Reasons for the adherence of older adults to Gyms for Seniors

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Abstract

Objective: to verify the reasons behind the adherence (entry and permanence) of older adults to Gyms for Seniors (GFSs) in the city of Rio de Janeiro. *Method:* a total of 396 men and women over the age of 60 were interviewed for this study. The subjects frequented 58 different GFSs from all the administrative regions of the city of Rio de Janeiro. The data was collected with a validated questionnaire and analyzed through descriptive statistics. *Results:* the results indicated that the main reasons which explain the older population entering the GFSs are to do with health (Avoiding health problems: 26%; Doctor's orders: 16%) while their permanence is more associated with social factors (I like the teacher and It makes me feel good, both with 100%) and their perception of the benefits of exercise (It is a healthy physical activity: 100%). *Conclusion:* although health reasons are important for the older adults who enter the program, they mostly remain due to how much they like the activities.

Keywords: Aging. Physical Exercise. Public Health Policy. Health of the Elderly.

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INTRODUCTION

Due to the growth of the older population in Brazil[1], there is an obvious need for public policies aimed at this group[2]. For Harris et al.[2], alternatives include assistance programs aimed at older people, including those related to the need to stimulate active lifestyles, as regular exercise has been proven to be an important tool for controlling chronic disease and maintaining the functional autonomy and quality of life of older adults[3].

Thus, free physical exercise programs offered to the general community in public locations have become more common, offering support to groups that normally find it difficult to reach the minimum recommended amount of physical activity, such as older men and women[2,3].

One public policy alternative which offers free physical exercise in the city of Rio de Janeiro (RJ), Brazil, is the Rio Ar Livre, or Rio Open Air (RAL) project, which includes a program known as Gyms for Seniors (GFSs)[4]. The GFSs program consists of gyms with exercise equipment installed in public locations, allowing people to practice physical activity with the help of Physical Education professionals[5].

Considering the importance of regular physical activities for one's health[3,6], this program is especially valuable in the field of health promotion for this population, as it is both supervised and free, potentially facilitating access for older adults who have difficulty adhering to a program of this nature[7], which is important if they are to benefit from this practice[2,3].

Considering the differences between the characteristics of GFSs and programs developed in traditional gyms with more sophisticated environments and equipment[5], as well as their status as a public policy for health promotion, understanding what facilitates the adherence of older population groups to this program is relevant, and the motives found by the study can be used as parameters for the evaluation and restructuring of the programme in order to increase its quality and impact.

Therefore, the main objective of the present study was to investigate the reasons behind the adherence of the older population to GFSs in the city of Rio de Janeiro, with adherence in this case including both entrance into and permanence in the program.

METHODS

A cross-sectional descriptive field study was performed, which sought to describe the naturally occurring distribution of the characteristics of older adults participating in the GFSs program in the city of Rio de Janeiro.

The GFSs are gyms linked to the RAL project, consisting of gym equipment installed in public locations, allowing people to practice physical activity with the supervision and help of Physical Education professionals[5]. Although the gyms are not exclusively used by the older segments of the population, such a group is the target audience of the GFSs. The program requests that any participants get permission from their doctor before joining[5].

The city of Rio de Janeiro is highly heterogeneous, with varying degrees of development. To facilitate its management, and reduce inequality in the distribution and use of available resources, it has been divided into five planning areas which are subdivided into ten Programmatic Areas (PAs). Each of these areas contains neighborhoods with similar sociodemographic characteristics[8]. In order to guarantee the adequate representation of different sociodemographic profiles, the sample contains gyms from all of the PAs in the city.

The amount of gyms visited per AP was determined with the help of a sample calculator[9], with the entire sample comprised of 58 GFSs distributed throughout all PAs in the city (Reference year: 2017). The data collection locations were determined through the drawing of numbers[10] from an address list provided by the RAL administrators.

For inclusion in the study, volunteers needed to be enrolled in and have participated in the GFSs for at least six months, and be 60 years of age or older. The sample sizing based on the eligible subjects was conducted according to guidelines provided by Barrow & McGee[11]. For GFSs with up to 50 participants, we interviewed 20% of subjects who

were aged 60 years old or more; in GFSs with 50-100 participants, 15% were included and, finally, in GFSs with more than 100 participants, 10% of the eligible subjects were included. After the draw was completed, a total of 396 volunteers of both sexes (aged 60-91 years) participated in the study. All participants signed an Informed Consent Form (ICF) in accordance with the determination of Resolution 466/12 of the National Health Council[12]. The study was approved by the Pedro Ernesto University Hospital Ethics Committee (number 1.514.233).

To determine the reasons for the adherence of the participants to the program, we used the questionnaire developed and validated by Castro[13,14], adapted slightly to the public in question and the physical activities available at the GFSs, since the original version of the questionnaire focused on different populations and activities.

The data collection instrument contains three parts which identify: 1) the subject's socioeconomic profile; 2) the reasons which justify their entry into the program; and 3) the reasons behind their permanence in said program. Furthermore, we included questions regarding the health of the participants. In the portion which identified the reasons for entry, the volunteers pointed to each item, identifying whether it was the first, second or third most important reason for entering the programme; while in the portion dealing with permanence, they indicated the level of importance of each factor as very important, quite important or not very important.

The questionnaires were administered between February and June 2017 at each GFSs location during class time by three properly trained researchers. In order to avoid difficulties for the participants, the questionnaires were completed by the researchers.

The answer frequency was determined by percentages. For reasons for permanence, which were determined through an opinion scale, levels of 80% were taken as an agreement, which according to Bellack's formula is the minimum acceptable percentage needed to deem observations as trustworthy.

RESULTS

Table 1 shows the distribution of the participants among each of the Rio de Janeiro city PAs, as well as their ages and sexes. Only one person was interviewed in PA 5.3 due to the lack of participants who fit the inclusion criteria. Thus, the data from that region was incorporated into the data from the neighboring region (5.2). The total sample reflects the profile of all the PAs, in that it mostly consisted of women, and the majority of the participants were older adults from the youngest age group, with a gradual reduction in participation in the project as age increases.

Since no major variations were found among the PAs, we opted to present the socioeconomic and health profile pertaining to the entire sample, and comment on the few differences that exist in the discussion section. This approach was also applied to the subjects' reasons for adhering to the program.

Table 2 presents the socioeconomic profile of the sample and indicates that the majority of participants have low monthly earnings, adhere strongly to the project and possess a history of regular exercise, especially concerning fitness related activities. Furthermore, most participants do not depend on third parties to get to the project and see the proximity of the GFSs gym to their homes as an important reason for their participation.

Table 3 presents the main reasons behind the participants' entry into the GFSs program. We opted to show only reasons that obtained an agreement of over 10%. The two main motivation factors were health-related, such as "To avoid health problems" and "Doctor's orders".

Table 4 shows the reasons which lead to the participants remaining in the GFSs program. We opted to show only those reasons that reached an agreement level greater than or equal to 80%. It is noteworthy that there was 100% agreement with the following reasons: "It is a healthy physical activity", "I like my teacher" and "It makes me feel good".

Table 1. Distribution by sex and age group of the Gyms for Seniors users (n=396; Male=58; Female=338). Rio de Janeiro, RJ, 2017.

	Programmatic Area 1	Programmatic Area 2.1	Programmatic Area 2.2	Programmatic Area 3.1	Programmatic Area 3.2	Programmatic Area 3.3	Programmatic Area 4	Programmatic Area 5.1	Programmatic Area 5.2
Variables	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Sex									
Female	27 (82)	78 (87)	34 (85)	37 (86)	20 (91)	84 (88)	27 (90)	15 (68)	16 (80)
Male	6 (18)	12 (13)	6 (15)	6 (14)	2 (9)	12 (13)	3 (10)	7 (32)	4 (20)
Age Group (Years)									
60-65	12 (36)	33 (37)	18 (45)	15 (35)	09 (41)	32 (33)	10 (33)	12 (55)	08 (40)
66-70	06 (18)	13 (14)	06 (15)	05 (12)	08 (36)	20 (21)	10 (33)	04 (18)	05 (25)
71-75	10 (30)	18 (20)	06 (15)	05 (12)	02 (9)	23 (24)	03 (10)	01 (5)	03 (15)
76-80	02 (6)	18 (20)	04 (10)	10 (23)	02 (9)	11 (11)	04 (13	02 (9)	04 (20)
81-85	02 (6)	05 (6)	05 (13)	07 (16)	01 (5)	09 (9)	02 (7)	02 (9)	00 (0)
86-90	01 (3)	03 (3)	01 (3)	00 (0)	00 (0)	01 (1)	01 (3)	01 (5)	00 (0)
91-95	00 (0)	00 (0)	00 (0)	01 (2)	00 (0)	00 (0)	00 (0)	00 (0)	00 (0)

Source: The author, 2017. n: number of sample subjects

Table 2. Socioeconomic and health profiles pertaining to entire sample (n=396; Male= 58; Female= 338). Rio de Janeiro, RJ, 2017.

Variables	n (%)
Personal Earnings (in Minimum Wage units)	
≤1	249 (62.9)
1 – 3	145 (36.6)
3 – 5	49 (12.4)
≥ 5	34 (8.6)
Did not answer	26 (6.6)
Time participating in GFSs (Years)	
6 months – 1 year	69 (17.4)
1 – 2	73 (18.4)
>2	254 (64.1)
Weekly participation frequency (Days per week)	
1	02 (0.5)
2	19 (4.8)
3	68 (17.2)
>3	308 (77.8)
Practice of physical activity before entering GFSs	
Regularly	242 (61.1)
Sometimes	17 (4.3)
None	137 (34.6)
Practice of physical activity other than at GFSs	
Regularly	135 (34.1)
Sometimes	11 (2.8)
None	250 (63.1)
Activities involved	
Fitness activities	120 (30.3)
Sports	16 (4)
Dance	04 (5.6)
Help required to get to the GFSs	
Yes	02 (0.5)
No	394 (99.5)
Distance between GFSs and residence	
Very far	05 (1.2)
Far	30 (7.6)
Near	260 (65.7)
Very near	101 (25.5)
Age of entry into the GFSs program* (Years)	
56-60	88 (22.2)
61-65	99 (25)
66-70	76 (19.2)
71-75	51 (12.9)
76-80	48 (12.1)

to be continued

Continuation of Table 2

Variables	n (%)
Chronic illnesses	
Yes	313 (79)
No	83 (21)
Main chronic illnesses**	
Hypertension	216 (55)
Arthrosis	73 (18)
Diabetes	59 (15)
Perception of health after entering the GFSs program	
Much better	346 (87)
A little better	34 (9)
No difference	14 (4)
Worse	00 (0)

Source: The author, 2017. n: number of subjects in the sample; GFSs: Gyms for Seniors; *Higher and lower than those shown attained non-expressive percentages; ** Further illnesses cited by the participants attained non-expressive percentages; Minimum wage in 2017: BRL937.00 per month.

Table 3. Reasons behind the entry of older participants in the GFSs program. (n = 396; Male= 58; Female= 338). Rio de Janeiro, RJ, 2017.

Reasons	Order of importance		
	1	2	3
	n (%)	n (%)	n (%)
To feel physically and mentally good	51 (13)	55 (14)	71 (18)
To have the company of friends and make new ones.	31 (8)	68 (17)	89 (23)
To improve physical condition	59 (15)	68 (17)	33 (8)
Doctor's orders	65 (16)	17 (4)	22 (6)
To avoid health problems	101 (26)	82 (21)	44 (11)

Source: The author, 2017.

Table 4. Reasons behind older people's permanence in the GFSs program. (n = 396; Male= 58; Female= 338). Rio de Janeiro, RJ, 2017.

Reasons	Level of Importance		
	Very important %	Quite important %	Not very important %
The space is pleasant	90	10	0
The activities are well organized	93	7	0
It challenges me	84	7	9
It is a healthy physical activity	100	0	0
I really like fitness activities	87	10	2
I become stronger, more resistant and agile	97	3	0
The resources and materials I use during the classes are good	82	12	6
It helps to prevent illnesses	97	2	1

to be continued

Continuation of Table 3

Reasons	Level of Importance		
	Very important %	Quite important %	Not very important %
It helps to prevent back, heart and respiratory problems	95	3	2
I like to make new friends	96	3	1
I like my teacher	100	0	0
It gives me lots of energy	88	2	0
It gives me satisfaction	99	1	0
I have fun	99	1	0
It makes me feel good	100	0	0
Class time does not interfere with my other activities.	91	5	4
The gym is located near my house	92	7	1
The gym is easy to access	99	1	0
The teacher is always creating something new and teaching different things	92	6	2
My friends support me	90	4	6
It is a pleasurable pastime	98	2	0
I am frequently praised for taking up this physical activity	90	6	4
There are lots of nice people	99	1	0

Source: The author, 2017.

DISCUSSION

It is important to note that AP 2.1 (South Zone) is the area with the highest Human Development Index (IDH) and per capita income in the city[8]. It is also the area with the second largest number of older adults who participate in this program, which is public and free. While this may seem incongruous, as a high IDH indicates that the older population in this area could easily pay to exercise in private facilities, most of the interviewees' income remains less than or equal to three minimum wages, which demonstrates that there are low income communities in all of the city's PAs, including those which are considered prime real-estate. The participants' income is actually quite low, especially if their expenditure on housing, food and health is taken into consideration[15], thus justifying their need to participate in free exercise programs. In contrast, region 3.3 (North Zone) possesses the lowest per capita income rates[8], which explains why it is also the area with the largest number of program participants. This data demonstrates that the project mostly serves older people who have a legitimate need for free exercise programs.

Although there are small differences in percentages among the regions, the majority of the sample consists of female participants. This data is in accordance with the findings of other studies which have already been conducted on the adherence of older people to exercise programs, such as those by Gilette et al.[16] and Lemos et al.[17]. Goggin and Morrow Junior[18] commented that there is a greater probability of women being a part of supervised exercise programs, due to their tendency to give more value to group work. Regarding the low levels of male participation, Mello et al.[19] stated that men tend to consider fitness classes as a typically feminine activity and, due to this stereotype, feel ashamed to participate alongside women, as they feel this will be prejudicial to their reputations. An interesting point brought up by Santos et al.[20] is that often men who join group activities do so thanks to the influence of their wives and family members. Thus, it is possible that older men who live by themselves are less likely to adhere to this type of program. Another factor which may explain the mostly female presence in programs such as this is a phenomenon known as the feminization of old age[21], which occurs due to

the difference in life expectancy for both sexes. In Brazil, women live on average seven years more than men[22].

In terms of the ages of the participants, younger age groups had the greatest rate of adherence to the project, both in terms of entry and permanence. As age increases, the adherence rate incrementally declines. The prevalence of entry between the ages of 56 and 70 can be explained by the average retirement age in Brazil, which in 2014 was 60 for men and 55 for women[23]. Once retired, older men and women find themselves with more time to dedicate to other activities such as, for instance, regular exercise[17], a positive factor as such activity can help to minimize the progressive biological, psychological and social decline that stems from the aging process[3,7].

The low rate of entry among older age groups is possibly linked to the natural aging process, which brings about physical, psychological and social alterations, and also to the increased presence of chronic-degenerative diseases[24]. However, these alterations and diseases are not necessarily a deterrent to regular and planned exercise, which has been proven to bring about benefits that can help combat said diseases[3]. However, we must also take into account the fact that the older a person is, the greater are their chances of having their health impaired and their physical capacity reduced, both of which are factors that potentially hamper the search for exercise programs in those belonging to the more advanced age groups, not to mention their permanence in said programs[7,24]. Another explanation for these results has to do with the lower number of individuals in higher age groups. Thus, the lower number of participants from such groups is proportional to the lower number of people they contain[1].

In terms of weekly exercise frequency and time spent exercising, most of the study participants have participated in the GFSs program for more than two years, with an average participation frequency of three days per week. According to Prochaska and Velicer[25], a person can only be considered to have truly adopted a certain behavior when they practice it consistently for at least six months, since the stages of behavioral change which these authors cite take approximately this length of time to run their course. The stages in question are pre-contemplation, contemplation, preparation, action, maintenance and completion.

Regarding weekly exercise time, as each class lasts for one hour, most participants exercise for three hours or more per week, complying with the recommendations set by Piercy et al.[6]. Overall, there appears to be a high rate of adherence to the activities proposed by the GFSs program in the city of Rio de Janeiro.

Another aspect brought to light by the present study has to do with the GFSs participants' level of autonomy. Most arrive at the gym locations on foot, which corroborates the percentage that considers it very important that the project locations are either close or very close to their homes. Very few of the participants require public or private transportation to arrive at the gyms and those that do are usually, for some reason, travelling to one that is located in a different neighborhood than that in which they live. These data corroborate the results from other studies such as that conducted by Lopes et al.[7] and Nakamura et al.[26], which indicate that the proximity of the exercise program influences adherence. This shows how important it is for the GFSs to be located in various strategic neighborhoods.

Only two people reported that they needed help to reach the GFSs locations. This, along with the fact that most participants arrive on foot, indicates that the older people who participate in the program have maintained their functional autonomy. Since most have been going to the GFSs gyms for two years or more, it can be inferred that the program has contributed to the maintenance of said autonomy. The positive results stemming from the work carried out in these spaces can also be reinforced by the fact that many participants abandoned the facilities where they previously exercised in order to fully dedicate themselves to this program. However, it is important to note that some of the population may not be adequately served regarding access to exercise programs, due to the city's accessibility issues, such as poor sidewalk maintenance conditions, the lack of ramps to facilitate transit and inadequate public safety, among other issues.

Regarding their physical and sporting culture, most participants already exercised before joining the GFSs project. Taking this into consideration, it is possible to link the previous practice of exercise to adherence to the project. Machado et al.[27] state that in old age, people tend to choose a similar lifestyle to that which they adopted when they were young and middle-aged, including regular exercising. Our results corroborate this statement, since there is greater interest in the GFSs among old people with an established physical and sportive culture. As for current practices, most of the older adults stated that they do not participate in activities other than those offered by the GFSs, which apparently shows that they believe their needs are fulfilled by this program, although the possibility of financial hardship, which would make paying for another activity difficult, should not be discounted. Whatever the reason, this highlights the importance of these gyms for the older population of the city of Rio de Janeiro.

Participants who simultaneously practiced physical activities other than those offered by the GFSs are generally enrolled in another fitness program. Since most of the sample is female, this was to be expected, since other studies of gender and leisure exercise practices, such as that conducted by Silva et al.[28], have already shown this preference among women.

Adherence, which is the central object of this study, is considered to be the entry and permanence of an individual in an activity for a period of over six months[13,14]. In this study, the reasons for entry and permanence in the GFSs program were evaluated separately.

One way to analyze the reasons for entry in exercise programs is by using the values assigned to this behavior by the participants. According to Lovisolo[29], there are usually three reasons behind human actions: norms, the action's usefulness to an individual and/or the pleasure/happiness the action causes. As explained by the author, norms have to do with rules, social impositions or conventions. Regarding usefulness, the action is performed as a means to an end, with a specific goal or level of prestige in mind. Both of these cases are extrinsic. As for pleasure or happiness, the action is primarily motivated and performed due to the pleasure it provokes within the subject (intrinsic motivation). These three reasons can converge or diverge in the execution of an activity, just as they can all be present at the same time. We have opted to use this viewpoint in order to analyze and discuss the reasons for entry given by the interviewees.

Regarding their entry in the GFSs project, the reasons given by the participants were mostly related to the prevention and/or treatment of health problems, which strongly indicates that their conduct was motivated by the usefulness of exercise in influencing their health. It is important to note that 16% of the subjects mentioned medical advice as the most important factor, which is related to rule-guided behavior. This result confirms the findings contained in the systematic review conducted by Harris et al.[2], where the authors found that health-related reasons tend to be the main determinants behind the entry of older people in exercise programs. The relevance of this result cannot be denied, as it shows that old people are extremely worried about their health. It has already been amply determined in literature that regular exercise can contribute to a healthier life in old age[5]. Nonetheless, to choose exercise merely for reasons related to norms and usefulness may not in itself favor the adherence process.

The possibility of spending time with friends and making new ones, both of which are related to pleasure, appeared only as a third option, chosen by 23% of the interviewees. Equally, the reason "to feel good physically and mentally", which is related partly to pleasure but also to usefulness, was chosen by only 18% of the sample, also as a third option. However, despite only appearing as a third option, these reasons cannot be discarded as forming part of the initial factors behind GFSs adherence, since socialization is a fundamental part of quality of life for older people[30]. The other reasons did not achieve significant support.

Unlike the main reasons behind entry to the project, the reasons chosen by the participants as "very important" for them to continue exercising in these spaces, and which obtained 100% agreement among the respondents were mostly pleasure-related, such as "I like my teacher" and "It makes me feel

good". Among these reasons, only one related to usefulness ("It is a healthy physical activity") obtained significant support. Also related to pleasure are the following reasons linked to satisfaction, fun and good relationships among classmates: "It satisfies me", "I have fun" and "There are lots of nice people there". These reasons obtained 99% agreement and "I like to make new friends" achieved 96%. Among the reasons with 99% agreement, was "The gym is easy to access", which has to do with usefulness and reinforces the importance of proximity if older people are to adhere to exercise programs.

Unlike the reasons which motivate old people to enter exercise programs, those linked to intrinsic motivation and the pleasure obtained through exercise are the main factors behind their maintenance of this conduct. This was also found in the studies that were included and analyzed in the systematic review conducted by Harris et al.[2], as well as in studies developed by Castro[13,14] with different populations. This is important as it shows that the quality of the program must be good in order to stimulate its users' permanence. The teacher's performance in stimulating the practitioners and creating strategies to encourage their integration seems to be a central element in the adherence of older population groups, along with the ease of access to class locations.

We further highlight that the reason "I have to recover from an injury/illness" which is related to the usefulness of exercise for health, was considered to be "not very important" by most of the interviewees, which indicates that these individuals do not seek out the GFSs to help them recover from acute injuries or illnesses, unlike with chronic illnesses, where the participants considered this to be a "very important" aspect of the GFSs program.

The most common illness in the sample group was hypertension, which is to be expected since, according to the Brazilian Society of Cardiology, hypertension is a highly prevalent illness among older people and is also one of the largest cost generators for Brazil's public health system[31]. Also common are diabetes and arthrosis, which are equally prevalent in this age group[32,33].

Other important points have to do with the changes in health observed by the participants after their entry in the program. Most of the interviewees consider that their health has improved a lot since they entered the program. None reported a decline in health and only 4% of the sample did not notice any changes. These results suggest that the work carried out at these gyms is important for the participants' healthcare and may lead to cost reduction in primary, or even secondary health care, since regular exercise is a way to control one of the greatest risk factors for chronic illnesses, sedentarism. Exercise is also one of the non-medicinal measures recommended for the treatment of illnesses such as hypertension[31] and diabetes[33]. Thus, a public exercise program supervised by physical education teachers has the potential to become a powerful tool for combating chronic illnesses, at least for older adults, improving health and quality of life for this growing segment of the population.

Finally, while it does not diminish the importance of the results obtained, this study may be limited by the fact that no association analysis was conducted among the investigated variables, something that would provide a better understanding of the importance of each variable to the adherence of older adults to the GFSs program.

CONCLUSION

Regarding this study's central object, it can be concluded that although health-related reasons are seen as an important reason for older adults entering the GFSs program, their permanence in said program depends on whether or not they like the activities and the exercise environment. Thus, the teachers and the technical team should pay close attention to lesson quality, the physical environment of the gyms and the social interaction which occurs in these locations.

Furthermore, a high rate of adherence to the program was identified, which means the exercises carried out are more likely to positively influence the health and quality of life of users, as well as their perception of improvement in these factors, making

the GFSs an effective tool for improving the health of the population.

The results suggest that the GFSs program is an example of public policy that is valuable to society, especially as most of the participants are low income older adults who have difficulty accessing private programs.

Thus, the present study has the potential for practical application as it provides information that can contribute to planning and reformulating the project investigated, as well as similar projects, in order to boost the adherence of older people to regular exercise habits.

As for the relevance of these results, one important gap is the lack of information regarding the withdrawal of older adults from programs such as this. We suggest that future studies delve deeper into the reasons behind such withdrawal, as they should also be considered in the evaluations and possible restructuring of projects of this nature, in order to contribute to a reduction in withdrawal rates.

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