me to speak in the classroom, my voice shakes, I am ashamed of expose a topic, I am very scared that my peers make fun of me, I am not quite sure about what I am saying even though I know the topic, my voice decreases and I cry, everyone tease me about that.* **Camellia**

Any sudden change provokes fear and uncertainty, individuals in early adolescence were lockdown at home, they attended the fifth and sixth degrees of primary school on line and did not say good bye to school friends. They entered secondary school not having a real end up from the previous scholar step, their friends were left behind. The news along the pandemic were devastating due to deaths, and in many families loses accounted several members; these facts were recorded in adolescents' minds and remembered when they got back to face to face classes, recalling them during school coexistence and their interpersonal relationships diminished, and increasing unsteadiness in verbal communication so that they do prefer social networks, the main media used during the pandemic [15] [16]. This was clearly perceived when self-concept was addressed in adolescents, and it was found that those skills were lost during lockdown, even with harmful feedback due to problems in family communication and the lack of context to nourish their identity, as can be seen in:

Category 2. Impaired self-concept and sub-categories 2.1. Deficient self-perception, 2.2 Continuous disqualification and 2.3. Deficient personal objectivity. Self-concept could be understood as the opinion a person has about self, it involves a value judgement and the ability for self-recognition which is built through interpersonal relationships with family members, friends, peers in school and in sports settings [15] [16] [17] [18]; during the pandemic this construction was impaired for adolescents, due to low or absence of positive feedback circumstances on them, since attention was focused in life preservation, health conditions, having a job and the ways to subsist facing the changes. As a result, high stress, overcrowding at work or home triggered discussion about task assignment, spaces at home/work and recreational breaks [1] [5], such that under emotional intensity those involved handled messages that not fulfill a self-concept feedback in the adolescent, which is observed in the following speeches:

[] *To be honest nothing of myself likes me, and is worst if I am angry, I am rude with persons, and I do not like my physical appearance.* **Carnation**

[] *I am a very pessimist person, I do not find positiveness of things easily, I am very reserved and do not like personal affections, I am not sociable and do not like that others repeat me what to do, I do not exactly what I like from myself because all the time they repeat the bad things of me.* **Bougainvillea**

[] *I am a girl that easily stresses and I do not like that I give up very fast, as well as I get angry if my things go wrong.* **Jasmine**

Self-concept is dynamic and then it is possible to modify with new data, coming from the re-interpretation of self-personality, from daily experiences through person's life or from external judgements, from constant learning and thoughts. When feedback is negative in the reconstruction of self-concept, factors that lead adolescents to risk behaviors are additive, such as use and abuse of substances, sexual intercourse without caution that could end in undesired pregnancy, among others [2] [15].

Along this self-concept and self-esteem construction process is very important to have emotional skills, since emotional instability leads to a constant disqualification it is necessary to identify personal emotions and those of persons whose adolescents interact with, to reach a communication not biased by maximized emotions; communication in interpersonal relationships must be the result of a process of listening and thoughts, which is obtained through continuous development of emotional intelligence in the adolescent [3] [4] [17] [18], as shown in **Category 3.** Emotions handling, and sub-categories 3.1 Deficient identification of emotions, 3.2 Deficient handling of emotions, 3.3 Maximized emotions, with the following speeches:

[] *I feel sad most time of the week, even if I am with my loved ones, I feel alone and also I fear that people tease me or my body, I get angry myself because I cannot control negative thinking about myself.* **Daisy**

[] *I feel sad because I think am not worth, my parents say that I do everything wrong, and I feel sad very often.* **Azalea**

[] *Most of the time I am afraid, I do not like to be surrounded by people because I get anxious, I am angry with many of my family members as well as in the classroom, I do not get along with anybody and that is awkward.* **Camellia**

Individual, familial and social risk factors are relevant in the adolescent due to emotional instability and risk behaviors; anxiety disorders, stress and depression increased making imperative to intervene developing coping strategies to face frustration, emotional intelligence, adaptation to change abilities in order to timely prevent solitude, self-injuries, or even worst, suicidal behavior [17] [18] [19] [20], as shown in the speeches that created **Category 4**. Coping strategies, and sub-categories 4.1 Deficient coping strategies, 4.2 Self-injuries, 4.3 Solitude:

[] *I feel very lonely, I think nobody understands me and I get very angry, then I get very sad and I injury myself in the arm that helps me to be less sad, my parents get angry with me but I do not know how to tell them how I feel.* **Poppy**

[] *I do not know how to explain this I am doing, but if I feel very angry, when they get fool of me or when they mess with me, I want to beat them and want to cry, but I get the blade of my pencil sharpener, cut myself, and do not want to talk to them.* **Orchid**

Timely health professionals' intervention is essential in basic education schools (primary and secondary), to accompany adolescents in the adaptation to new normality once they are back to social and face-to-face life. By the aid of different coping strategies before situations that produce anxiety, stress and fear those will be tools that help diminish self-injuries and solitude, giving the opportunity to establish relationships assertive without negative passions. Innovative pedagogic strategies are needed to teach, through problem solving, students since it is currently one of the most used methods to implement the significant learning, because the aim is that students develop efficient processes for critical thinking in problem solving, which contribute to cognitive independence, increase confidence in reach success, and augment study encouragement [21] [22] [23].

5. Conclusion

In early adolescence and in the post-pandemic context tools to face them are insufficient to develop social skills and coping strategies. It is concluded that lockdown interrupted their socialization process such that their relationships with peers made them afraid, fear to be criticized overwhelmed them leading to risk behaviors. Family relationships during two years disrupted their self-concept construction. Then a reconstruction is needed with the aid of different settings. Opportune multidisciplinary as well as interdisciplinary might limit adolescents' harm, school nurses have the elements, knowledge, skills and strategies for health evaluation and education, suitable and opportune, making team with the psychologist and the social worker at school. The innovative approach implemented in the new generations of nurses allows them to teach attractively, appropriate and effective to develop self-concept, self-esteem, emotional intelli-

gence and conflict solving in children and adolescents, as part of their goal in physical and mental health education and promotion. Health care throughout life is a prime directive of nursing, working as a multidisciplinary team, as it is noticed in an educational scenario.

Authors Contributions

All authors collaborated in the research. DCTP designed the protocol, wrote the manuscript. DCTP, SEDG, LAGV, and DALD collected and analyzed data, and edited the manuscript for publication. All authors read and approved the final manuscript.

Conflicts of Interest

Authors declare no conflict of interest.

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