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ORIGINAL ARTICLE

Impacts of Teacher's Pedagogical Approach on the Inclusion of Adolescents with Exceed Weight into Physical Education and Sports in Emirate of Ajman (United Arab Emirates)

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ABSTRACT

Background. Physical Education and Sports (PES) plays an important role in the overall education of the student. It has physical, affective, psychological and social repercussions. In fact, overweight adolescents are sometimes underestimated on the basis of their lower physical performance and suffer from discriminatory attitudes by their peers and their physical education teachers. **Objectives.** The aim of this study was to investigate the impacts of both teacher's pedagogy and overweight or obesity on the inclusion of obese students in classrooms and to understand how PES teachers adopt their pedagogical interventions towards this category. **Methods.** A sample of 48 overweight or obese students and 20 teachers were approached from different schools at Ajman Emirate. Two questionnaires for obese students and PES teachers were used to collect the data. **Results.** According to the data collected through the questionnaire, 85.42% of obese students report that they rarely practice or do not practice physical activity outside of school, and 73.42% go to school by bus or car. In addition, 66.7% of the surveyed students said that overweight is a barrier to PSE practice. Similarly, 75% of the surveyed teachers said that obese students are not integrated in the PES course, but only 55% of teachers reported that the obese student became an obstacle in PES sessions, while 80% of teachers reported that obese or overweight students were marginalized by their colleagues. **Conclusion.** Our study confirmed an urgent need and effective teaching strategies/ pedagogies for including overweight or obese students in physical education engagement and learning.

KEYWORDS: ***Pedagogy, Inclusion, Obesity, PES and Adolescent***

INTRODUCTION

In the United Arab Emirates (UAE), overweight is a dominant topical issue. It is considered as a major public health problem. Its management is a primary objective, given the growth of this handicap and the consequences it has on health. This survey is the first attempt to study the impact of the teacher's pedagogy on the inclusion of the corpulent adolescents in PES setting in the emirate of Ajman (UAE).

The incidence of overweight and obesity is increasing very rapidly, especially among school-age children and adolescents, becoming a chronic

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and epidemic limitation with a continuous increase in prevalence (1). It has been shown that parents tend to misjudge their children's weight status at an early age (2). In addition, obesity for adolescents presents a significant risk of persistence into adulthood. The multiple complications of obesity require the interest of an effective preventive approach that should be initiated in early childhood (3). This delicate issue is also very present in the school environment and every physical education and sports (PES) teacher will be confronted to this situation at some point. Thanks to the educational role of the school, PES must be a vector of inclusion for all students and for those with special needs. For obese or overweight students, PES has obvious benefits on the physical, psychological, and social levels. Indeed, the progress they can make improves their daily life, their quality of life and their autonomy. PES also builds their confidence and self-esteem and equips them to better face their difficulties (4). Thus, the goal of this work is to evaluate the impacts of physical activity and the teachers' pedagogical approach for including overweight or obese students in physical education engagement and learning in the emirate of Ajman and to understand how PES teachers design their pedagogical interventions with obese adolescents for a better involvement of their part into PES setting.

The intervention of the PES teacher should not be the same with all the partners of the pedagogical relationship, therefore we seek to understand how the PES teacher conceives his pedagogical approach with overweight/obese students where their morphotype limits their practice of PES.

Faced with this pedagogical and didactic situation, do teachers take this difference into consideration by prescribing specific contents during the PES session? The objective of this research was to study the impacts of both teacher's pedagogy and overweight or obesity on the inclusion of obese students in PES classes in school setting in the Emirate of Ajman (United Arab Emirates), and to understand how PES teachers adopt their pedagogical interventions towards this category

MATERIALS AND METHODS

This was a cross-sectional descriptive survey of overweight and obese students and PES teachers from six schools in the Emirate of Ajman (UAE). The study was conducted over a 17-month period from January 2020 to May 2021.

Population. Among 500 interviewed students from different schools, two samples were involved in this study:

- 48 overweight or obese students (28 girls and 20 boys) aged 14 to 18 years old and enrolled in six public and private high schools in the emirate of Ajman. Body Mass Index (BMI) is a person's weight in kilograms divided by the square of height in meters. A high BMI can be an indicator of high body fatness.

If your BMI is 25.0 to < 30.0, it falls within the overweight range.

If your BMI is 30.0 or higher, it falls within the obese range.

- 20 PES teachers (14 men and 6 women) working in the six schools. The interviewed teachers had more than 10 years (40 years old as an average) of experience and had taught at all grade levels in both the public and private sectors.

A criterion for selecting the schools was their location in the main urban areas of the emirate of Ajman where all social classes live together.

Data Collection Tool. For the data collection, we used two questionnaires as an instrument. For the students, the questionnaire was distributed to them during physical education classes. At the end of each session, and with the supervision of the teachers, meetings with the students were organized to allow the interviewer to provide explanations, to better prepare them before answering the questions. The questionnaire consisted of 17 items to assess the impact of overweight and obesity on the integration of students into the PES classes. The questionnaire for PES teachers consists of 16 items and collects comprehensive information on the obstacles encountered by overweight and obese students during PES sessions as well as the intervention methods adopted by teachers to remedy these problems.

14 questions were closed and two open-ended. The closed-ended questions made it easy for respondents to provide the necessary information expected of them, either by yes or no. The closed-ended questions also allowed them to provide the necessary information expected of them. The teacher gives his or her opinion anonymously and confidentially.

Difficulties Encountered. Difficulties encountered in this study were due to the fact that some teacher/students were more reluctant,

misplaced the questionnaires or made them incomplete. The interviewer had to reproduce and redistribute the questionnaire. It was only after communication and explanation of the objectives of the study that they gave us voluntarily information on the subject.

Measurement of Anthropometric Parameters. The anthropometric parameters measured included body weight, height, and BMI. BMI is a widely used anthropometric technique even though it does not provide direct information on body composition (5). BMI (kg/m²) is calculated by dividing weight (kg) by the square of height (m²).

The BMI values were used to define the obesity indices (overweight, obesity, severe obesity). These indices were defined according to the International Obesity Task Force (IOTF), (6).

Weight was measured with a scale (SECA; accuracy 0.1 kg). Height was measured standing using a SECA scale (accuracy 0.1 cm).

Ethical Aspects. Volunteers' students and parents were informed in advance about the study, its objectives and modalities. All data was collected in a confidential and anonymous manner.

Statistical Analysis. Data were collected and processed manually. The various results obtained were listed and grouped together and presented in tables followed by comments. The analyses were performed using the Student t-test and the Excel spread sheet (version 2016). The data were represented by means and standard deviations.

RESULTS

Anthropometric Characteristics. The participants consist of 48 overweight and obese students including 28 girls (58.33%) and 20 boys (41.67%) between the ages of 14 and 18. Table 1 presents the anthropometric characteristics of the participants. The average BMI is 28.58±3.14. The BMI calculation showed that among the 48 participants, 36 students were overweight, 8 obese and 4 morbidly obese according to IOTF (6).

Table 1. Anthropometric Characteristics of all Overweight and Obese Students

Students (n=48)	
	Average ± SD
Size (m)	1.65 ± 0.08
Weight (kg)	77.75 ± 9.56
BMI (kg/m²)	28,58 ± 3.14

SD: Standard Deviation; BMI: Body Mass Index

Table 2. Physical Activity and Physical Inactivity of all Obese or Overweight Students, N = 48

Parameter (questionnaire items)	Students	Percentages
Type of transport tool to the school		
Walk	11	22.92
Car	23	47.92
Bus	14	29.17
Practice of a physical activity outside of school		
Yes	7	14.58
No	22	45.83
From time to time	19	39.58
Is a sedentary lifestyle the cause of overweight or obesity?		
Yes	43	89.58
No	5	10.42

Physical Activity and Sedentary Lifestyle. According to the data collected by the questionnaire, 22.92% of students walk to their schools, while 77.09% of obese students use some form of motorized transportation (car or bus) to get to school. With respect to physical activity outside of school, 85.42% of participants reported that they rarely or never participate in physical activity outside of school (Table 2).

Feelings of Overweight or Obese Students about the PES Class. According to the data collected, 66.7% of the surveyed students said that being overweight is a barrier to the practice of PES. In addition, overweight and obese students stated that they do not prefer certain physical activities such as running (8.33%) and jumping (4.17%), but they prefer swimming (33.33%), throwing (18.75%) or other activities (25.0%). Furthermore, most students (83.33%) stated that the teacher takes their disability into consideration during PES classes. In addition, 79.17% of students reported that they get good

grades in PE. Finally, the majority of students (93.75%) wish to be exempted from PSE class (Table 3).

Table 3. Feelings of Overweight or Obese Students in the PES Class, N = 48

Parameters (Questionnaire Items)	Students	Percentages
Does your weight constitute an obstacle to the practice of PES?		
Yes	32	66.67
No	16	33.33
Are you getting good marks in PES?		
Yes	38	79.17
No	10	20.83
The physical activities that are not preferred		
Races	4	8.33
Jumps	2	4.17
The best physical activities done?		
Throws	9	18.75
Swimming	16	33.33
Others	12	25.0
Does the teacher take into consideration the nature of your disability?		
Yes	40	83.33
No	8	16.67
How do you think you are perceived by your colleagues?		
Good	12	25.0
Bad	13	27.08
I don't know	15	31.25
I don't pay attention	8	16.67
Would you like to be exempted from PES classes?		
Yes	45	93.75
No	3	6.25

Table 4. Pedagogical Intervention by PES Teachers with Overweight or Obese Students, N = 20

Parameters (Questionnaire Items)	Teachers	Percentages
Have you worked with classes that contain obese students?		
Yes	20	100
No	0	0
Are any of these obese students exempted from PES?		
Yes	15	75
No	5	25
Does obesity become a barrier in the PES session?		
Yes	11	55
No	9	45
Are these students integrated individually into the class?		
Yes	5	25
No	15	75
Are obese students motivated during PES sessions?		
Yes	15	75
No	5	25
Do you address the topic of nutrition?		
Yes	14	70
No	6	30
Is the obese student marginalized by his/her colleagues?		
Yes	16	80
No	4	20
What is your adopted psychology with an obese student?	No Answer	
How do you deal with having an obese student in your P.E. class?	No Answer	

Pedagogical Intervention by PES Teachers with Overweight or Obese Students. Table 4 shows that all PES teachers interviewed in this study reported working with classes composed of obese students. Moreover, according to 75% of these teachers, obese students are exempted from PES class. 75% of the teachers state that obese students are not integrated into the PES class, but only 55% of the teachers report that the obese student becomes an obstacle in PES sessions, while 80% of the teachers report that the obese or overweight student is marginalized by his/her

colleagues. However, 75% of teachers report that obese students are motivated during PES sessions (Table 4).

Questioned about their psychologies and their ways of intervening to overcome the obstacles encountered by overweight and obese students during PES class, the teachers put forward certain proposals such as for example:

- Adapt the activities to the obese student (Provide a choice of different size equipment to accommodate big sizes (e.g., scooters, jerseys, ropes and harnesses);

- Establish and manage positive class behavior (Intervene immediately and privately when students display negative behaviors by pulling the offending student to the side and reminding him or her of the rules and reasons for rules, and a way to "buy their way back" into the activity.);

- Encourage effort and adjust individual goals (Encourage participation in class activities with effort: "Do what you can" rather than comparing performance with others, select an overweight or obese student as Student of the Month, recognizing effort or pro-social behavior);

- Empowering obese students within their groups to value them;

- Use proactive social grouping (Group overweight or obese students with friends or others who will make them feel accepted; vary groups during class and use mixed-ability groups appropriately for safe and positive practice).

DISCUSSION

The aim of this study was to evaluate impacts of teacher's pedagogical approach on the inclusion of overweight and obese adolescent students into PES in the Emirate of Ajman (UAE).Therefore, how can we make physical activity more attractive to the most hesitant students?

To achieve this goal, we used two questionnaires which were addressed respectively to the PES teachers and obese students. Our results showed that a sedentary lifestyle seems to be well correlated, among other things, in the handicap of overweight obese students. Indeed, 85.41% of the latter declared that they rarely or never practice physical activity outside of school, and 73.42% of them use a means of transportation (car or bus) to get to school. Similarly, many studies have suggested an inverse relationship between adolescent obesity prevalence and physical activity levels (7, 8). However, in another study (9), the authors found that overweight is more common among children who are physically active outside of school. This is explained by the fact that parents only encouraged their children to engage in regular physical activity after they become overweighted (8). Furthermore, the results obtained shows that 66.7% of the surveyed students stated that being overweight is a barrier to PES practice. In addition, obese or overweight students say they do not prefer certain physical activities such as running, jumping or gymnastics, however, they prefer swimming (33.33%), throwing (18.75%) or other activities (25.0%). This finding agrees with most PES teachers (75.0%) who state that obese students do not felt into PES classes. Similarly, according to 55.0% of the teachers, obese students represent an obstacle to PE sessions. This may partly explain the high number of exemptions from PES classes among these obese students, as reported by 75.0% of teachers. This attitude of obese students towards PES could be attributed to the fact that obese students are often marginalized, stigmatized, and poorly perceived by their colleagues, which can lead to isolation, withdrawal and even depression (10). In addition, teachers are aware that some students do not show self-confidence in performing or learning new movement skills that are within their reach, and that some are ignored or socially excluded and may be targets for teasing by their peers (11).This has also been found in other studies in other countries (12, 13) which reported that teachers recognized that obese students experience conflict because they feel different and less "performing" than their able-bodied peers. Obese students, on the other hand, report that they want to be excluded from PES classes and that they prefer certain physical activities such as swimming and throwing for example. This is in contradiction with the high number of exemptions among these students as reported by interviewed teachers. This suggests that obese students do not feel comfortable and are in a situation of physical and moral suffering. They are afraid of feeling like they are failing in front of others during PES classes, which forces them to develop attitudes of avoidance or even rejection of sports practices. However, the surveyed students reported that they get good marks in PES (79.17%), and that the teacher takes their disability into consideration. In fact, to promote the integration of students, teachers try to act daily in class through dialogue with them.

The teachers will also consider the wishes of obese students who want to practice PES, but with easier grading scales.

For teachers interested in tackling the challenge of providing inclusive and positive experiences for overweight and obese students, it may be helpful to think beyond typical PES boundaries and work at the school, family and community levels. Teachers can use strategies at multiple levels of the ecology of the overweight child (Figure 1).

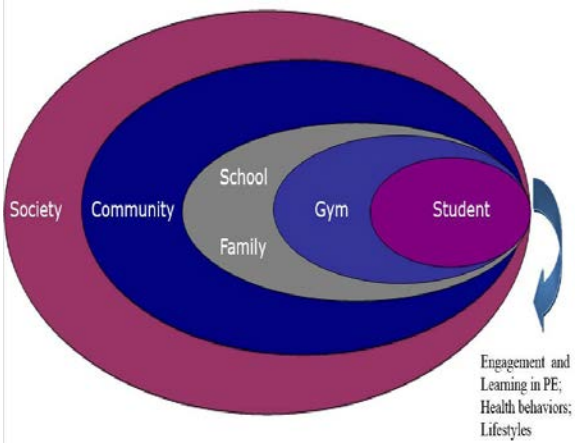

Figure 1. Social Ecological Constraint Model for Inclusion of Overweight Students into Physical Education (11).

Based on the results observed, it is appropriate to make a few suggestions that may allow PES teachers to put in place strategies for better inclusion of their students:

- Know and take into consideration the psychosocial risks incurred by obese students in order to prevent, identify and manage them adequately;
- Develop the spirit of cooperation between students;
- Include health education in PE;
- Evaluate obese students based on their progress.

CONCLUSIONS

This study points out that excess weight is a barrier to PES practice among the adolescents studied for various reasons. Indeed, they were not included into PES classes because they felt different and less "performing" than their able-bodied peers. In addition, they were marginalized and poorly perceived by their peers, which leads them to avoid or irregularly attend PES sessions. It follows from what has been observed that obese students need a pedagogical relationship made up of a lot of attention, concern, and affectivity.

Thus, the PE teacher could play an important role in this regard by adopting the practice modalities to the well identified resources of the obese or overweight student, allowing him/her to be part of a dynamic of action, progress, self-confidence and pleasure.

In addition, with a growth mindset and an inclusive philosophy, teachers can use pedagogies at multiple levels (i.e., PE classroom, program, school) to create a positive, inclusive climate for students and to individualize instruction so that students can work at their own ability level toward self-growth and acquire the skills, knowledge and dispositions to live a healthy, active lifestyle (14). Each school is different, with many challenges, but if one believes that each student can learn, deserves to learn, and can be a valuable member of your class, one have a mission to help children self-actualize and achieve the goals of PES. Consideration of the teachers' pedagogy adopted may help to carry inclusion

Future Research Directions. Knowledge generated from this research has illustrated an urgent need and further effective teaching strategies for including overweight or obese students in PES engagement and learning. It provides a first step toward conceptualizing a specific social-ecological constraint model (11) and used it as a guide to develop more creative inclusive strategies to maximize overweight and obese students' engagement in PE class climate (14). The effectiveness of these inclusive strategies may vary as a function of individual students' personalities and traits, as well as specific teaching situations.

DISCLOSURE

The authors declared no conflict of interest.

APPLICABLE REMARKS

The teacher should adapt PES learning conditions to the obese student by choosing the activity according to the students, their aptitudes, their level of ability and their motivations; Avoid placing the obese student in an awkward situation with his classmates; Group students who have been partially exempted in a single class, and offer them hours of support; Intervene with parents to incite obese students to follow a suitable diet and to try to practice adapted physical and sports activities.

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