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Analyzing the Physical and Mental Health in Generalised Indian Female Population Due To Covid-19

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Abstract
Background: *The COVID-19 pandemic means that many of us are staying at home and doing less in terms of social interactions and exercise. This can have a negative effect on your physical and mental health. Most of the female population was restricted to their household chores and if they were working then their responsibilities doubled within a closed environment which could impact their overall health.*
So the study has been taken to check whether there is any change on physical and mental health of Indian female population due to the pandemic.
Methods: *This is an online survey method designed to analyze the physical and mental health in generalized Indian female population due to Covid-19 (pandemic). The sample is being collected by Adobe Sign (web-form) using SF-12 scale and other variables are BMI, height, weight, age. According to the inclusion criteria, only female populations (30 years - 55 years old age group) are invited to take part in this study whether they are working from home/office or is a house-maker. Similarly, the exclusion criteria is female population below the age of 30 years, above the age of 55 years old and pregnant females are not eligible to take part in this study.*
Findings: *Through this study, the sample comprised n= 302 and we conclude that on an average Mean of physical component score (PCS) is 47.706 (=48) and difference PCS is -2.294 (= -2), Mean of MCS is 46.161 (= 46) and difference MCS is -3.899 (= -4). There are significant relation between PCS & MCS in respect with other variables (i.e. BMI)*
Interpretation: *From our interpretation PCS>MCS which means the subjects are physically more active or functional than mentally or we could say they are mentally relative less active or functional than physically.*
Funding: *No favors were taken or given to the participants or from any other source during this study.*
Keywords: *Physical Health, Mental Health, Covid-19, Pandemic.*

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I. Introduction

Good health is central to handling stress and living a longer, more active life. In 1948, the World Health Organization (WHO) defined health with a phrase that modern authorities still apply: *Health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.* The WHO states that "*there is no health without mental health* [1]. Although the mind and body are often viewed as being separate, mental and physical health are actually closely related. Good mental health can positively affect your physical health. In return, poor mental health can negatively affect your physical health. [2]. Physical health problems significantly increase our risk of developing mental health problems, and vice versa. Nearly one in three people with a long-term physical health condition also has a mental health problem, most often depression or anxiety. [3]. The link between mental health and physical health is often misunderstood. They're often thought of as separate entities, but the two go hand in hand. In fact, the World Health Organization defines health as a state of complete physical, mental and social well-being [4]. The World Health Organization (WHO) defines mental health as the state of well-being where every individual realizes his or her own potential, manages the normal stresses of life, works productively and fruitfully, and can contribute to her or his community.

What do you think of when you hear the word "health"? Most of our brains automatically think physical health — exercising, healthy eating, drinking water, etc. And while physical health does play a large role in keeping our bodies in shape and functioning properly, our mental health is just as important to maintain to achieve a healthy and happy lifestyle. The link between mental health and physical health is generally misunderstood because the mind and body are considered two separate entities, but oftentimes these two entities

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need to work together for our own wellbeing. Our mental health can directly affect our physical health and vice versa. [5]

How Physical Health Can Affect Your Mental Health*:* Physical health is the state of your physical body and how well it is operating. Ways to maintain your physical health can be broken down into four categories. *Lifestyle* – staying active throughout your day, getting enough sleep, drinking water *Diet* – eating balanced foods that nourish your body. *Hygiene* – keeping yourself and your environment clean and kept-up. *Exercise* – using and strengthening your body and muscles

Poor mental health can drain all of your energy and prevent you from working on your physical health, but increasing your activity and working on your physical health can actually improve your mental health.

How Mental Health Can Affect Your Physical Health*:* About 1 in 5 people in the U.S. struggle with their mental health. Symptoms of poor mental health can include negative thinking, low energy levels, change in mood or behavior, isolation, struggling to cope with stress, changing in sleeping or eating patterns, negative self-talk, and feeling sad or depressed. Your mental health can affect more than just your mind, it can also affect your behavior and your body. Poor mental health will not only impact your body's ability to make healthy decisions, but it can also increase your risk of chronic diseases like heart disease and other health complications like obesity, weakened immune system, and more. [5]

IMPACT: Abrupt changes due to the swift effects of the corona virus disease 2019 (COVID-19) pandemic hit all sectors in society worldwide, ranging from daily life activities to work formats. Before the "the new normal" became a popular catchphrase, workers spent most of their time at homes or at their workplaces. The phrase "at work" indicates a physical space, such as an office. Ongoing developments in information technology make communication more convenient and work more flexible. This new independence has transformed the role of technology at work. Furthermore, companies, communities, and organizations of all kinds have reconciled how to merge both places together by adjusting to working from home and using a work agreement with a single employer, which can be classified into two types: full-time means every weekday at home and part-time means working partly at home and partly at the office. [6] Working from home is beneficial for employees, employers, and society in terms of the economy and the environment [7] [8]. Moreover, it is suitable in some unpredictable situations, such as natural disasters or epidemics. [9] [10]

Work From Home took a toll on female workers: BHUBANESWAR: The prolonged work -from-home and long working hours, salary cut, online classes of children, illness in families since the outbreak of covid-19 pandemic for one-and-half year has taken a heavy toll on mental health of working women. Many women are suffering depression and anxiety apart from several other issues for not being able to make a proper work-life balance. Most working women feel in case of working from home, they have been undertaking more household and childcare responsibilities than their spouses. The overburden of work impacts their performance at work as well as relationships too. [11]

For working parents, those with infants had a higher chance of reporting a new mental health issue despite the tendency of having better mental well-being. "Having toddlers was affiliated with physical well-being but it was also associated with more physical and mental health issues," the report said. "Workers decreased overall physical activity, mental well-being and exercise, combined with increased overall food intake," the report added.

List of home health tips: Eat a healthy diet, Keep hydrated, Schedule regular exercise, Set up the home office for optimal posture and comfort, Maintain a work-life balance, Stick to a daily routine, Make personal connections, Reduce stress by practicing mindfulness.

ALTERNATIVE HYPOTHESIS

There are significant effects on physical and mental health in female population due to Covid-19 who are working from home or a homemaker.

NULL HYPOTHESIS

There are no significant effects on physical and mental health in female population due to Covid-19 who are working from home or a homemaker.

II. Method

Study Design: This is the cross-sectional online survey with a study designed to assess the effects on physical and mental health due to Covid-19 (pandemic) in female population. The sample is being collected by Adobe Sign (web form) using SF-12 scale and other variables like BMI, height, weight, age. According to the inclusion criteria, only female population (30 years -55 years old age group) are invited to participate in this study whether they are working from home/office or is a homemaker. Similarly, the exclusion criteria is female population below the age of 30 years, above the age of 55 years old and pregnant females are not eligible to take part in this study.

Procedure: The research design was prepared. The data was collected by using Adobe Sign (web form) from different cities through social media (WhatsApp, Instagram, and Facebook). The subjects were informed by the therapist/researcher about the study and the survey was conducted. Written consent was filled out by all the participants and were informed that their information is being used for the research purpose. The subjects were also informed that their personal details will be safe and confidential. Subjects filled out questionnaire (SF-12 scale) which is then scored by a researcher with the help of SF-12 toolkit. The total subjects are 302 for this study due to time restriction. Then the data was analyzed for the results.

Data Analysis: Data Analysis was performed with Microsoft Excel and JASP (Jeffrey's Amazing Statistics Program) version 0.16 Descriptive Statistical test and correlation test was done between each parameter of scales used and within the group also.

III. Result

Interpretation

Mean of PCS is 47.706 (=48) and difference PCS is -2.294 (= -2)
Mean of MCS is 46.161 (= 46) and difference MCS is -3.899 (= -4)
From our interpretation PCS>MCS which means the subjects are physically more active or functional than mentally. In other words we could say the subjects are mentally relative less active or functional than physically.

Descriptive Statistics (table-3.1)

	Age	Height (Cm)	Weight (kg)	BMI
	Female	Female	Female	Female
Valid	302	302	302	302
Missing	0	0	0	0
Mean	40.387	160.689	64.879	25.187
Std. Error of Mean	0.530	0.596	0.678	0.246
Std. Deviation	9.211	10.349	11.777	4.268
Variance	84.849	107.112	138.706	18.219
Skewness	0.744	0.124	0.484	0.393
Std. Error of Skewness	0.140	0.140	0.140	0.140
Kurtosis	0.122	1.948	0.180	0.963
Std. Error of Kurtosis	0.280	0.280	0.280	0.280
Shapiro-Wilk	0.923	0.940	0.983	0.986
P-value of Shapiro-Wilk	< .001	< .001	0.001	0.004

Table-3.1 shows, total subjects are 302. Descriptive mean value for age is 40.387, for height is 160.689, for weight is 64.879 and for BMI is 25.187. Standard deviation (σ) is low which means the data are clustered around the mean. σ for age is 9.211, σ for height is 10.349, σ for weight is 11.777 and σ for BMI is 4.268. Skewness is greater than 0 and shifted towards right side which means mode<median<mean. Skewness for age is 0.744, for height 0.124, for weight is 0.484, for BMI is 0.393. Kurtosis is elevated from the normal graph or forming a peak of a frequency distribution as, the kurtosis for age is 0.122, for height is 1.948, for weight is 0.180, for BMI is 0.963. Shapiro-Wilk test for age is 0.923, for height is 0.940, for weight is 0.983, for BMI is 0.986. P-value of Shapiro-wilk test <0.05 which means we can reject H_0 and accept H_1.

Descriptive Statistics (table-3.2)

	PCS	MCS	DIFFERENCE PCS	DIFFERENCE MCS
	Female	Female	Female	Female
Valid	302	302	302	302
Missing	0	0	0	0
Mean	47.706	46.161	-2.294	-3.899
Std. Error of Mean	0.475	0.581	0.475	0.584
Std. Deviation	8.255	10.091	8.255	10.157
Variance	68.143	101.822	68.143	103.160
Skewness	-0.701	-0.151	-0.701	-0.067
Std. Error of Skewness	0.140	0.140	0.140	0.140
Kurtosis	-0.027	-0.351	-0.027	-0.528

Descriptive Statistics (table-3.2)

	PCS	MCS	DIFFERENCE PCS	DIFFERENCE MCS
	Female	Female	Female	Female
Std. Error of Kurtosis	0.280	0.280	0.280	0.280
Shapiro-Wilk	0.953	0.982	0.953	0.979
P-value of Shapiro-Wilk	< .001	< .001	< .001	< .001

Table-3.2 shows that, Mean of physical component score (PCS) is 47.706, mental component score (MCS) is 46.161, difference from USA average in physical component score is -2.294 and difference from USA average mental component score is -3.899. Standard deviation (σ) is low in PCS and MCS which means the data are clustered around the mean. σ is high in Difference PCS and Difference MCS which means the data are more spread out. Skewness is less than 0 indicates that graph is shifted towards left side which means Mode>Median>Mode. Kurtosis score are clustered in the tails of a frequency distribution or flattered graph from the normal graph. The values of kurtosis of PCS is -0.027, MCS is -0.351, Difference PCS is -0.027 and Difference MCS is -0.528. Shapiro wilk test for PCS is 0.953, for MCS is 0.982, for Difference PCS 0.953 and for Difference MCS 0.979. P-value of Shapiro wilk test <0.05 which means we can reject H_0 and accept H_1.

One Sample T-Test

One Sample T-Test (table-3.3)

	T	df	P	VS-MPR*	Cohen's d
Age	76.195	301	< .001	9.386e+194	4.385
Height (Cms)	269.817	301	< .001	∞	15.526
Weight (kgs)	95.733	301	< .001	3.688e+223	5.509
BMI	102.548	301	< .001	1.873e+232	5.901
PCS	100.430	301	< .001	4.235e+229	5.779
MCS	79.499	301	< .001	1.771e+200	4.575
DIFFERENCE PCS	-4.829	301	< .001	12928.813	-0.278
DIFFERENCE MCS	-6.672	301	< .001	1.329e+8	-0.384

Note. For the Student t-test, effect size is given by Cohen's *d* .

Note. For the Student t-test, the alternative hypothesis specifies that the mean is different from 0.

Note. Student's t-test.

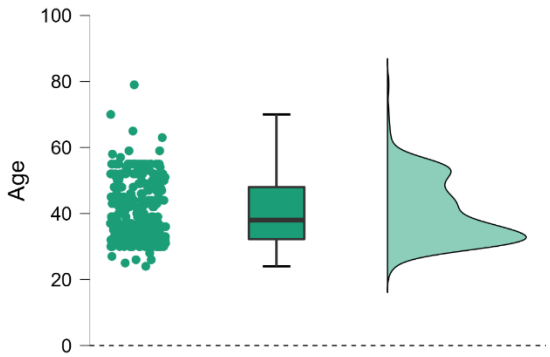
* Vovk-Sellke Maximum *p* -Ratio: Based on a two-sided *p* -value,the maximum possible odds in favor of H_1 over H_0 equals 1/(-e *p* log(*p*)) for $p \leq .37$ (Sellke, Bayarri, & Berger, 2001).

Table-3.3 shows that,
t-value of age is 76.195, t-value of height is 269.817, t-value of weight is 95.733, t-value of BMI is 102.548, t-value of PCS is 100.430, t-value of MCS is 79.499, t-value of Difference PCS is -4.829 and t-value of Difference MCS is -6.672. p-value or probability value<0.05, so on that basis we can say that we could reject null hypothesis and accept the alternative hypothesis. So we have conclude the accurate result.

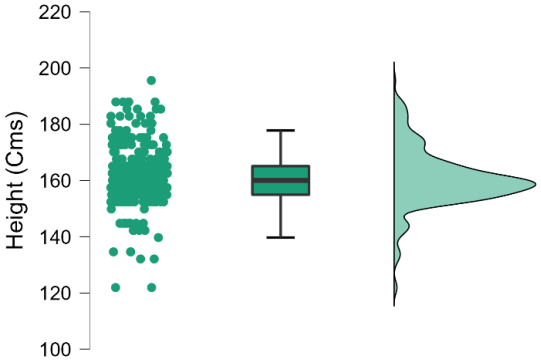
Descriptive

Raincloud Plots

Age (graph-3.1)

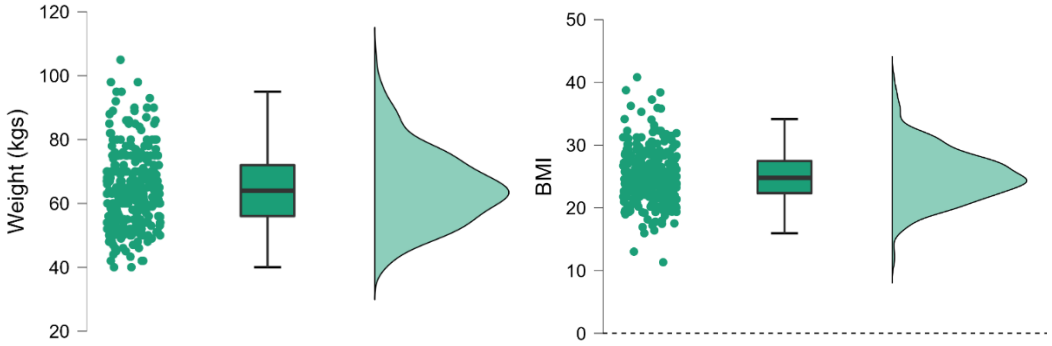


Height (Cm) (graph-3.2)



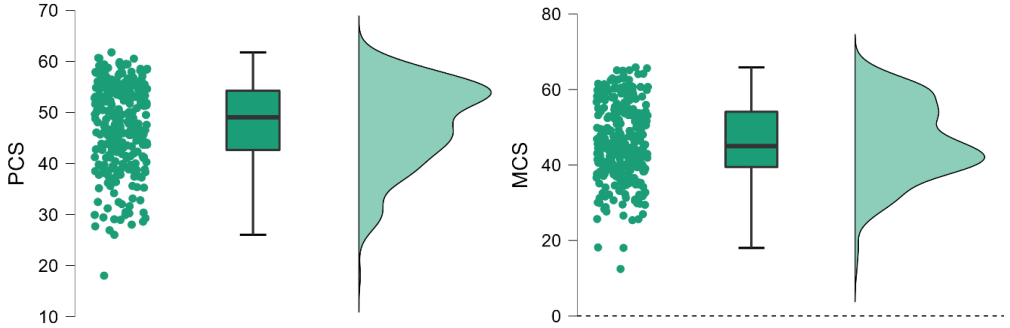
Graph-3.1 shows that, the average value of age is nearly 40 years. *Graph-3.2* shows that, the average value of height is nearly 160 cms.

Weight (kg) (graph-3.3) **BMI (graph-3.4)**



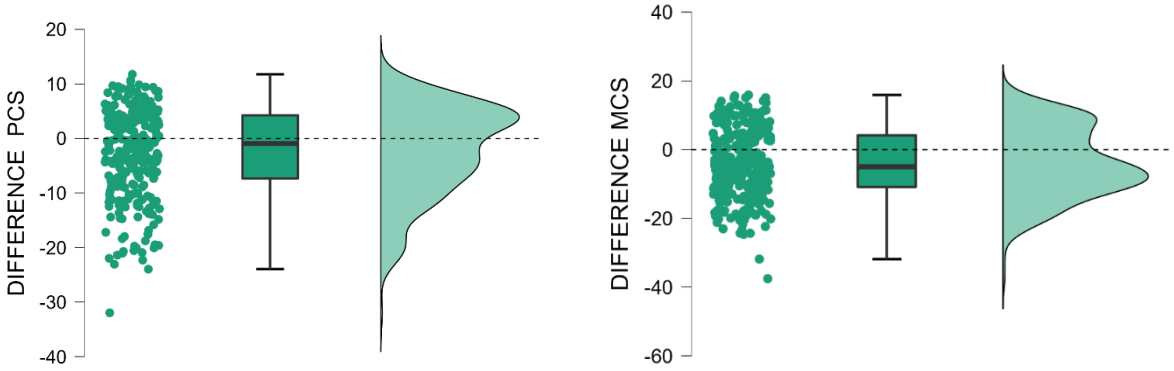
Graph-3.3 shows that, the average weight of females is nearly around 61 kgs. *Graph-3.4* shows that, the average BMI is nearly at 25.

PCS (graph-3.5) **MCS (graph-3.6)**



Graph-3.5 shows, it signifies minimum error in PCS of the female population in our research study. The average of PCS is around 48. *Graph-3.6* shows, it signifies minimum error in MCS of the female population in our research study. The average of MCS is around 46.

DIFFERENCE PCS (graph-3.7) **DIFFERENCE MCS (graph 3.8)**



Graph-3.7 shows that, it signifies minimum error in Difference PCS of the female population in our research study. The average of Difference PCS is around -2. *Graph-3.8*, it signifies minimum error in Difference MCS of the female population in our research study. The average of Difference MCS is around -4.

Correlation

Partial Correlation Table (table-3.4)

				Pearson		Spearman		Kendall	
			n	r	P	rho	P	tau B	p
PCS	-	MCS	302	-0.017	0.767	-0.051	0.382	-0.035	0.362

Note. Conditioned on variables: BMI

Partial Correlation Table (table-3.4)

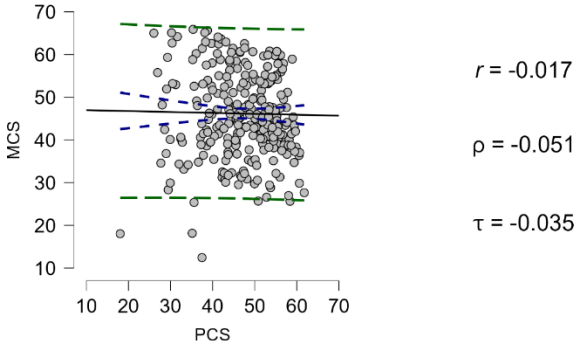
			Pearson		Spearman		Kendall	
		n	r	P	rho	P	tau B	p

* p < .05, ** p < .01, *** p < .001

Table-3.4 shows, Karl Pearson's coefficient of correlation (r-value) of PCS and MCS is -0.017 which indicates that Karl Pearson's coefficient of correlation is negatively correlated and p-value is 0.767. Spearman's rank correlation coefficient (ρ) of PCS and MCS is -0.051 which means they tends to a stronger relationship and p-value is 0.382. Kendall rank correlation (τ) is -0.035 which indicates the monotonic relationship between the PCS and MCS. Its p-value is 0.362.

Scatter plots

PCS vs. MCS (graph-3.9)



Graph-3.9 shows that, it appears slightly falling or approximately 0. So, we could say PCS & MCS are negatively correlated with Karl Pearson's coefficient of correlation (r-value), Spearman's rank correlation coefficient (ρ) and Kendall rank correlation (τ)Also we can say, These parameters (PCS & MCS) are negatively correlated with each other in respect of other variables (i.e BMI)

Correlation

Partial Correlation Table (table-3.5)

				Pearson		Spearman		Kendall		
			n	r	p	rho	p	tau B		p
DIFFERENCE PCS	-	DIFFERENCE MCS	302	-0.094	0.103	-0.108	0.060	-0.078	*	0.044

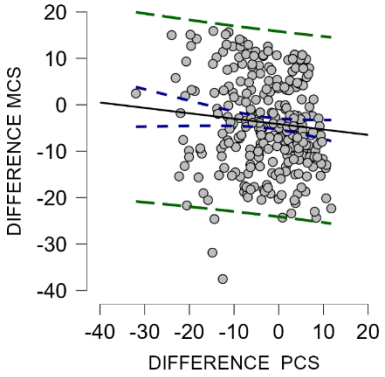
Note. Conditioned on variables: BMI

* p < .05, ** p < .01, *** p < .001

Table-3.5 shows, Karl Pearson's coefficient of correlation (r-value) of Difference PCS and Difference MCS is -0.094 which indicates that Karl Pearson's coefficient of correlation is negatively correlated and p-value is 0.103. Spearman's rank correlation coefficient (ρ) of Difference PCS and Difference MCS is -0.108 which means they tends to a stronger relationship and p-value is 0.060. Kendall rank correlation (τ) is -0.078 which indicates the monotonic relationship between the Difference PCS and Difference MCS. Its p-value is 0.044.

Scatter plots

DIFFERENCE PCS vs. DIFFERENCE MCS (graph-3.10)



r = -0.094

ρ = -0.108

τ = -0.078

Graph-3.10 shows, it appears falling. So, we could say Difference PCS & Difference MCS are negatively correlated with Karl Pearson's coefficient of correlation (r-value), Spearman's rank correlation coefficient (ρ) and Kendall rank correlation (τ). These parameters (Difference PCS & Difference MCS) are negatively correlated with each other in respect of other variables (i.e PCS & MCS)

IV. Discussion

In this study, we were surveying on female population of age group 30-55 years old. As we all know about the pandemic due to covid-19, we have seen many of female population were mentally exhausted than physically. During this pandemic they did not find such space for themselves so that they could enjoy some quality of time.

In this study *table-3.1* shows, total subjects are 302. Mean is average value of all no. in a data set, median is a middle value which separating higher half from lower half of data sample, mode is most commonly observed value in a set of data. Standard deviation (σ) is a measure of how dispersed the data is in relation to the mean. Low standard deviation means data are clustered around the mean. High standard deviation means data are more spread out. σ is low which means the data are clustered around the mean.

Skewness is a measure of asymmetry of the probability distribution of a real valued random variable about its mean. Its value can be positive, 0, negative, under defined. When the graph is shifted towards left sided which means mode is greater than median and median is greater than mean and when the graph is shifted towards right side then mean is greater than median and median is greater than mode. Skewness is greater than 0 and shifted towards right side which means mode<median<mean.

Kurtosis is used to describe the degree to which scores cluster in the tails or the peak of a frequency distribution. It is elevated from the normal graph or forming a peak of a frequency distribution as, the kurtosis of age, height, weight, BMI is in positive.

Shapiro-wilk test is measures how well the ordered & standardized sample quantiles fit the standard normal quantiles. It used to check if continuous variable follows or normal distribution with p-value at 5% error which helps to find out type-1 ad type-2 error. On the basis of that if p-value<0.05 then we will reject null hypothesis (H_0) and accept alternate hypothesis (H_1), if p-value>0.05 then we will accept null hypothesis (H_0) and reject alternate hypothesis (H_1). p-value<0.05 which means we can reject H_0 and accept H_1.

Table-3.2 shows, Mean of physical component score (PCS) is 47.706, mental component score (MCS) is 46.161, difference from USA average in physical component score is -2.294 and difference from USA average mental component score is -3.899. Standard deviation (σ) is low in PCS and MCS which means the data are clustered around the mean. σ is high in Difference PCS and Difference MCS which means the data are more spread out. Skewness is less than 0 in table-2 which means graph is shifted towards left side which means Mode>Median>Mode.

Kurtosis score are clustered in the tails of a frequency distribution or flattered graph from the normal graph. In table-2, the value of kurtosis of PCS, MCS, Difference PCS and Difference MCS is in negative.

Shapiro wilk test helped to check type-1 or type-2 error with p-value at 5% error. p-value<0.05 which means we can reject H_0 and accept H_1.

Table-3.3 shows, t-value of age is 76.195, t-value of height is 269.817, t-value of weight is 95.733, t value of BMI is 102.548, t-value of PCS is 100.430, t-value of MCS is 79.499, t-value of Difference PCS is -4.829 and t-value of Difference MCS is -6.672. The H_0 states that there is no relationship between the two variables being studied (one variable does not affect the other). It states the result are due to chance and are not significant in terms of supporting the idea being investigated. Thus the H_0 assumes that whatever we are trying to prove did

not happen. The alternative hypothesis (H_1) is the one we would believe if the H_0 is concluded to be untrue. p-value or probability value is a number describing how likely it is that your data would have occurred by random chance (that the null hypothesis is true). p-value<0.05, so on that basis we can say that we could reject null hypothesis and accept the alternative hypothesis. So we have conclude the accurate result.

Table-3.4 shows, Karl Pearson's coefficient of correlation (r-value) is defined as linear correlation coefficient that falls in the value range of -1 to +1. Value of -1 signifies strong negative correlation while +1 indicates strong positive correlation. It is parametric type of correlation. r-value of PCS and MCS is -0.017 which indicates that Karl Pearson's coefficient of correlation is negatively correlated and p-value is 0.767.
Spearman's rank correlation coefficient (ρ) is statistical measure of strength of a monotonic relationship between paired data. It ranges from -1 to +1. The sign of coefficient indicates whether it is positive or negative monotonic relationship. A positive correlation means one variable is increases and other also tends to increase. A negative correlation means one variable is increases but other variable tends to decrease. Values are close to -1 or +1 indicates stronger relationships than values closer to 0. It is non-parametric type of correlation of PCS and MCS is -0.051 which means they tends to a stronger relationship and p-value is 0.382.
Kendall rank correlation (τ) is used to test the similarities in the ordering of data when it is ranked by quantities. It determines the strength of association based on the pattern on concordance (consistency) and discordance (inconsistency) between the pairs is -0.035 which indicates the monotonic relationship between the PCS and MCS. Its p-value is 0.362. There are three types of graph if the values are in negative or close to -1 so the graph would be appearing as falling downwards or we can say that two parameters are inversely proportional to each other. If the values are 0 the graph would be appearing as a straight line. If the values are in positive or close to +1 so graph would be appearing as elevated or we can say that two parameters are directly proportional to each other.

Table-3.5 shows, Karl Pearson's coefficient of correlation (r-value) of Difference PCS and Difference MCS is -0.094 which indicates that Karl Pearson's coefficient of correlation is negatively correlated and p-value is 0.103. Spearman's rank correlation coefficient (ρ) of Difference PCS and Difference MCS is -0.108 which means they tends to a stronger relationship and p-value is 0.060. Kendall rank correlation (τ) is -0.078 which indicates the monotonic relationship between the Difference PCS and Difference MCS. Its p-value is 0.044.
Graph-3.1 shows, it forming two T's, upper T defines as the maximum error could happened and opposite T defines as the minimum error could be happened during the study. It concluded that we have faced minimum error in age of female population during our study. The average value of age is nearly 40 years.
Graph-3.2 shows, it signifies minimum error in height of the female population in our research study. The average value of height is nearly 160 cms.*Graph-3.3* shows, it signifies minimum error in weight of the female population in our research study. The average weight of females is nearly around 61 kgs. *Graph-3.4* shows, it signifies minimum error in BMI of the female population in our research study. The average BMI is nearly at 25. *Graph-3.5* shows, it signifies minimum error in PCS of the female population in our research study. The average of PCS is around 48. *Graph-3.6* shows, it signifies minimum error in MCS of the female population in our research study. The average of MCS is around 46. *Graph-3.7* shows, it signifies minimum error in Difference PCS of the female population in our research study. The average of Difference PCS is around -2. *Graph-3.8* shows, it signifies minimum error in Difference MCS of the female population in our research study. The average of Difference MCS is around -4. *Graph-3.9* shows, it appears slightly falling or approximately 0. So, we could say PCS & MCS are negatively correlated with Karl Pearson's coefficient of correlation (r-value), Spearman's rank correlation coefficient (ρ) and Kendall rank correlation (τ)
Also we can say,

- PCS $\alpha \frac{1}{\text{MCS}}$ which conclude if PCS increases then MCS decreases.
- MCS $\alpha \frac{1}{\text{PCS}}$ which conclude if MCS increases then PCS decreases.

It showing that these parameters (PCS & MCS) are negatively correlated with each other in respect of other variables (i.e BMI)
Graph-3.10 shows, it appears falling. So, we could say Difference PCS & Difference MCS are negatively correlated with Karl Pearson's coefficient of correlation (r-value), Spearman's rank correlation coefficient (ρ) and Kendall rank correlation (τ)
Also we can say,

- Difference PCS $\alpha \frac{1}{\text{Difference MCS}}$ which conclude if Difference PCS increases then Difference MCS decreases.

- Difference MCS $\alpha \frac{1}{\text{Difference PCS}}$ which conclude if Difference MCS increases then Difference PCS decreases.

It showing that these parameters (Difference PCS & Difference MCS) are negatively correlated with each other in respect of other variables (i.e PCS & MCS)

V. Conclusion

Mean of PCS is 47.706 (=48) and difference PCS is -2.294 (= -2) Mean of MCS is 46.161 (= 46) and difference MCS is -3.899 (= -4) from our interpretation PCS>MCS which means the subjects are physically more active or functional than mentally. In other words we could say the subjects are mentally relative less active or functional than physically.

During covid-19 females had been working for continuously without getting any off from their household chores and also look after everyone, so it had been hectic or exhausted for the females. As all the members of the family were staying at home, somewhere females are mentally deteriorated.

There are significant relation between PCS & MCS in respect with other variables (i.e BMI)

PCS & MCS are negatively correlated with Karl Pearson's coefficient of correlation (r-value), Spearman's rank correlation coefficient (ρ) and Kendall rank correlation (τ)

PCS $\alpha \frac{1}{\text{MCS}}$ which conclude if PCS increases then MCS decreases.

MCS $\alpha \frac{1}{\text{PCS}}$ which conclude if MCS increases then PCS decreases.

From one sample T-test,

P-value<0.05, indicates that the result is accurate.

We will accept alternative hypothesis (H_1) and reject null hypothesis (H_0).

LIMITATIONS

Follow up could not be taken due to time restriction. Due to covid-19 (pandemic) sample size was small. It is a survey based study so the reliability rate is less in comparison to the experimental method. Some other demographic variables should be added like, - suffering from Covid-19, how much time they work, how much time they feel low during a day in 24 hours.

ETHICAL CLEARANCE

As per the Reference Number: IAMR/22/4037 Institute of Applied Medicine and Research given the ethical clearance for the research.

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