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The Level of Awareness and Practice of Supplementary Training Among Non-Professional Ballet Dancers

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Abstract

Background: The intensity of physical activity in ballet class is too low to stimulate physical health enhancement and fulfil physical demands of ballet. Supplementary training (ST) can be introduced to enhance the health status and dance performances of the ballet dancers. To date, what remains unclear is whether non-professional ballet dancers (NPBD) are aware of the importance of ST and whether they are practicing it.
Objective: This study aims to determine the level of awareness regarding ST and to investigate the practice of ST among NPBD.
Methodology: A cross-sectional design was adopted in this study to identify the level of awareness and practice of ST among NPBD. An online self-administered google link was sent to potential subjects. A total of 371 responses were obtained and 236 passed the inclusion and exclusion criteria. Data collected were entered and coded using SPSS version 26.0 software for analysis. **Results:** The level of awareness of respondents was 73%, which indicates a high level of awareness of ST. There were 119 (50.4%) NPBD who had practiced ST and 116 (49.6%) did not practice ST. Only 40 (33.6%) of NPBD were currently practicing ST.
Conclusion: The level of awareness of ST is high while true practice of ST among NPBD is not frequent. NPBD should be encouraged to actively participate in ST to improve their health status, dance performances and to prevent injury.

Keywords

Awareness, Practice, Supplementary training, Non-professional ballet dance

Introduction

Ballet dance being a unique combination of arts and sports requires dancers to have adequate physical fitness in order to meet the required workload (Mistiaen et al., 2012; Holland, 2017). Physical fitness in dance can be categorized into various components such as aerobic capacity, neuromuscular coordination,

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strength, power, muscle endurance and body composition (Kozai, 2012). Classical ballet training, rehearsal, and performance do not elicit significant stimulus to result in improved levels of aerobic fitness (Twichett et al, 2009). Although the technique related training alone is sufficient to meet the needs of the dance form but it rarely stresses the other components of physical fitness enough to elicit improvements (Kozai, 2012). Furthermore, ballet dancers suffer from eating disorders in the desire to be thin and lanky to meet the aesthetic component in ballet (Holland, 2017; Zulaikha et al., 2018). Given that technique related training alone does not facilitate expenditure of enough energy to maintain these aesthetic demands, it may be met by caloric restriction, which may further lead to increased risk of injuries (Twichett et al., 2009).

One of the cost-effective methods to reduce injury and improve performance is implementing supplementary training (ST) (Holland, 2017; Todd et al., 2017). It could be any form of sports or exercise such as pilates, high intensity interval training, core strengthening exercise, etc (Amorim et al., 2011; Russell, 2013). ST can improve overall fitness, delay onset of fatigue and thus, less injury occurs (Mistiaen et al., 2012; Smol & Fredyk 2012; Holland, 2017). Furthermore, via correct technique and appropriate amount of ST, calories deficiency can be met which help dancers to achieve the aesthetic component without compromising their food consumption (Holland, 2017).

The injuries occurring due to dance in Nonprofessional ballet dancers (NPBD) is reported to be around 77.2% (Costa et al., 2016). The cause of injury in NPBD is due to lack of training that causes poor technique and insufficient capability to cope with the demand of dance choreography (Russel, 2013; Holland 2017). Previous studies have mainly investigated how ST improves ballet dancer's dance performance, reducing and preventing injury and improving their physical fitness (Todd et.al, 2017; Ahearn et al., 2018; Kalaycioglu et al., 2018). To the best of our knowledge, there are no studies conducted to investigate the awareness and practice of ST among NPBDs (Holland 2017). The need for an increase in awareness of ST among NPBD is important for their overall health, reducing risk of injury and improving dance performances (Smol & Fredyk, 2012; Rodrigues-Krause et al., 2015; Holland 2017). Therefore, the present study aims to determine the level of awareness of ST and to investigate the practice of ST among them.

Methodology

This study utilized a cross-sectional design. Out of 371 responses collected, 236 met the inclusion criteria and was analyzed in this study. The inclusion criteria included ballet dancers aged 16 to 35 years who took ballet as hobby, attended ballet class for at least 1hour per week and not more than 5 hours per week with at least 1 year of ballet dance experience. Professional ballet dancer and those who participated in other dance genre were excluded from this study. This study utilized a self-administered validated questionnaire to collect data which was created via Google Form and link was distribute among potential subjects. The questions included those related to demographic data, screening questions to ensure respondents met the inclusion and exclusion criteria, questions related to level of awareness and practice of ST. A 5-point Likert scale with 9 items were presented for level of awareness of ST. The total score of 9 items was taken as 45. Informed consent was collected from all participants. Ethical approval to conduct this research was obtained from the Research and Ethics Committee of INTI International University (references no: INTI-IU/FHLSRC/BPHTI/7NY12020/014). Data was analyzed using SPSS version 26.0. Descriptive data were presented using frequency and percentage. Apart from this, for level of awareness, the positive statements were coded as 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5= Strongly agree. Negative statements were coded inversely. Mean percentage were calculated by using mean score of 9 items. Mean percentage is then used to identify the level of awareness of ST among NPBD. Scores less than 39% were

categorized as lowly aware, 40-69% as moderately aware and more than 70% as highly aware (Zaid et al., 2017).

Results and Discussion

Table 1 represents the demographic characteristics of non-professional ballet dancers. The majority of the respondents were female (96.6%) compared to males (3.4%). Among the 236 respondents, 55.5% were aged between 21 and 25 years old, 38.1% participated in ballet dance 3 days a week and 31.8% of the respondents had 11-15 years of experience in ballet dance.

Table 1. Demographic characteristic of respondents

Characteristics	Frequency (%)
Gender	
Male	8(3.4)
Female	228(96.6)
Age (years)	
16-20	56(23.7)
21-25	131(55.5)
26-30	44(18.8)
31-35	5(2.1)
Total duration of dance class per week (hours) 1	
1	16(6.8)
2	60(25.4)
3	90(38.1)
4	41(17.4)
5	29(12.3)
Ballet dance experience (years)	
1-5	40(16.9)
6-10	56(23.7)
11-15	75(31.8)
16-20	55(23.3)
21-25	9(3.8)
26-30	1(0.4)

Table 2 describes the level of awareness of supplementary training among non-professional ballet dancers. The mean score was 32.85±4.68 (Max score = 45). Mean score were converted into mean percentage which is around 73.00%. The level of awareness of respondents were 73%, which indicates a high level of awareness of ST. Regarding practice of ST among respondents, 119 (50.4%) had practiced ST and 116 (49.6%) did not practice ST. It was noted that most of them 43(36.1%) practiced ST in past week, 40(33.6%) were practicing ST currently, 26 (21.8%) practiced months before and 10(8.4%) practiced years before.

Table 2. Level of awareness of supplementary training

	Statements	Strongly Disagree Frequency (%)	Disagree Frequency (%)	Neutral Frequency (%)	Agree Frequency (%)	Strongly Agree Frequency (%)	Mean± SD
1	Supplementary training is not important to a nonprofessional ballet dancer	39(16.5)	119(50.4)	64(27.1)	14(5.9)	0	3.78± 0.79
2	Ballet class alone is sufficient to maintain physical fitness	50(21.2)	94(39.8)	52(22.0)	35(14.8)	5(2.1)	3.63± 1.04
3	Strength training (with resistance/weight) will build bulky muscles and affect the aesthetic dance body?	31(13.1)	73(30.9)	46(19.5)	79(33.5)	7(3.0)	3.18± 1.12
4	Supplementing Pilates able to increase strength, flexibility, balance, and neuromuscular control, and to address alignment discrepancies	0	10(4.2)	34(14.4)	150 (63.6)	42 (17.8)	3.95± 0.70
5	Supplementing plyometric training (Eg: jump) able to improve jumping height and overall jump quality.	1(4)	2(8)	39(16.5)	129 (54.7)	65 (27.5)	4.08± 0.71
6	There is no need to supplement aerobic exercise (HIIT/Running etc) because normal ballet class routine is sufficient to maintain physical health.	27(11.4)	105(44.5)	52(22.0)	39(16.5)	13(5.5)	3.40± 1.07
7	Core stabilization training (CTS) is important to increase the number of						

	successful pirouettes(turn) due to improvement in proprioception and ability to make trunk adjustment.	4(1.7)	5(2.1)	39(16.5)	119 (50.4)	69 (29.2)	4.03± 0.84
8	Supplementary training will cause overuse injury to non-professional ballet dancers.	18(7.6)	84(35.6)	73(30.9)	45(19.1)	16(6.8)	3.18± 1.05
9	To achieve the aesthetic body in ballet, restricting diet is the only way.	53(22.5)	89(37.7)	48(20.3)	43(18.2)	3(1.3)	3.62± 1.06
	Total score	-	-	-	-	-	32.85± 4.68

Many studies showed that ballet dancers refuse to participate in ST especially strength training because they believed that strength training will cause hypertrophy of muscle and affect the aesthetic competence of ballet body (Holland 2017). This study supports their findings, there was highest agreement on this negative statement where 79 (33.5%) respondents agree and 5 (2.1%) strongly agree with the statement, 'Strength training (with resistance/weight) will build bulky muscles and affect the aesthetic dance body.' Furthermore, 53 (22.5%) respondents strongly disagree and 89 (37.3%) disagree on the statements, 'To achieve the aesthetic body in ballet, restricting diet is the only way.' This indicates there were more than half NPBD in this study who were aware that ST can help in weight reduction. This result is supported with a study undertaken by Mistiaen et al. (2012) on injury in per-professional dancers, which showed that ST such as aerobic exercise, strength training and motor control exercise in dancers helped in reduction of body fat.

Conclusion

The level of awareness of ST among NPBD is 73%, which is a high level of awareness. However, it was also noted that the practice of ST among NPBD is not frequent enough. The level of awareness of ST is high while true practice of ST among NPBD is not as desired. Therefore, measures should be undertaken to encourage the NPBD to actively participate in ST which could improve their health status, dance performances and prevent injuries. Future studies may explore the barriers limiting practice of ST among NPBD so that appropriate steps can be undertaken.

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