Statistical analysis

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# **Introduction**

The current analysis has been undertaken to study if a certain psychotherapy program has a positive impact on patients having lower back pain. In order to obtain data for this study, a questionnaire was given to the participants both before and after the therapy. The answers to the questionnaires were recorded and checked for significant differences through statistical tests. The research question to be answered also asks if the therapy has changed the level of disability in patients significantly.

# **Descriptive Statistics**

|  |  |
| --- | --- |
| **Ethnicity** | **Number** |
| Caucasian | 76 |
| African American | 52 |
| Hispanic | 18 |
| Others | 8 |

In the above table, the ethnic distribution of the patients is given which shows that Caucasian people are in a majority among all the patients.

## **Experimental group**

|  |  |  |  |
| --- | --- | --- | --- |
| Before | | After | |
| Very Severe | 34 | Very severe | 12 |
| Severe | 24 | Severe | 10 |
| Moderate | 18 | Moderate | 32 |
| Mild | 2 | Mild | 24 |

In the above table, we have shown the number of people with different levels of disability in the experimental group. An experimental group is referred to the one which receives the treatment which is the therapy in this case.

## **Control Group**

|  |  |  |  |
| --- | --- | --- | --- |
| Before | | After | |
| Very Severe | 32 | Very severe | 30 |
| Severe | 26 | Severe | 28 |
| Moderate | 14 | Moderate | 16 |
| Mild | 4 | Mild | 2 |

In the above table, we have shown the disability statistics for the control group which is the one that has not received any therapy to improve their condition.

# **Inferential discussion**

The Mann-Whitney test is applied to the data to show if there is any significant difference between the control and the experimental groups. This test is used to analyze differences in case of non- parametric distribution. The dependent variable in this test is continuous or categorical in nature. The test statistic of 0.014 shows that we will reject the null hypothesis and conclude that there is a significant impact of therapy on the disability regarding back pains.