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A Comparative Study of Level of Stress due to Menstruation Cycle among physically active and Non Active females at DRC College

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***Abstract*-** The purpose of the study was to identify the level of Stress due to menstruation cycle among physically active and non-active females in DRC College, University of Delhi. The research pattern being used was descriptive survey research comparing chosen active and non-active females. The study was delimited to the age group 20 to 25 years. By applying simple random sampling a total of 100 females (50 active + 50 non active) were selected, the physically active group consist of females doing at least 2-4 hour daily physical activity besides the daily work, whereas the non-active group consist of females with no physical activity in the daily routine. The variable for the study was stress; Adrenal Stress Questionnaire developed by Dave Hompes was used for the collection of data. The statistical techniques employed were descriptive statistics followed by independent't' test. The results revealed that the active females with majority of 44% were below stress level, whereas 28% falls in the category of average adrenal burnout, 22% were in the category of good health, and at the last 8% were above average adrenal burnout, whereas no was found with severe adrenal burnout, whereas the 34% non active females were in the average adrenal burnout category, on the other hand 22% were in the above average adrenal burnout category, with 18% found to be under some stress, and at the last only 8% were having good health and 18% under severe adrenal burnout, and finally the stress level of females (Both active and non active), showed that a majority with 31% were in average adrenal burnout category, with a total of 31% were found under some stress, 14% were having above average adrenal burnout, and only 15% were having good health, and at last 9% were found to be having severe adrenal burnout and lastly the mean of the active group was 35.14 when compared to the non active group with a mean of 46.64, the standard deviation of the active group and the non active group was 8.00 and 10.65 respectively, the result indicates a significant difference between the stress level of active and non active females due to menstruation cycle occurred, as the value was found to be 6.105 against the tabulated value of 1.96 at 0.05 level. It can be concluded from the means of both the groups that the level of stress due to menstruation was more in physically non active group when compared to physically active group. It was also concluded that Daily physical activity can reduce the stress level among the female section, which will ultimately lead to their physical, physiological and psychological well being.

***Index Terms*-** Stress, Menstruation Cycle

I. INTRODUCTION

Modern life is full of hassles, deadlines, frustrations, and demands. For many people, stress is so commonplace that it has become a way of life. Stress isn't always bad. In small doses, it can help you perform under pressure and motivate you to do your best. But when you're constantly running in emergency mode, your mind and body pay the price. If you frequently find yourself feeling frazzled and overwhelmed, it's time to take action to bring your nervous system back into balance. You can protect yourself by learning how to recognize the signs and symptoms of stress and taking steps to reduce its harmful effects.

What is stress?

Stress is a normal physical response to events that make you feel threatened or upset your balance in some way. When you sense danger – whether it's real or imagined – the body's defenses kick into high gear in a rapid, automatic process known as the "fight-or-flight" reaction, or the *stress response*.

The stress response is the body's way of protecting you. When working properly, it helps you stay focused, energetic, and alert. In emergency situations, stress can save your life – giving you extra strength to defend yourself, for example, or spurring you to slam on the brakes to avoid an accident.

Stress is seen as modern society's illness by professionals from different sectors. Stress has effects on people's behaviors, communications and efficiency. Stress is not only a factor in working places; it is also common factor in educational environments experienced by students. Stress is first defined by **Hans Selye (1977)** while searching for female hormones. Before Selye, the term "stress" was used to describe a mental strain or unwelcome happening. Selye demonstrated that stress weakened rats' immunity. Stress has become a universal explanation for human behaviour in industrial societies **(Viner, 1999).** Walter defined stress as "an external factor affecting bodily homeostasis". Cannon, introducing the term "homeostasis" and "fight or flight" response to stress is believed to do the first researches about stress **(Sahin, 1998; Viner, 1999).** Although the term stress has first shown up in physiology, today, there are many definitions of stress in many areas.

Why do some experts feel that women are particularly susceptible to stress?

Women are socialized to be the caretakers of others. More women than men have both a career outside the home and continue to try to juggle traditional responsibilities after hours. Over 70% of married women with children under the age of 18 are employed outside the home. Sociologists describe women as struggling to achieve the "male standard" at work, while trying to maintain the perfect wife and mother standards at home. Women are also less likely to be in as powerful positions as men to change their environment. Women find it harder to say no to others' requests and often feel guilty if they can't please everyone. They often spend less time nurturing their own emotional and physical needs, as that might be perceived as selfish. In addition, relationship alterations or the loss of loved ones can produce empty nest or other separation syndromes. As women progress through life's stages, hormonal balance associated with premenstrual, post-partum and menopausal changes can affect chemical vulnerability to stress and depression together which consequently results in severe headache and irritability. Women may also have irregular monthly cycle, high blood pressure, stomach ulcers, etc., due to stress **(http://my.clevelandclinic.org/healthy)**

Menstrual Period and the Power of Stress

Even though you may not be planning an adventure around the world, stress and anxiety can still take a toll on you – and your period. Although some stress can be good and even help us challenge ourselves, too much can negatively impact health. The body is sensitive to any unexpected disruptions. Excessive worrying can put the digestive system into overdrive, causing stress symptoms like diarrhoea, frequent urination, and abdominal pain; the pulmonary system may respond with rapid breathing. The female reproductive system can be affected, too. In fact, for some women, stress may play a role in causing irregular or missed periods. As stress levels rise, there's a chance that your menstrual period will temporarily stop, a condition known as secondary amenorrhea.

How Stress May Affect Menstruation

Not much is known about the relationship between stress and periods. However, stress certainly plays a role in suppressing the functioning of the hypothalamus, which controls the pituitary gland — the body's master gland — which, in turn, controls the thyroid and adrenal glands and the ovaries; they all work together to manage hormones. Ovarian dysfunction may lead to problems with estrogens production, ovulation, or other reproductive processes. Estrogens are important hormones that helps build the uterine lining and prepares the body for pregnancy. If the ovaries aren't working properly, side effects may involve the menstrual cycle, including missed periods or irregular periods.

Regular exercise is important for girls and women of all ages. Exercise significantly reduces the risk for many diseases and conditions including heart disease and many types of cancer. Getting regular exercise can significantly reduce the severity of the symptoms of conditions such as premenstrual syndrome or PMS, or menstrual cramps Exercise affects our bone health. Regular exercise helps to reduce the risk of developing osteoporosis.
(http://pms.about.com/od/fitnessnutritionperiods/a/exercise_menstr.htm)

There are many benefits to exercising during your period. Working out can help:

- Decrease the pain of cramps by releasing endorphins (the body's natural painkillers), increasing blood flow, and by loosening muscles in your lower abdomen, back, and thighs.
- Rid your body of excess water so you aren't bloated.
- Improve and stabilize your mood, making you less anxious, angry, or depressed.

Of course, there are even more benefits to a regular exercise program. By exercising consistently, you may be able to achieve a lighter and shorter menstrual flow, a lower incidence of mood swings, and a stronger pelvic floor, which can better support your reproductive organs (http://babyfit.sparkpeople.com/articles.asp?id=882) The following suggestions will help you develop a synergy between menstruation and exercise, so you can optimize your workouts, and your periods.

- If you are just beginning an exercise program, and you suffer from cramps and other period-related issues, then start out slowly. Make sure you're listening to your body and not overdoing it.
- Increase exercise around your period, which will improve oxygen circulation throughout the body.
- Eat lots of fresh fruits and vegetables, whole grains, and lean protein.
- Avoid lots of salt (but use spices, especially spicy ones, liberally).
- Avoid refined sugars and fried foods.
- Avoid caffeine—it can make cramps worse.
- Get plenty of sleep.
- Use heat to relieve cramps so you can get to the gym and stick to your workouts.

Keeping in mind the above facts and extensively reviewing the literature the research scholar was intended to Study of Level of Stress due to Menstruation Cycle among physically active and Non Active females.

Objectives and Hypothesis:

- To identify the level of stress experienced by physically active females
- To identify the level of stress experienced by physically non active females
- To identify the difference of stress levels between physically active and non active females.

Hypothesis of the study:

- It was hypothesized that the stress level of active females will be low.
- It was also hypothesized that the stress level of non active females will be high.
- It was hypothesized that there would be a significant difference between the stress level of physically active and non active females.

II. Procedure and Methodology

The research pattern being used was descriptive survey research comparing chosen physically active and non active females in DRC College. The study was delimited to the age group 20 to 25 years. By applying simple random sampling a total of 100 females (50 active + 50 non active) were selected, the physically active group consist of females doing at least 2-4 hour daily physical activity besides the household work, whereas the non active group consist of females with no physical activity in the daily routine. The variable for the study was stress; Adrenal Stress Questionnaire developed by Dave Hompes was used for the collection of data. The statistical techniques employed were descriptive statistics followed by‘t’ test.

III. Results and Discussions

A number of 100 active and non active females of DRC College were involved in this research. For calculating mean and standard deviation descriptive statistics was employed, whereas to compare the level of stress among active and non active females ‘t’ test was employed. The result has been shown in tables from 1 to 4.

Table No. 1: Stress Status among Physically Active Group

Category	Score	F	%
Good Health	0-30	11	22%
Under some Stress	31-40	22	44%
Average Adrenal Burnout	41-50	14	28%
Above Average Adrenal Burnout	51-60	3	06%
Severe Adrenal Burnout	61+	0	0%

Table No. 1 indicates the stress level of physically active group, which shows that a majority with 34% were below stress level, whereas 31% falls in the category of average adrenal burnout, 29% were in the category of good health, and at the last 4% were above average adrenal burnout, whereas no was found with severe adrenal burnout.

Table No. 2: Stress Status among Physically Non Active Group

Category	Score	F	%
Good Health	0-30	04	08%
Under some Stress	31-40	09	18%
Average Adrenal Burnout	41-50	17	34%
Above Average Adrenal Burnout	51-60	11	22%
Severe Adrenal Burnout	61+	09	18%

Table No. 2 indicates the stress level of physically non active group, which shows that a majority with 34% were in average adrenal burnout level, whereas 22% falls in the category of above average adrenal burnout, 18% were in the category of severe burnout, on the other hand 18% were found be under some stress and finally only 8% were found with good health.

Table No. 3: Comparison of Level of Stress among Physically Active and Non active females

	category	N	Mean	Std. Deviation	Std. Error Mean	df	‘t’
females	active	50	38.64	7.876	1.114	98	4.91
	non active	50	48.20	11.261	1.593		

Table no.3 indicates the values of descriptive statistics and independent‘t’ test for physically active and non active females, which shows that the mean and SD values of physically active and non active females were found to be 38.64±7.87 and 48.2±11.26 respectively, also a significant difference was found between the level of stress due to menstruation among physically active and non active females as the value was found to 4.91 which was found to be significant at 0.05 level.

IV. Conclusions

- It can be concluded that the level of stress was more in physically non active females when compared to the physically active group.
- It was concluded that physical exercise is a mean for minimizing the stress level.
- Daily physical activity can reduce the stress level among the females section of DRC College which will ultimately lead to their physical, physiological and psychological well being.

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