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ORIGINAL RESEARCH

The Importance Assigned by Pregnant Women to the Quality Characteristics of Fitness Instructors. A Qualitative Study

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Introduction: The exercise professional's role is to provide proper exercise prescription and selection, regular feedback, positive reinforcement, and behavioral strategies to enhance adherence. Thus, knowing the preferences of the consumers will enhance pedagogical skills.

Objective: To characterize pregnant women's preferences regarding the fitness instructor's quality characteristics in specific group exercise sessions for this population.

Methods: A qualitative study was conducted in 2021. The Fitness Instructor Quality Questionnaire was applied to 29 pregnant women engaged in prenatal group fitness classes, aged between 24 and 48 years. This questionnaire includes 25 items, grouped in two dimensions, scored with a Likert scale with 7 levels of importance (1 = not at all important; 7 = extremely important). Descriptive statistics were used to characterize pregnant women's opinion (mean, standard deviation, minimum and maximum).

Results: The global average of items was 6.41, showing that pregnant women give importance to the Quality of the fitness instructor. Relational Quality has the highest average (6.48), close to Pedagogical-Technical Quality dimension (6.34). The most important items for pregnant women were Ethics (6.76), Communication (6.72), and Availability, Motivation, and Punctuality (6.69). The less important items were Musical Domain (5.24), Image (5.69), and Physical Fitness (5.86).

Conclusion: Pregnant women give great importance to the Quality of the fitness instructor, although they value some indicators more than others, as identified in other studies in different populations. Considering the results of this study, it can be recommended that fitness instructors delivering prenatal exercise programs should address these factors related to Quality. It can be emphasized that the fitness instructor should have an intervention that shows willingness to listen to pregnant women, allows them time to perform the exercises, encourages them to practice, without overestimating aspects related to image or fitness level.

Keywords: exercise, pregnant, fitness, instructor, quality, group classes, Fitness Instructor Quality Questionnaire

Introduction

Pregnancy is a unique phase of life where lifestyle behavior, including physical activity, can influence fetal[1] and maternal health.[2] Several recent systematic reviews confirm the benefits of physical activity (moderate to vigorous intensity) during pregnancy, such as maternal cardiorespiratory fitness,[3] lower risk of excessive weight gain,[4] lower risk of hypertension[5] and gestational diabetes mellitus,[4] prevention of urinary incontinence,[6] reduction of cesarean deliveries,[7] prevention and treatment of low back and pelvic pain,[8] prevention of prenatal and postpartum depression and anxiety,[9] and impact on newborn health parameters.[10]

Exercise, consisting of planned, structured, and repetitive bodily movements to improve one or more components of physical fitness,[11] is an essential element of a healthy lifestyle and appropriate physical activity promotion should be

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implemented in early pregnancy and postpartum to prevent activity decline.[12] However, the level of sedentary lifestyle among pregnant women is still high.[13]

Several studies show the importance of a supervised exercise program during pregnancy, recognizing the physical and mental benefits.[11,14] Pedagogical skills are a teacher's ability to instruct students and manage their classroom. Group training can provide a safe and supervised exercise for pregnant women, with benefits on aerobic capacity, increased energy levels, and exercise enjoyment.[15] This mode of delivering training has existed for a long time and has emerged as a worldwide trend worldwide.[16] Moreover, even with the pandemic caused by the disease covid-19, fitness participants in Portugal considered that this trend is part of the top 10 fitness trends in Portugal for 2022.[17]

Creating a supportive environment during the training session can considerably influence the exerciser's adherence.[18] Fitness Instructors (FI) play a crucial role in participants' motivation and adherence by keeping them satisfied and loyal to practice.[19–21] If the participants have a good experience, which offers a moment of satisfaction, it may result in loyalty to this service.[22,23] Thus, knowing the preferences of the consumers will enhance pedagogical skills.

The FI quality can be described as the customer's experience originated from the interaction between the service provider and the customer.[22]

The Quality of the FI behavior can be characterized considering four dimensions, namely professional Quality, relational Quality, technical Quality, and pedagogical Quality, and 25 categories.[23] The professional Quality is related to transversal skills of all professional activities, regardless of the area in question. The relational Quality consists of personal characteristics related to establishing and maintaining a good relationship with others. The technical Quality is related to specific technical skills inherent to this professional activity. The pedagogical Quality comprises specific pedagogical skills (teaching-learning) inherent to this professional activity, in terms of intervention.[23,24]

In group fitness classes, the categories motivation (pedagogical Quality), sympathy (relational Quality), and planning (technical Quality) were the most important for the FI intervention.[23] Despite the fact that these results have taken on importance, it is also mentioned in the literature that the FI should not have a standardized behavior, but adapt it considering the customer's characteristics.[23,24] Few studies were found specifically concerning Quality of FI in exercise programs for pregnant women and there is a lack of studies about professional supervision in prenatal exercise programs.[25]

Intrapersonal factors (ie, fatigue, lack of time, pregnancy discomforts) are the most reported barriers to practicing physical activity during pregnancy.[26] On the other hand, social support facilitates the beginning or maintaining physical exercise.[27]

Considering the specific characteristics of pregnant women, who go through a special phase of life when there are many doubts, uncertainties, concerns about the fetus and physical, psychological, and hormonal changes to which they are subject, the FI should adapt her/his intervention, to meet the needs of pregnant women.

The objective of the present study is to characterize pregnant women's opinions regarding the importance of the quality characteristics of FI in a specific group fitness program for this population.

Materials and Methods

Design

A qualitative study was conducted in 2021, in Lisbon, Portugal.

Participants

The sample of this study were 29 Portuguese pregnant women, aged between 24 and 48 years old, with an average age of 32 years, gestational age corresponding to the second trimester of pregnancy, without any health contraindications, who practiced group fitness classes, in a specific program for this population, in three different gyms/health clubs in the metropolitan area of Lisbon, Portugal.

Inclusion and Exclusion Criteria

Inclusion criteria were pregnant women aged 18–50 years of age, gestational age corresponding to the second trimester of pregnancy, without any health contraindications for physical activity. Exclusion criteria were pregnant women, aged

less than 18 years, gestational age corresponding to the first or third trimesters of pregnancy, with any health contra-indications for physical activity.

Instrument

The validated Portuguese version questionnaire "Quality of the Fitness Instructor – Group Activities" (QIF-AG)[24] was used. The questionnaire consists of two dimensions and 25 items (Table 1). The respondents answer the questions by using a 7-point Likert scale, from 1 (not at all important) to 7 (extremely important). This tool is described in Table 1.

Procedures for Collecting, Processing, and Analyzing Data

For the application of the questionnaires, there was a previously formal request to the gyms/health clubs that have group fitness classes for pregnant women. The application of the questionnaires was carried out face to face on paper, and a short presentation was made before the request to participate in this study.

Statistical Analysis

After collecting the questionnaires, the data were entered in SPSS software, and descriptive statistics (mean, standard deviation, maximum and minimum) were used for analysis.

Ethical Considerations

Portuguese pregnant women who practiced group fitness classes in a tailored exercise program for this population in accordance with ACOG[4] guidelines, in three different gyms/health clubs in the metropolitan area of Lisbon, Portugal, were invited to participate in the study, free of charge. Participants were informed about the objectives and nature of the

Table 1 Dimensions and Items of the Questionnaire "Quality of the Fitness Instructor – Group Activities"

Dimensions	Items	
Relational Quality	Q1: Communication	Speaks clearly
	Q2: Availability	Shows availability to listen any problems that may arise
	Q7: Good mood	It is a funny person
	Q8: Honesty	Shows to be an honest person
	Q9: Humility	Shows capacity to accept criticism
	Q10: Sympathy	It is a sympathetic person
	Q12: Ethics	Have a "healthy" relation with the participants
	Q14: Image	Shows to be careful with her/his image
	Q16: Cordiality	It is a person with "good manners"
	Q20: Motivation	Encourage the participants during the practice
	Q23: Empathy	Have a "proximity" relation with the participants
Pedagogical-Technical Quality	Q3: Adaptation	When something unexpected happens, she/he can adapt the session
	Q4: Instruction	Explains and is aware of the participant's performance when doing an exercise
	Q5: Education	Shows to have specific training in the fitness area
	Q6: Planning	Shows to have a well-planned session
	Q11: Fitness level	Shows to have a good fitness performance
	Q13: Experience	Shows already working in the fitness area for some time
	Q15: Punctuality	Come to class on time
	Q17: Knowledge	Shows to have general knowledge in the sports area
	Q18: Musical Domain	Follows the musical rhythm
	Q19: Innovation	It is original in the presented sessions
	Q21: Dedication	Shows dedication in everything she/he does
	Q22: Assiduity	Do not miss the scheduled sessions
	Q24: Technical Execution	Performs well the exercises, in a technical way
	Q25: Dynamism	It is energetic in her/his intervention

study, the potential benefits for future programs, that they were free to provide feedback or not, without any consequences, and that the feedback was anonymous. All participants (N=29) were informed and agreed with the participation in the questionnaire. Informed consent was checked upon responding to the questionnaire. The educational materials produced by the research team were made available to the participants, free of charge. The study was conducted in accordance with the Helsinki Declaration. This study is part of the study protocol that was approved by the Ethics Committee of the Polytechnic Institute of Santarém, Portugal (approval number 9–2021-ESDRM).

Results

Twenty-nine Portuguese pregnant women, aged between 24 and 48 years old, with an average age of 32 years, gestational age corresponding to the second trimester of pregnancy, without any health contraindications for physical activity, who practiced supervised group fitness classes in Lisbon, Portugal, participated in the study.

The results of the characterization of pregnant women's opinions regarding the importance of the quality characteristics of FI, in a specific exercise program for this population are presented in Table 2.

Concerning the overall average of all items, the pregnant women gave a result of 6.41±0.75 (Mean (M)±Standard Deviation (SD)), showing that the pregnant women considered the quality indicators of FI were very important. The

Table 2 Characterization of Pregnant Women's Opinion Regarding the Importance of the Quality Characteristics of Fitness Instructors, per Dimensions and Item (N=29 Pregnant Women)*

Dimensions	Items	M	SD	Min	Max
Relational Quality (RQ)	Communication	6.72	0.45	6	7
	Availability	6.69	0.54	5	7
	Good mood	6.52	0.63	5	7
	Honesty	6.38	0.73	5	7
	Humility	6.31	0.85	4	7
	Sympathy	6.39	0.74	5	7
	Ethics	6.76	0.51	5	7
	Image	5.69	1.49	2	7
	Cordiality	6.55	0.69	4	7
	Motivation	6.69	0.47	6	7
	Empathy	6.55	0.69	5	7
	Total RQ	**6.48**	**0.71**	_	_
Pedagogical-Technical Quality (PTQ)	Adaptation	6.62	0.68	5	7
	Instruction	6.66	0.55	5	7
	Education	6.48	0.69	5	7
	Planning	6.38	0.68	5	7
	Fitness level	5.86	1.13	4	7
	Experience	6.07	0.9	4	7
	Punctuality	6.69	0.47	6	7
	Knowledge	6.68	0.67	5	7
	Musical Domain	5.24	1.46	2	7
	Innovation	6.14	0.99	3	7
	Dedication	6.66	0.61	5	7
	Assiduity	6.55	0.63	5	7
	Technical Execution	6.41	0.98	3	7
	Dynamism	6.38	0.78	5	7
	Total PTQ	**6.34**	**0.80**		
	Total global 2 dimensions	**6.41**	**0.75**		

Notes: *Twenty-nine Portuguese pregnant women, aged between 24 and 48 years old, with an average age of 32 years, gestational age corresponding to the second trimester of pregnancy, without any health contraindications for physical activity, who practiced supervised group fitness classes in Lisbon, Portugal.

Relational Quality was the dimension that presented the highest mean (6.48±0.71), although Pedagogical-Technical Quality dimension also had a very high mean (6.34±0.80), superior to the 6 on the *Likert* scale.

The categories with the highest mean were Ethics (6.76±0.51) and Communication (6.72±0.45), evidencing the importance that pregnant women give to these two items. Punctuality, Availability, and Motivation were the third categories with the highest mean (6.69). Conversely, the categories with lower values were Musical Domain, Fitness Level, and FI Image. In these three categories, the average was below 6, demonstrating that pregnant women who exercise do not value these factors so much.

Discussion

This study showed that the Quality of FI is important for pregnant women who practice physical exercise in a group class program for this population, reinforcing the importance of these professionals in the Quality of the service and consequent satisfaction of participants and adherence to the practice.[28]

Pregnant women in this study value the quality dimension of FI, being Relational Quality slightly more valued than Pedagogical-Technical Quality. Pregnant women seem to appreciate the quality dimensions of the FI similarly to the general population of apparently healthy adults.[29] However, when the confrontation between pregnant women and the general population is done item by item, the importance attributed to the Quality of the IF is not always similar. In a study carried out with group fitness class participants,[23] the Image, the Musical Domain, and Fitness Level did not stand out as low as in the present study with pregnant women. However, in a survey with fitness participants in general (group fitness classes and individual training), these three items also stood out below the others,[30] as in the present study with pregnant women.

It should be noted that these three items are the ones that present a greater dispersion of opinions in pregnant women, having the most significant standard deviation. The image can be of less value for pregnant women, possibly because they are not concerned about their appearance when their bodies are changing at this stage of life. Also, there is the perception that pregnancy is not the best stage of life for improving fitness level, so this could be the reason that pregnant women do not value the Fitness Level in FI. The Musical Domain seems to be another factor that they also do not give much importance to, which may be related to the fact that these classes are marked more by the rhythm of the pregnant woman herself than by music.

In a study carried out in a chain of gyms in Greece, Relational and Pedagogical Quality positively affected the confidence that participants had in the gym and positively affected their satisfaction.[20] In addition, the social skills of FI are crucial to establishing an adequate rapport with customers.[31]

For pregnant women in this study, the most critical items of FI quality were Ethics and Communication (6.72±0.45), followed by Punctuality, Availability, and Motivation. The Ethics, Motivation, and Availability were also found to be the most important quality indicator in FI in another study conducted in Portugal[30] with general fitness participants. In addition, the item Motivation has a notable positive effect in several studies on client retention.[23,32]

The exercise professional role is to provide proper exercise prescription and selection, along with regular feedback, positive reinforcement, and behavioral strategies to enhance adherence. Moreover, there is a need for the development of efficient physical activity interventions for pregnant women.[33]

Considering that a quality intervention by FI can lead to participants' satisfaction and adherence to exercise programs, in prenatal exercise programs these factors should be taken in consideration. Besides other important factors such as the exercise program content, specific exercise sciences qualifications and adequate training are of significant importance when intervening with pregnant women.[25] FI can have an essential role in encouraging pregnant women to exercise, as well as educating them to maintain this practice during pregnancy and throughout their lives.

The results of the present study reinforce the importance of the FI not to adopt a standardized behavior but attend to the specific characteristics considering the population in its class. Therefore, we suggest including in future workshops for exercise professionals the specific pedagogical and communication-related topics most appreciated by pregnant women.[34] Moreover, despite the difficulty in accessing this population in a real context, more studies should be conducted to learn more about FI pedagogical intervention with pregnant women.

Limitations of the Study

Some limitations of the study should be acknowledged. Data was collected in 2021, after the confinement period due to the covid-19 pandemic. Thus, many pregnant women were still afraid of returning to a fitness club. As a consequence, the sample size does not allow generalization of the results. However, the total number of participants that were invited to participate in the study, respond to the questionnaire. Pre-gestational exercise habits of the participants were not recorded, although the majority were active. We identified a research gap regarding the study of pedagogical supervised intervention. As far as we are concerned, this study is novel, thus, there are no similar studies for comparison. This research gap is global, and not specific from the country where the study took place, however, we assume that there may exist some cultural influence. Thus, this should be another topic to be addressed in future studies.

Strengths of the Study

The strengths of this qualitative research include the use of a validated questionnaire, its cost effectiveness, and the data collection was not time consuming.

Implications for Exercise Professionals' Practice

Physical activity during pregnancy is a public health issue. The recent official position recommendations regarding exercise during pregnancy highlight the increasing importance of the exercise professional in promoting and implementing adapted effective and safe exercise programs. The exercise professional' role is to provide proper exercise prescription and selection, along with regular feedback, positive reinforcement, and behavioral strategies to enhance adherence. Considering the specific characteristics of pregnant women, who go through a special phase of life when there are many doubts, the exercise professional should adapt the intervention, to meet the needs of pregnant women. Thus, it is of particular importance to understand the pregnant women's opinion regarding the importance of the quality characteristics of exercise professionals. Knowing the preferences of the consumers is expected to enhance pedagogical skills of the exercise professional, when planning and delivering exercise programs. In line with the results of this study, prenatal exercise programs should address factors related to Quality, in particular, the willingness to listen to pregnant women, time and feedback while performing the exercises, and encouraging them to practice. We suggest including in future training programs or workshops for exercise professionals the specific pedagogical and communication-related topics most appreciated by pregnant women in order to improve adherence to prenatal exercise programs.

Future Research

We suggest that topics to be addressed in future studies should include the cultural influence that may exist in the results; to increase the number of participants; to perform sub-analyses by type of exercise program; to perform comparisons between pregnant and postpartum women; as well as to develop a specific tools for prenatal exercise programs.

Conclusion

Knowing the preferences of the consumers is expected to enhance pedagogical skills of the exercise professional. Pregnant women give great importance to the Quality of FI, although they value some indicators more than others, as identified in other studies in different populations.

Considering the results of this study, it can be recommended that FI should consider the factors related to their Quality. It can be emphasized that FI should have an intervention that shows a willingness to listen to pregnant women, allows them time to perform the exercises, and encourages them to practice without overestimating aspects related to image or fitness level.

Summary

The Fitness Instructor Quality Questionnaire was applied to 29 pregnant women engaged in prenatal group fitness classes. Pregnant women give great importance to the Quality of the fitness instructor. Therefore, it can be recommended

that fitness instructors delivering prenatal exercise programs should address factors related to Quality, in particular, the willingness to listen to pregnant women, time and feedback while performing the exercises, and encouraging them to practice.

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Disclosure

The authors report no conflicts of interest in this work.

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