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ARTICLE INFORMATION	ABSTRACT	

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KEYWORDS

COVID-19 Pandemic, Special Needs Students, Physical Education, Sports, Jamaica Students with special needs are one of the most vulnerable groups in our society. Special needs students require distinct treatment and attention to function and make sense of the world. The COVID-19 pandemic has disrupted the routine and the special attention that are normally available to these students when they are in face-to-face school. One of the most anticipated aspects of face-to-face school is participating in physical education (PE) and sports, which provides physical, social, and psychological benefits for special needs students. However, the pandemic has forced schools online and has changed the ascetics of PE and sports. Furthermore, like a third-world country, Jamaica does not have the technological resources needed to fully engage special needs students in PE. As a result, this study sought to investigate the challenges that are facing special needs students and teachers in PE while conducting classes online during the COVID-19 pandemic, from the teacher's perspective. The research took the form of a qualitative approach while utilizing a multiple case study design that used a purposive sampling method in selecting the four (out of 11) most prominent public special education schools in Jamaica. The results revealed that student participation in PE was significantly impacted. In some cases, up to 80% of the students were unaccounted for in PE classes since the start of the pandemic. The challenges were seen as magnified twofold, ranging from physical, psychological, social, environmental, and societal issues. The results of this study raise serious concerns about the physical health of students with special needs, with Jamaica struggling to reduce physical inactivity rates and chronic lifestyle diseases. The risk of special needs students developing secondary disabilities because of sedentary lifestyles practices is very worrying. A lack of physical activity also means lower levels of socialization and increased psychological issues that could worsen with the strict COVID-19 lockdown measures, internet connectivity issues, and lack of devices.

1. Introduction

Sport is a motivational factor in society that has transformed lives physically, socially, psychologically, and financially for many decades. Many people worldwide depend on sports for financial gains; after all, sport is a multibillion-dollar industry. On the other hand, some people depend on sports for the mere physical, social, and psychological benefits. One such group of people that are constantly depending on these benefits are people living with special needs. According to UNESCO (2020), around 15% of the world's population, or more than 1 billion individuals, have a disability, and 2% to 4% of those with disabilities find day-to-day living difficult without assistance. Low- and middle-income countries, such as Jamaica, have a higher prevalence of persons with disabilities. In these third-world countries, access to the internet is influenced by various factors, including disability, gender, nationality, race, income, and many others. Furthermore, persons with disabilities tend to suffer from physical and intellectual conditions, which is no fault of their own. These disabilities may have developed from environmental effects, medical factors, hereditary, teratogenic, among other factors.





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Despite the causes of the different disabilities, people living with special needs enjoy the many benefits of participating in adaptive sports. In fact, people living with special needs rely on the physical and social benefits more than persons without disabilities. Many people worldwide who suffer from physical defects rely on physiotherapy and sports participation to strengthen and develop muscles and limbs. Also, the social aspect provides the necessary interaction that special needs people use to develop their social skills. According to Kızar et al. (2015), children with special needs are unable to develop healthy contact. They are more likely than average children to suffer from personality disorders and discontent. Sports help children solve their difficulties by reducing feelings of isolation and maintaining a meaningful life. Kızar et al. (2015) further explained that sports enable people to escape their small worlds and be influenced by other cultures, people, values, and thoughts. Sports aid in the formation and reinforcement of new friendships as well as social cohesion in this regard. As a result, persons with special needs that are motivated to participate in sports can more quickly integrate into society and avoid being dissatisfied with life.

Smith and Sparkes (2019), as cited by Smith et al. (2018a) research revealed that there was enough evidence to recommend that physical activity would improve health and reduce the risk of chronic diseases in special needs people. The evidence gathered in the study indicated that for health benefits, two sets of demanding strength and balance exercises should be performed twice a week. The study also stressed that special needs people should engage in 150 minutes of moderate to intense physical activity for significant health benefits (Smith and Sparkes, 2019 as cited in Smith et al., 2018a). Around the same time, there was evidence that disabled people would benefit from physical exercise when it is done at a lower level (e.g., moderate) and over a longer period of time (e.g., 60 minutes per week). However, these benefits were not as large when the activity was performed at a higher intensity and duration (Smith et al., 2018a).

Despite the obvious need for sport and physical activity in the lives of people living with special needs, there are still many challenges in achieving these goals. Kentiba (2015) explained that materials, supplies, the school compound, the lack of disability sporting events, insufficient pupil-to-pupil care, inadequate professional development training, and an incomprehensive curriculum are all factors and obstacles that hinder special needs children's involvement in PE and extracurricular activities. Additionally, the COVID-19 pandemic has brought on even greater challenges. Some special needs children have greater mortality risk because of their underline conditions. These underline conditions and the personal care required for special needs students make it almost impossible to social distance in a face-to-face engagement at school. As a result, no face-to-face classes are being held and school buildings have been closed for almost two years now. This means that special needs students are not getting the type of face-to-face engagement that would provide physical, social, and psychological benefits from PE and sports.

The COVID-19 pandemic has created significant challenges for Jamaica and the rest of the world, affecting every industry. Education has not been spared, and the inefficiencies in our system are now being exposed. The great digital divide has affected the less fortunate in our country, which saw many students not having access to education or educational materials. The same can be said about special needs schools; the students rely heavily on teachers and teacher assistants for daily functioning when at school. Students are no longer in the face-to-face space and are more reliant on parents and guardians for assistance. Furthermore, UNSECO (2020) believes that a high-tech online solution is not necessarily the only way to create an inclusive learning environment. However, it is currently unknown how many students with disabilities are receiving insufficient instructional assistance because of the COVID-19 pandemic due to a lack of disaggregated data and information.

Many of these children, especially autistic children, have special routines that they follow. The pandemic would have disrupted their routines and affected their learning style, social interactions, and physical development. Special needs children and their parents are not technologically savvy, and manipulating the digital space is challenging. Additionally, the inability to participate in sports and physical activity has devastated many special needs students who are unable to participate via the online modality. Online learning becomes confusing and disruptive because students are not comfortable being in front of a device for long periods. The many physical, social, and psychological gains that were achieved through face-to-face engagement are in jeopardy of being reversed. Teachers are not confident that the online learning approaches reach all students and maintain an acceptable performance standard. This research sought to investigate the challenges that are facing special needs students and teachers in PE while conducting classes online during the COVID-19 pandemic, from the teacher's perspective. Additionally, the study sought to better understand the impact and coping mechanisms being employed by schools to ensure that students continue to receive quality physical activity from home.

2. Methods

2.1 Research Approach and Design

The study took the form of a qualitative approach while utilizing a multiple case study design. Case studies are based on an indepth inquiry into the causes of the underlying principles of a single person, group, or event (Bartlett & Vavrus, 2017). Additionally, improved data were gathered to supplement information and associations were made, which are confirmed by evidence from different sources with similar characteristics. For the purposes of the analysis, each school provided data as a particular case to be examined using this multi-case study research design (Chiappe & Franky, 2019).

2.2 Population and Sample size

The targeted population for this study were special education schools in Jamaica. As a result, the researcher selected four prominent special needs schools for which one PE teacher was used to represent a school. However, there are limited numbers of special needs schools in Jamaica, some of which are privately own or government-aided (public). However, many of these schools have very few students. Nevertheless, an association known as the Jamaica Association for Intellectual Disability (JAID) controls an umbrella of schools. According to Hall and Figueroa (2010), there is currently eleven special public education segregated schools in Jamaica, accommodating 2781 school-aged children with varying special needs. This research focused on the four major public special needs schools in Jamaica. The sample size for this research comprised the four PE teachers assigned to the four public special education schools chosen for this research. The sampling method for the study utilized a purposive sampling technique. This is where individuals were selected based on their specific characteristics needed for the study (PE teacher).

2.3 Data Collection and Analysis

The data for this research was collected with the use of semi-structured interviews. Each participant was interviewed and key points that stood out were written down. Memos (notes) were used throughout the interview process to capture any research thoughts during and after each interview. The interviews were recorded electronically using the zoom conference recording platform. Afterwards, the interview for each participant went through a transcription process where the recordings were transcribed into text. Following the transcription process, a rigorous thematic analysis was used to group, interpret, and report common linkages between the data. After the analysis from each interview was completed, the researcher then analyzed and coded all the interview transcriptions to find similarities that formulated emerging themes. These themes were presented and discussed as the results of the research.

2.4 Procedures and Ethical Issues

Approval from the institution's ethics committee (EC) was sought from the University of Technology, Jamaica. Once approval was granted, the researcher then prepared letters that were sent to the participants. The letter of participation contained an explanation of the study, a description of the purpose of the study, participants' rights within the study, benefits and risks regarding participation in the study, and the voluntary nature of participation. All participants were interviewed privately over Zoom. The researcher asked that there be no interruptions or distractions throughout the process of the interview.

Once the interview commenced, the researcher recorded the interview electronically using the Zoom video conferencing platform. Also, memos (notes) were used to record key points; each interview was transcribed by the researcher at a later date. If initial themes occurred during the first two interviews or the subsequent interview, the researcher applied to clarify questions or points to subsequent interviews to learn more about the emerging subject. Previous interviews that were conducted were not redone.

Ethical issues arise daily in all scientific fields that conduct research. According to Dabic and Stojanov (2015), our duty to participants is linked to the core ethical principles. Researchers are responsible for par with honesty, fairness, and the welfare of all participants. Qualitative research such as this carries the risk of the following ethical issues; informed consent, protecting the privacy of participants and institutions affected by the research, and willingness to participate in the research. The researcher was committed to following all ethical standards and guidelines to ensure the highest form of ethics was always maintained. The validity, trustworthiness, and reliability of this research are extremely important. As a result, the researcher ensured that all measures were put in place to protect the participants and the quality of the data.

3. Results

The results of this research are a collection of the voices of four special needs PE teachers in Jamaica. The research was conducted using a semi-structured interview process that allowed the PE teachers to provide in-depth details about the effects of the pandemic on PE and sports participation in their school. Throughout the data analysis process, four themes emerged, the results of the research are presented using the emerging themes. The four themes include the support for special needs PE teachers, adapting to the COVID-19 pandemic, and the challenges encountered in online PE.

3.1 The Support for Special Needs PE Teachers

Based on the results of this study, the participants have indicated that their cry for help in teaching adaptive PE has gone unnoticed. Additionally, they believed that the pandemic has only made a bad situation worse. The participants further explained

that special needs schools in Jamaica do not understand the importance of PE and sports in the lives of students with special needs. Participant 1 indicated that "I saw a course is done online, and I signed up. It has to do with PE and sports because I keep asking why PE is always on the back burner, especially for these special needs children." Participant 1 further explained that "these children need to be participating in PE because we even lost a student who had underlined conditionings." Another participant indicated that even though he is a trained PE teacher, his school has discontinued PE and he is now teaching a regular class. PE is now done by the classroom teachers based on the scheduled timetable. The participant also indicated that many other special needs schools in Jamaica have stopped teaching PE since the onset of the pandemic. Participant 4 further explained that PE teachers are not trained in adaptive PE, and bringing the content online is difficult.

The participants also indicated that they are not trained in adaptive PE, which comes with its challenges. However, the pandemic has increased the need for support. The participants also explained that throughout the pandemic, they had not received any training in online PE. Participant 3 indicated that "no training was provided for teaching online PE, but I think because I have been in this physical education thing here for so long, it was not very difficult for me, but it has its difficulties." Participant 2 also indicated that "no, I did not get any online training." On the other hand, the participants did receive training in managing some of the online platforms.

Another support that is crucial for teaching online PE is a well-developed curriculum. The issue of the curriculum has been plaguing special needs schools in Jamaica from the inception of these schools. The four participants interviewed all taught four different areas of PE despite teaching students with similar disabilities and age groups. The participants indicated that they do not have a curriculum working from. However, they sometimes mimic what is taught in regular schools. The pandemic has forced regular schools online, so the participants were unable to follow what was being done in those schools.

The participants all focused on different concepts and areas based on what they perceived to be important for the students. Some participants believed they could only teach the theory online, while others thought they could mix it with some cardiovascular exercises. Participant 1 explained that "I had to do a lot of Powerpoint presentations and discussions with students." All the participants revealed that they had to seek help in teaching PE online. The participants suggested that they had to do their own research to find creative activities and ideas to keep the students engaged online. Participant 2 indicated that "I tried to do my own research, go on other sites and look at what other countries are doing in the virtual setting and how they are managing." Another support that the participants received came from parents and caregivers. The participants praised the efforts of some parents and caregivers who ensured that students could log in to classes and stayed with the students to ensure that they participated. Participant 3 explained:

I must say, with my school, the parents have been a tremendous help and the caregivers. Fortunately for me, though, I would just say that my class is extremely interactive, so, you know, I draw a lot of the parents into my physical activity. Yes, I get the grandmothers sometimes I even invite whoever is in the house to come.

However, some parents never showed that support to their children, which affected their participation and attendance. Participant I indicated that "some of the students are basically on their own at home because the parents have to work or whoever they are with. Some of them have to be at work."

3.2 Adapting to the COVID-19 Pandemic

The participants stressed the difficulties they faced in helping students transition to online PE classes. The participants indicated that based on the nature and disability of the students, this process was extremely difficult. Participant 2 explained that "the transition from face-to-face to online learning was very challenging for me based on the area that I am in, I teach physical education to children with special needs...the autistic children were very uncomfortable around the screen." The participants explained that some students are not adaptive to change, especially autistic students who tend to have a particular routine. Participant 2 explained that a strategy that had to be employed for the lower functioning students was going outside with the camera to see the outside and recall PE classes. The participant further explained that those students were adamant that this was not PE class based on what they were accustomed to. The students changed the name of the class from PE to exercise class.

The participants all indicated that the familiarity of their faces helped to calm some of the students. Participant 3 explained that "because of the familiarity with their teacher, their transition was not that stressful." The participants indicated that constant reinforcement was needed to remind students that there is a pandemic and they cannot have any face-to-face classes. Participant 3 indicated that:

Explaining to them what is happening and why we could not go outside was crucial. So sometimes, I have to be doing reinforcement. The reinforcement is important. Each day of class I would say, all right, this is what is happening and so, this is why we have class virtually, but let us make the best of it, and I would tell them we will get back together face-to-face soon.

All the participants used some form of discussion and meditation before, during and at the end of their classes to help students cope with the pandemic and online PE.

Another form of adaptation that was expressed by participants was adjusting how and what they taught. The participants explained that online teaching was very new to them and it brought on many challenges. However, they did their own research and studied students' behaviour and adapted their sessions to fit the needs of the students. Participant 3 explained that "I try to keep them heavy on the cardio fitness and resistance training. So, it is not like they are just losing and become flabby; I am muscle toning them." The participants also indicated that they had to utilize creative means to get students to participate. The participants used materials found in the student's homes as a means of helping them to participate in class. To ensure that student's attention was captured, the teachers indicated that they used music, games, and videos as part of their classes. Participant 3 stated that "we looked at different videos, for example, if I am talking about football and the body of the play, stuff like that, we can go into tactics and maneuvers and stuff like that." What was taught changed greatly for some of the participants; as indicated earlier, they taught what they thought was important for the students.

Two participants indicated that they did cardiovascular fitness workouts and resistance training, while the other two participants focused on the theoretical aspects of PE. Participant 1 indicated that "I have been encouraging them, letting them know especially in this time, they need to stay fit, they really need to stay fit, do as many physical activities as they possibly can and exercise." The teachers used all the platforms they had available to reach students and ensured they would constantly participate—some teachers sent home sporting implements for the students to ensure that they could participate in class. Participants 1 and 2 indicated that they also sent assignments to parents' phones with the aim of having students complete and return. This was for students that could not be at the live classes. Participant 2 also indicated that she made videos of the lesson and sent them to parents for students to watch. The parents were then required to record the students executing the skills and send them back to the teacher.

3.3 The Challenges Encountered in Online PE

Based on the results of this study, the challenges facing special needs PE teachers are overwhelming. The participants explained that special needs students faced similar challenges as regular students; however, these challenges are magnified twofold. The participants explained that device, internet, maneuvering the platforms, supervision of students, keeping students engaged, the environment in which students live, limited space, physical and psychological factors, no set curriculum, 80% of students in some cases absent from online classes, and lack of interest to participate are major challenges they have been facing during the pandemic. The majority of the participants expressed concern over the number of students that turn up for online classes. Participants 1 and 2 explained that up to 80% of their students have been unaccounted for since the start of the pandemic nearly two years now. The few students that turned up for classes sometimes log in to the classes, but they do not turn on their mics or cameras and are non-responsive when called by the teachers. Participant 3 explained that:

It can be challenging because some of them do not want to be on camera, some of them are so slick that you would see their names, but they are not there, or they are trying to be doing something else. So, you have to always tell them, turn the cameras on, warn them, or let them understand that they are actually in a class.

For the students that do turn on their mics and cameras, their environment is too noisy and distracting to other students. Participant 1 explained that "if they do answer, it is like they are doing something and there is so much distraction and noise in the background, it is really overwhelming." Some of these students cannot go outside for class because of the communities that they live in (volatile), and there is not enough space inside to facilitate PE. Despite the situations being faced, participant 1 indicated that he has a 90% turn out of students based on the different initiatives being employed by his school. However, the issue of the device, participation in class, noisy background, students being distracted, and students logged in and are not at their devices still affects his school's delivery of PE classes.

The participants all concluded that lack of supervision from parents and caregivers, lack of devices, no set curriculum, lack of resources, and internet access are among the greatest issues affecting the teaching of online PE. All the participants indicated that their students have become overweight, and they are worried that these students will develop secondary disabilities from chronic lifestyle diseases. Participant 2 explained that:

I have a lot of concern about it. For example, those who have Down Syndrome normally suffer from obesity and other heart conditions, and so most of them are inactive. They are not doing anything much. I believe there will be consequences from obesity.

The participants also explained that the physical and social gains that were attained before the onset of the COVID-19 pandemic had been lost. The participants believed that the type of interactions students would have in a face-to-face environment participating in PE cannot get the same benefits online. The participants also highlighted that PE classes were a means that

students used to relieve emotional stress from their disability or their living conditions. The teachers are worried about the lack of participation in PE and the impact of the COVID-19 pandemic on the student's psychological state. The teachers stress that the students are experiencing high levels of stress based on their interactions in class; with little to no help from some parents, the teachers are worried about students having mental breakdowns.

Another challenge the participants are facing is the students' short attention span during this online modality. This prevents them from sitting in front of a screen for the recommended period. Participant 3 explained that "the attention span for them to focus, you have challenges with that. Especially if you have students with attention-deficit / hyperactivity disorder (ADHD) and other conditions." The students do not see online classes as PE and, at times, refuse to participate. The teachers explained that with limited parental supervision (parents have to work) and not being in a face-to-face environment, there is not much they can do despite their efforts in persuasion. Another concern for the teachers is the performance of the students throughout the pandemic. The teachers believe that the students are not grasping the skills they would have liked. The students can partially demonstrate the skills but not be in a face-to-face environment; they are unable to properly correct and reinforce the skills.

4. Discussion

4.1 To What Extent did the Pandemic Impact PE and Sports Participation in the Four Special Needs Schools?

The COVID-19 pandemic greatly affected disabled persons, sports, and physical activities (Activity Alliance, 2021). The pandemic has significantly impacted PE and sports participation in the schools that took part in this study. The results have revealed that some schools have over 80% of their students unaccounted and have not participated in PE and sports since the pandemic started almost two years ago. Theis et al. (2021) research revealed findings similar to the results of this study, Theis et al. (2021) indicated that there were indeed significant negative effects of lockdown restrictions on people with special needs with a 61% reduction in physical activity levels. The results of this research also revealed that the students who turned out for online classes, sometimes do not want to participate in the classes. The students sometimes log in to the classes, but they are not beside their devices or otherwise distracted by their environment. Many of the students seem to have device and internet challenges, which either prevented them from participating or prevented them from turning on their cameras. UNESCO (2020) highlighted that these are real barriers preventing people with special needs from participating in PE and sports. Parental support was another issue that affected student's attendance to classes and their actual participation in the classes.

The results indicated that many parents had to work and could not afford to spend the time needed to ensure that students signed into classes and participated. Another issue that affected participation was the manoeuvring of the devices; participants indicated that in some cases, both parents and students had difficulties using devices effectively for class participation. These were all findings supported by UNESCO (2020) in their discussion of barriers to participation for special needs students. UNESCO (2020) explained that systemic approaches are necessary to help parents and caregivers with both their domestic responsibilities and students' education. Furthermore, adaptation became a barrier to participation in online PE. Students were not convinced that they were engaging in PE. The lack of space in the homes of many students, the lack of materials and equipment also affected their interest and level of participation. Kamyuka et al. (2020) research findings and that of Activity Alliance (2021) both corroborated the findings from the United Nations (2020) report that believed people with disabilities are more likely to face inequalities. Additionally, many of the teachers indicated that they were unsure what to teach, how to teach, and how to engage students at the onset of the pandemic, which affected students' interest and motivation to participate. UNESCO (2020) believed that providing teachers with feedback and appropriate, evidence-based tools for how to implement lessons in remote and online environments in special education is critical as schools move to online learning amid the COVID-19 crisis.

4.2 What are the Perceived Physical and Psychological Effects of the Pandemic on Students?

The results indicated that some students have become overweight and obese. Physical inactivity has long been recognized as a contributing factor for secondary disability in the form of noncommunicable diseases for people with special needs (Van Schijndel-Speet et al., 2014). As a result, it is critical to offer ample physical exercise options to groups at a greater risk of developing secondary chronic conditions. Despite the advantages, children with special needs have fewer opportunities to participate, are less fit, and are more obese than their peers.

Sekhri (2019) research titled "Participation in extracurricular activities: A boon for children with special needs" has corroborated the findings of this research with the revelation that the nature of the underline conditions of some special needs students, gaining weight could become detrimental without proper intervention. Sekhri (2019) further explained that through participation in PE, special needs students could also have lower levels of frustration and depression than inactive individuals with disabilities. Participating in sports can help instil a sense of self-confidence, strengthen relationship-building and teamwork skills, and aid weight loss.

Furthermore, the psychological effects of the pandemic were very evident in how the students reacted to online classes. The students became irritated, stressed, and mentally unstable.

The teachers indicated that the social and psychological gains that were observed before the pandemic has been lost. Theis et al. (2021) research confirmed that psychological effects had been observed with special needs students throughout the pandemic. The study conducted by Theis et al. (2021) indicated that over 90% of respondents in their research reported negative impacts on mental health (including poorer behavior, mood, fitness, and social and learning regression). The results of this study indicated that motivational words, discussions, music, and meditation had been used by teachers before, during, and after classes to calm the mental state of students.

4.3 What are the Major Challenges in Maneuvering the Online Space to Teach PE to Special Needs Students?

The results indicated that the challenges faced by the students and the teachers are magnified twofold. The PE teachers were uncertain as to what was to be taught and how they should teach in the online delivery; the teachers did not get any training to deal with online PE. UNESCO (2020) believe that learning in a remote setting varies from learning in a traditional classroom setting, and as a result, the teachers should have gotten more support. They noted that remote learning should cover student requirements as well as course strategies. UNESCO (2020) also indicated that the curricula must be changed on a regular basis. For instance, homework can be streamlined by encouraging students to dictate rather than type, and reading assignments can be given audio resources. As a result of the lack of support, teachers had to do their own research in finding creative means of engaging students. However, some students found it extremely difficult to transition into the online space, and the limited knowledge of the platforms, not having a device, and the lack of internet access all affected the maneuvering of online PE.

Supervision of students, keeping students engaged, the environment in which students live, limited space at home, physical challenges in teaching online, and not having a set curriculum with relevant materials all created a challenge in the online space. Children with special educational needs require varied educational approaches during the COVID-19 pandemic, according to Singh (2001) as cited in Sekhri (2019). Sekhri (2019) research discovered that all stakeholders, including children with special needs, believed the curriculum being used for special needs is ineffective. Furthermore, disabled people are even further impacted by a shortage of room, space, and resources at home to participate in PA (Activity Alliance, 2021).

5. Conclusion

The COVID-19 pandemic has significantly affected the participation of special needs students in PE and sports. As a result, many of the students are now overweight and obese. The PE teachers fear that these students will develop secondary disabilities related to chronic lifestyle diseases without serious intervention. The fact that students were already challenged with various underline conditions, the PE teachers are worried that they are more at risk of getting COVID-19 and developing serious complications leading to death. The results of the study indicated that in some cases, up to 80% of the students have not been participating in PE classes since the start of the pandemic. The study also revealed that students were faced with several issues ranging from a device, access to the internet, poor supervision, lack of motivation, limited space, poor living conditions, and an inability to maneuver the online space. The major psychological impact of the pandemic included irritation, stressed levels of students, and their mental stability. The PE teachers indicated that they used motivational words, discussions, music, and meditation to calm the mental state of the students.

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