

## Effect of Zumba dance on stress management in Adult age group

Dr. Veena Gupta<sup>1</sup>, Dr. Rupali Parlewar<sup>2</sup>

<sup>1</sup>ExSenior Resident, Department of Physiology, DR Rajender Prasad Medical College, Kangra at Tanda, H.P

<sup>2</sup>Prof & head Department of Physiology, DR Rajender Prasad Medical College, Kangra at Tanda, H.P

Corresponding Author: Dr. Rupali Parlewar

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### Abstract:

**Aim-** To study Effects of Zumba dance on management of stress in adult age group.

**Background--**Zumba is a global dance fitness program focused on whole body rhythmic movements which fuses fitness & entertainment. It can stimulate the production of endorphins in the body in order to suppress the action of stress causing hormones such as cortisol and adrenaline.

**Material & Method-** Group of 50 individuals (18-25 years) were selected as sample subjects. Each individual was given a survey form (Perceived stress questionnaire) to be completed at the beginning. After a month the same survey form was given again to each individual. The survey forms of individuals pre and post Zumba were compared. The difference between 2 survey forms was recorded to study effects of Zumba dance in the management of stress. Data analysis was done by using chi square test.

**Results-** Difference between stress scores pre and post Zumba describes the significance of Zumba dance in relieving stress. And result was statistically significant with p value <0.0000001.

**Conclusion-** it is concluded that Zumba is an effective intervention in controlling stress.

**Keywords:** Zumba, stress, endorphins

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### I. Introduction

Stress is a normal physical response to events which disturbs day to day life. <sup>(1)</sup>It has been experienced since ancient life, but has become worse in 21<sup>st</sup> century. <sup>(2)</sup>Adults are more vulnerable to stress due to work deadlines, new roles & responsibilities, financial issues & increasing demands. It is also linked with numerous physical & emotional disorders like depression, anxiety, hypertension, stroke, sleep disturbances <sup>(3)</sup>. Recently various innovative techniques like aerobics, yoga, relaxation meditation & Zumba are emerging to deal with stress. But Zumba is most preferable among these, because of its desired effects on body. It is a type of intervention which produces positive effects in reducing stress & improves quality of life <sup>(4)</sup>. Zumba is global dance fitness program focused on whole body rhythmic movements <sup>(5)</sup>. It was designed by Albert Beto Perez. Goals of Zumba are to improve strength, balance, coordination & cardiovascular endurance. Approx. 15 million people take weekly Zumba classes in over 200,000 locations across 180 countries. Zumba classes are typically 45min- 1 hr long & are taught by instructors licensed by Zumba fitness. <sup>(6)</sup>

### II. Materials & Methods

The study was done as a questionnaire based study among members of Mata Saraswati Zumba centre in Kangra city of Himachal Pradesh. A total of 50 participants were included in study. All the participants were provided with a Perceived stress questionnaire <sup>(7)</sup> (survey form) consisting of 10 questions at the start of Zumba classes & after one month of completion of Zumba. There were 5 options for a single question and participants were told to tick only one option which describes them the most. At the end total scores were evaluated and stress scores before & after Zumba were compared. The stress level was evaluated for Pre & Post Zumba training. Data analysis was done by chi square test. Data was coded & entered into Microsoft Excel spreadsheet version 2010.

**PERCEIVED STRESS SCALE**  
 The question in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way  
 Name \_\_\_\_\_  
 Date \_\_\_\_\_ Age \_\_\_\_\_ Gender \_\_\_\_\_  
 (Circle) : M F \_\_\_\_\_  
 0= Never 1= almost Never 2= Sometimes 3= Fairly Often 4= Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly? 0 1 2 3 4
2. In the last month, how often have you felt that you were unable to control the important things in your life? 0 1 2 3 4
3. In the last month, how often have you felt nervous and “stressed”? 0 1 2 3 4
4. In the last month, how often did you felt concerned about others opinion about you? 0 1 2 3 4
5. In the last month, how often have you felt that things were going your way? 0 1 2 3 4
6. In the last month, how often have you found that you could not cope with all the things that you had to do? 0 1 2 3 4
7. In the last month, how often have you been able to control irritations in your life? 0 1 2 3 4
8. In the last month, how often have you felt that you were on top of things? 0 1 2 3 4
9. In the last month, how often you felt worried about your health & couldnot focus on other things ? 0 1 2 3 4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 0 1 2 3 4

**Potential level of stress---**

- Low <0-13
- Moderate- 14-26
- High- 27-40
- Very high>40

**III. Results**

**Table1:**

**Stress scores before and after Zumba dance**

Prezumba workout			Postzumba workout		
Stress levels	Score	No of participants	Stress levels	score	No. of participants
low	0-13	0	low	0-13	30
moderate	14-26	4	moderate	14-26	10
high	27-40	6	high	27-40	4
Very high	>40	40	Very high	>40	6

Figure 1:

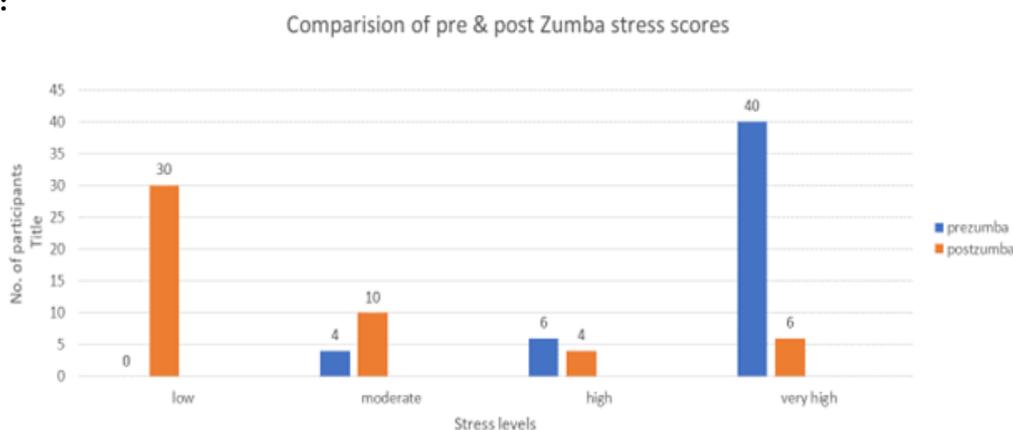


Table2:

### Comparision of pre and post Zumba score

Stress score	Pre Zumba	Post Zumba	Statistical inference
Low	0	30	Chi square= 58.1
Moderate	4	10	Degrees of freedom = 3
High	6	4	P-value= <0.0000001
Very high	40	6	

Participants with stress level of either low or moderate are categorized under low stress levels while participants with a stress level of either high or very high are grouped under high stress level.

Table3:

### % of participants with low & high stress levels pre & post zumba

Prezumba			Postzumba		
Stress levels	Total no of participants	% of participants	Stress levels	Total no of participants	% of participants
low	4	8	low	40	80
high	46	92	high	10	20

Table4:

### Pre & post Zumba % of participants with their stress levels

Prezumba (% of participants)	Post Zumba (% of participants)	Statistical inference
Low - 8	Low- 80	Chi square = 42.4
High- 92	High- 20	Degree of freedom= 1
		P- value = 0.0000001

Figure 2:

### Stress levels of patients before Zumba dance

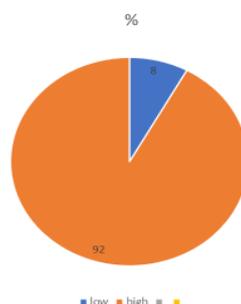
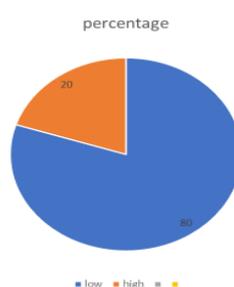


Figure 3:

### Stress levels of participants after Zumba dance



#### IV. Discussion

The study was conducted at Mata Saraswati Zumba centre in Kangra , Himachal Pradesh .50 participants were surveyed using perceived stress questionnaireThe main purpose of this study was to see the outcome of Zumba on stress levels.According to the results 8% of the participants showed low stress levels & 92% participants displayed high stress levels before Zumba dance.Post Zumba workout 80% participants had low stress levels & 20% displayed high stress levels suggesting significant reduction in stress scores and hence importance of Zumba in regulating stress.Results of our study are in agreement with study conducted by Nur liyana Akmal <sup>(8)</sup>& also similar to study by Shamika Vast & Deepali N Hande. Zumba is considered a great cardiovascular exercise that helps in strengthening heart & muscles to allow more oxygen to be transported throughout body effectively & it provides higher lung efficiency<sup>(9)</sup>

According to the American Dance Therapy Association (ADTA) Zumba dance involves numerous movements, which can improve the emotional, cognitive, physical and social integration of an individual. Dance provides various benefits for the body and mind.at the same time releasing endorphins into system..Endorphins are morphine like hormones that are responsible for elation..Neurological effects of dance which requires a complex mental coordination synchronizing music and movement. Dance constitutes a pleasurable intervention where brain's stress centres are stimulated by music and sensory motor circuits are activated by dance .Zumba dance essentially burns away chemicals like cortisol & norepinephrine that causes stress, at the for feelings of elation<sup>(10)</sup>.Other chemicals like dopamine & serotonin are also released in brain during exercise.Together these give feeling of safety & security that contributes offsetting some of the internal causes of stress.

#### V. Conclusion

Stress is common in daily life, it is harmful to body as it keeps body in a fight or flight mode & constantly keeps our body away from resting.Zumba is a great dance exercise causing release of endorphins , thus reducing stress.Not to mention its other benefits it has on body including reducing weight, BMI, improving

hormonal profile & reproductive function. Boosts memory, improves concentration, prompts growth of new nerve cells & blood vessels. These findings suggest that Zumba intervention can be explored further as a therapeutic tool in complementary & alternative medicine for improving health & preventing lifestyle diseases.

### **Bibliography**

- [1]. Miss Neema Kumari Jadoun, Mr. Abdeshe Singh Kushwah, Mr. Parmanand Barodiya, Dr. Umesh Holani, Need of stress management (Journal of management Value & Ethics July-Sept. 12 Vol. II No. III)
- [2]. Aljona Shchuka, Stress at work Stress management. University of Applied Sciences (18.02.2010).
- [3]. Record, Geneva, "Stress Relief Habits and Perceived Stress among College Nursing Students." Undergraduate Honors Theses. April 10, 2013; Paper 92
- [4]. Impact of Zumba training in stress management among students.
- [5]. Lloyd, J. (2011). Zumba brings the dance party into the health club. USA TODAY. <http://usatoday30.usatoday.com/news/health/wellness/fitness-food/exercise/story/2011-10-27/Zumba-brings-the-dance-party-into-the-health-club/50940786/1>
- [6]. Parcher A. (2008). Zumba shakes the monotony of ordinary aerobic classes. The Washington Post. [http://articles.washingtonpost.com/2008-07-31/news/36857857\\_1\\_alberto-perlman-alberto-aghionzumbafitness](http://articles.washingtonpost.com/2008-07-31/news/36857857_1_alberto-perlman-alberto-aghionzumbafitness).
- [7]. Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24, 386-396.
- [8]. Effect of Zumba dance on management of stress – a survey
- [9]. Daas, Z., 2013. Everybody Dance!: Zumba and its Effects on Cardiovascular, Immunological, and Cognitive Function.
- [10]. "ZUMBA Fitness for Stress Relief: It's for Everyone!" Sport and Spine Physical Therapy and Wellness in Tampa FL. 2014. Web. 04 June 2016

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