

Impact of Workplace-Based Fitness on Development of an Individualized Physical Activity Program Among Nigerian Health Workers

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Abstract:

Background: Workplace-based fitness program has been introduced as a means of motivating employees towards participating in active living, maintenance of healthy lifestyle behaviors and increase brain power and productivity. However, the effects of such program on development of individualized fitness program have not been evaluated.

Objective: The focus of this study was to investigate the impact of workplace-based fitness on development of an individualized physical activity program among health workers.

Method: The cross-sectional study recruited 177 clinical and administrative workers in a tertiary health institution. Data on demographic characteristics, health-benefit of exercise, physical activity level and development of an individualized physical activity program were obtained using a self-administered questionnaire. Data were summarized using a descriptive statistic of percentage and frequency distribution.

Results: 172 (97.1%) of the participants are aware of the health benefits of physical activity and the monthly physical fitness program held in the hospital. Only 71 (40.1%) of those that are aware actually participated in the fitness program. 52 (73.2%) of those that participated in the monthly program have developed a personalized fitness program as a result of the motivation received through the monthly fitness program.

Conclusions: Hospital workers are aware of the health-related benefits of physical activity however higher level of awareness does not always translate to high level of participation in physical activity. A well-designed workplace-based physical activity can help staff in developing an individualised fitness program. Employers of labour should incorporate workplace-based physical activity into their organisation as a means of promoting the health and fitness of their employee thereby improving productivity and reducing health cost of preventive diseases.

Keywords: physical activity, workplace, individualized fitness program.

1. Introduction

The worksite is an appropriate setting to provide various opportunities to promote the adoption and maintenance of healthy lifestyle behaviors. Workplace exercise is an intervention with specific physical exercises for workers carried out at the work site

with the aims of improving general outcomes (quality of life and occupational environment), as well as specific outcomes such as physical fitness, optimizing weight loss, team building, increase brain power and productivity [1].

In 2014, WHO named ‘insufficient physical activity’ as an issue warranting attention from international public health agencies. Over 14 million individuals die from chronic disease resulting from physical inactivity [2]. According to a 2014 survey by the US Centers for Disease Control, adults without regular physical activity have a higher risk of early death and heart disease, stroke, type 2 diabetes, depression and cancer [3].

Physical activity is any force exerted by skeletal muscles that results in energy expenditure above resting level [3]. It has been shown that individuals who engaged in adequate levels of exercise throughout their lives: at least 30 minutes of regular, moderate-intensity physical activity on most days reduces the risk of cardiovascular disease and diabetes, colon and breast cancer [4]. Physical activity has beneficial effects to health, and consequently helps to prevent a broad range of health disorders and diseases. Muscle strengthening and balance training can reduce falls and increase functional status among older adults. Weight control can also be achieved through a balance between energy consumed (through diet) and energy expended (through physical activity) [5].

Observations from previous studies have shown that working adults spend more than one third of their total time at their place of employment therefore, implementing wellness programs at the work site provides an opportunity for improved health and wellness of employees [6]. Furthermore, worksite lifestyle promotion programs have been reported to significantly improve the lifestyle behavior [5], according to the theory of planned behavior, once people have more positive attitudes and subjective norms and better perceived behavioral control, they are more likely to change specific behavioral intentions into actual behaviors [7]. Therefore, once people feel that physical activity is enjoyable and effective and that they can control their own physical activity, then there is more positive physical activity intention which encourages continued participation in exercise program [8].

Various organizations have put in place workplace-based fitness programs as a means of motivating employees towards participating in active living. The tertiary health facility for this study similarly organized a hospital-based monthly physical fitness program. The program involves a regimen of moderate to high intensity exercise programs including aerobics, flexibility, balance and coordination exercises, endurance and fitness programs as well as health education on diets, lifestyle modifications. This study is therefore designed to investigate the impact of 10 months’ workplace-based fitness program on each participating staff in developing an individualized physical fitness program.

2. Materials And Method

The cross-sectional survey recruited 177 staff of Federal Medical Centre, Owo, Nigeria. The participants were clinical and administrative staffs of the hospital who are expected to be aware and participated in the workplace-based fitness program organised by the institution’s management and coordinated by physiotherapist. The

workplace-based fitness program holds every second Saturdays of the month as a means of encouraging active lifestyle and development of individualised fitness program among the staff. The exercise program involves a regimen of moderate to high intensity exercise including aerobics, flexibility, balance and coordination exercises, endurance and fitness programs as well as health education on diets, lifestyle modifications which lasted for one hour between the hours of 7 to 8 in the morning. The study was carried out ten months after the commencement of the workplace-based fitness program. The study protocol was approved by the Health Research Ethics Committee of Federal Medical Centre, Owo, Nigeria (FMC/OW/380/LXXV/135). The rationale behind the study was explained to all participants and informed consent was obtained before their participation. A structured self-administered questionnaire that sought information on demographic, physical activity level and development of an individualized physical activity was used for data collection.

Statistics Analysis

The Statistical Package for Social Science (SPSS) version 20.0 software was used to analyse the data of this study. Descriptive statistics of percentages was used in analysis while the results were presented in the percentages and frequency tables.

3. Results

A total of 177 clinical and administrative staff participated in this study. 98 (55.4%) were females while 79 (44.6%) were males. 63 (35.6%) of the participants were single while 111 (62.7%) were married. Ages 36-40 was the age group with the highest percentage (19.9 %), followed by 26-30 (18.5%) while 56-60 age group was in the least percentage (2.0%). Majority were BSc degree holders 151 (85.3%) followed by OND 12 (6.8%). 102 (57.6%) of the respondents were clinical staff while 75 (42.4%) were administrative staff.

The results also showed that although majority of the respondents (97.1%) are aware of the monthly physical fitness program held in the hospital, only 71 (40.1%) participated in the monthly fitness program. The socio-demographics characteristics of the participants is presented in Table 1.

Table 1. Socio-demographics of Participants (n=177)

		Frequency	Percentage (%)
Age Group	20-25	26	17.2
	26-30	28	18.5
	31-35	17	11.3
	36-40	30	19.9
	41-45	22	14.6
	46-50	17	11.3
	51-55	8	5.3
	56-60	3	2.0

Gender	Male	79	44.6
	Female	98	55.4
Marital Status	Single	63	35.6
	Married	111	62.7
	Separated	1	.6
	Widowed	2	1.1
Education Level	OND	12	6.8
	HND	1	.6
	BSc	151	85.3
	MSc	10	5.6
	PhD	2	1.1
	Others	1	0.6
Occupation	Clinical staff	102	57.6
	Administrative Staff	75	42.4
Aware of Fitness program		Yes	No
Participated in fitness program		172 (97.1%)	5 (2.9%)
		71 (40.1%)	106 (59.9%)

Table 2 shows the physical characteristics of participants that participated in the monthly fitness program. The result shows that out of the 71 (40.1%) that participated in the monthly fitness program, 41 (57.7%) were females while 30 (42.3%) are males. Ages 41-45 years (21.1%) are the age group with the highest percentage followed by 36-40 years (18.3%) while 56-60 years had the least percentage (1.4%). 44 (62.0%) were administrative staffs while 27 (38.0%) were clinical staff.

The findings showed that 26.8% participated in the monthly fitness program between 9-10 times, followed by 22.5% who participated between 5-6 times. The result showed that 77.5% of the participants are advocating for an increase in the number of times the fitness program holds in a month while 22.5% did not.

73.2% have developed an individualized fitness program as a result of the motivation received through the monthly fitness program while 19.7% are contemplating developing one. 46.5% engaged in an individualized fitness program once a week, 39.4% twice or thrice weekly while 14.1% engaged in an individualized fitness program daily. 36 (69.3%) have a home-based fitness program, 9 (17.3%) have a gymnasium based fitness program while 7 (13.4%) have an open field or outdoor fitness program. Overall, 78.9% affirmed that they feel more physically active through their participation in the fitness program since the commencement of the monthly fitness program.

Table 2. Characteristics of participants that participated in the monthly fitness program (n=71)

		Frequenc (N=71)	Percentage (100%)
Gender	Male	30	42.3
	Female	41	57.7
Marital Status	Single	21	29.6
	Married	50	70.4
Age Group	20-25	7	9.9
	26-30	11	15.5
	31-35	12	16.9
	36-40	13	18.3
	41-45	15	21.1
	46-50	10	14.1
	51-55	2	2.8
	56-60	1	1.4
Education Level	OND	6	8.5
	HND	1	1.4
	BSc	55	77.5
	MSc	6	8.5
	PhD	2	2.8
	Secondary	1	1.4
Occupation	Clinical staff	27	38.0
	Admin Staff	44	62.0
How many times have you participated?	1-2	14	19.7
	3-4	11	15.5
	5-6	16	22.5
	7-8	11	15.5
	9-10	19	26.8
Recommend increase in frequency of the fitness program	Yes	55	77.5
	No	16	22.5

As a result of the fitness program, I have developed a personalized fitness program	Agreed	52	73.2
	Undecided	14	19.7
	Disagreed	5	7.1
I have created a time for fitness program	Daily	10	14.1
	Twice / thrice weekly	28	39.4
		33	46.5
	Once weekly		
I have become more active than before	Agreed	56	78.9
	Undecided	10	14.1
	Disagreed	5	7.0
Do you have a personalized fitness program?	Yes	52	73.2
	No	19	26.8
Which personalized fitness program? N=52	Home based	36	69.3
	Open field based	7	13.4
	Gymnasium	9	17.3

Table 3 shows the perceived fitness level of participants before and after the introduction of workplace-based fitness program. The result shows that the highest perceived level of fitness among the participants before the introduction of workplace-based fitness program was between 21.0% and 60.0% while the highest perceived level of fitness after the introduction of workplace-based fitness was between 41.0 % and 80.0 %.

Table 3. Perceived fitness level of participants before and after the introduction of workplace-based fitness program (n=71).

Perceived Fitness Level	Before Fitness Program n (%)	After Fitness program n (%)
0 - 20%	12 (16.9)	2 (2.8)
21 - 40%	25 (35.2)	9 (12.7)
41 - 60%	25 (35.2)	25 (35.2)
61 - 80%	9 (12.7)	29 (40.8)
81 - 100%	0 (0.0)	6 (8.5)

4. Discussion

This study was designed to investigate the impact of 10 months' workplace-based fitness program on participating staff in developing an individualized physical fitness program. The results of this study showed that majority of the participants (97.1%) were aware of the health benefits of physical activity and the monthly physical fitness program held in the hospital, this high level of awareness may be due to adequate publicity made in the workplace to remind the staff on monthly basis. It was however observed that in spite of high level of awareness, only 40.1% of staff who are aware actually participated in the fitness program. This show that high level of awareness did not translate to high level of participation in the fitness program. Previous studies have reported that education is a primary factor for determining participation in physical activity [9-11]. Jon Williamson however, reported that participation in physical activity was more strongly correlated with physical activity awareness than with educational level [12]. In the present study, majority of the staff who failed to participate in the monthly program reported that "time of exercise was not suitable for them" while the minority felt they do not have enough time to spare.

The results also show that 57.7% were females while 42.3% were males, this indicated that women seems to be more interested in engaging in physical activity probably due to the fact that women tend to accumulate more body fat and are motivated to participate in programs that help to lose/manage weight [13].

People within 41-45 years had the highest attendance at the monthly fitness program probably because they are in their productive age in civil service and are usually busy to engage in any planned program outside the work place while those within the age of 56-60 years had the least attendance. The low level of participation among the latter age group could be attributed to feelings of too old to engage in physical activity or too weak or presence of some musculoskeletal conditions which limit their ability to perform physical activities. This view is in line with the view expressed by Zimmerman-Sloutsakis et al., [14] where they discovered that aging tends to reduce participation in physical activity.

Findings from the present study revealed that clinical staff were also found to have less attendance than the administrative staff. The low level of participation among clinical staff could be attributed to their schedule of work and have to be on ground at every point in time in-case of emergencies. This view is in line with the report from the study conducted by Khan that reported low level of participation in recreational activities among doctors due to lack of time [15].

A greater percentage of those who participated in the workplace-based fitness program recommend an increase in frequency of the program, this report suggests that the participants are very much interested in the program. The reason for this finding could be attributed to the social factors such as meeting new friends, spending time with other in a relax mood devoid of burdens of official duties as opined in previous study [13].

Majority of those who participated in the workplace-based fitness program submitted that they had developed an individualized fitness program after the introduction of workplace-based fitness program. Home-based fitness program was preferred above

out-door exercise program probably because of convenience, it incurred no financial cost and the fact that most of the exercise designed for the workplace-based fitness program are exercises that can easily be done at home. This finding supported the findings of van Uffelen et al., [13] where majority of participants endorsed home based exercise program due to its convenience and low cost.

The findings from this study also indicates that the participant's perceived level of physical fitness improved after participating in the fitness program as was the case in the study by Hewett et al, [16]. This shows that individual level of physical fitness can be enhanced through regular participation in physical activity.

5. Conclusion And Recommendations

This study showed that hospital workers are aware of the health-related benefits of physical activity however higher level of awareness does not always translate to high level of participation in physical activity. The findings of this study also showed that a well-designed and easy to perform workplace-based physical activity can help staff in developing an individualised fitness program.

There is therefore the need for employers of labour to incorporate workplace-based physical activity into their organisation as a means of promoting the health and fitness of their employee thereby improving productivity and reducing health cost of managing non-communicable and preventive diseases.

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