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# A Study on Mental Health Among Kidney Stone Patients at Perambalur District, Tamil Nadu

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**Abstract:**

*Kidney stones are solid crystals formed from urine salts. It is also known as renal calculi. It can obstruct urine flow and cause infection, kidney damage, or even kidney failure, and varies in size and location. Human beings have been affected by kidney stones for centuries, which is a silent cause of renal failure. Mental health problems are more common in patients with kidney stones. For example, depression is three–four times more likely in people living with kidney stones. Patients with kidney stones are much more likely to experience mental health issues. However, this has rarely been addressed by mental health services. Thus, it is time for this to change. People with kidney stone illnesses need to take care of their mental health. Good mental health is vital for people with kidney stones. For some people with kidney stone disease, poor mental health may have been a part of their life before they became unwell which are dealt in this paper.*

**Keywords**: *Depression, Patient, Mental Health, Kidney Stone.*

## Introduction:

Kidney stones are hard items formed from urine chemicals. Shockwave lithotripsy, uteroscopy, percutaneous nephrolithotomy, and nephrolithotripsy are options for treating kidney stones. Severe lower back pain, blood in the urine, nausea, vomiting, fever, chills, or urine that smells or looks murky are also common symptoms. Calcium oxalate, uric acid, struvite, and cystine are the four forms of kidney stone. When there is too much waste in too little liquid, crystals begin to form. These crystals attract other elements and join to form solids. Unless it is passed out of the body with urine, these crystals will continue to form until they are no longer liquid. In most people, having enough liquid washes or other chemicals in urine stops their formation, such as calcium, oxalate, urate, cystine, and xanthine. And phosphate. After formation, the stone may remain in the kidney or travel down the urinary tract into the ureter. Occasionally, tiny stones move out of the body in urine without causing excessive pain. However, stones that do not move may cause a backup of urine in the kidney, ureter, bladder, or urethra. This is the cause of pain. A kidney stone starts to hurt when it causes irritation or blockage. This condition develops rapidly to extreme pain. Pain relief may be the only treatment required for small stones. Other treatments may be required, especially for stones that cause lasting symptoms. However, in severe cases, surgery may be required **(kidney.org)**. Mental health includes emotional, psychological, and social wellbeing. This affects thoughts, feelings, and acts. It also helps determine handle stress, relate to others, and make choices. Mental health is important in patients with kidney stones. Over the course of life, if patients with kidney stones experience mental health problems, thinking, mood, and behavior could be affected. Many factors contribute to mental health problems, including biological factors, such as genes or brain chemistry; life experiences, such as trauma or abuse; and family history of mental health problems **(mentalhealth.gov)**. Kidney stones provoked exacerbation of psychiatric symptoms. Kidney stones and frustration about them have taken part in the provoking factor, the last drop, which led to regression of otherwise precarious, but compensated for the patient's mental functioning, resulting in the development of psychiatric symptoms **(Pubmed.ncbi.nlm.nih.gov)**.

**Statement of the Problem:**

Long-term medical conditions put people at a higher risk of mental health problems even after successful treatment. Mental health problems are more common in patients with kidney stones. However, this is rarely addressed by either physical or mental health services. Thus, it is time for this to change. People with kidney stone disease are at an increased risk of poor mental health, meaning that their quality of life is poorer, and treatment is less likely to be successful. According to the World Health Organization (WHO), poor mental health can lead to serious and potentially fatal consequences. Mental ill health too often leads to poor physical health, and for many people, their physical health is overlooked and neglected by health services. Having a long-term condition that risks life and limits freedom makes depression and anxiety more likely. For some people with kidney stone disease, poor mental health may have been a part of their lives before they became ill. Poor mental health among people with kidney stone disease is a serious and potentially life-threatening condition. As with any physical illness, poor mental health makes it less likely for people to adhere to treatment plans. The importance of recognizing mental health challenges has been the focus of clinical and research activities for some time, and researchers have conducted a study on the following objectives.

**Objectives:**

1. To study the socio-demographic details of the respondents;

2. To identify the mental health status of patients with kidney stones; and

3. To suggest a suitable measure to improve the mental health of kidney stone patients.

**Hypothesis of the Study:**

1. There was a statistically significant difference in the mean mental health score between the age groups of the respondents.

2. There was a statistically significant difference between the gender of the respondents in the mean mental health score.

3. There was a statistically significant difference in the mean mental health score between the marital status of the respondents.

4. There was a statistically significant difference in the mean mental health scores between the castes of the respondents.

5. There was a statistically significant difference in the mean mental health score between the religions of the respondents.

6. There was a statistically significant difference in the mean score of mental health between the types of families of respondents.

7. There was a statistically significant difference in the respondents mean mental health scores.

8. There was a statistically significant difference in the mean mental health score between the occupations of the respondents.
9. There was a statistically significant difference between the respondents' income in the mean mental health score.
10. There was a statistically significant difference in the mean mental health score between the years of kidney stone injury.

**Operational Definitions**

**Kidney Stone:**

In this study, kidney stones were hard masses that developed from crystals that separated from the urine within the urinary tract. Urine contains chemicals that prevent or inhibit crystal formation. These inhibitors do not seem to work for everyone, and stones can begin to form. If crystals remain small enough, they travel through the urinary tract and pass out of the body in the urine without being noticed. If stones are unable to pass through urine, further medical attention is needed.

**Mental health**

Mental health refers to the depression, anxiety, and stress faced by respondents in everyday life.

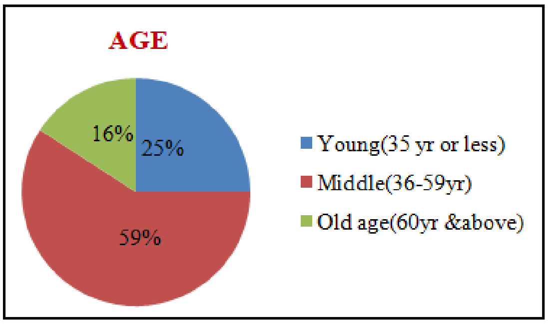
**Methodology:**

The researchers conducted the descriptive research designs by conducting a study on mental health among kidney stone patients at Kaikalathur Panchayat in the Perambalur district of Tamil Nadu, where more kidney stone patients were reported. A face-to-face interview and personal observation were used to collect primary data, a field survey and personal interview technique were used to elicit information from respondents, and a self-prepared semi-structured interview schedule was used to collect socio-demographic details of the respondents. It consists of personal and family details and diagnostic profiles. The DAS scale developed by Lovibond and Lovibond (1995) was used to measure depression, anxiety, and stress (DASS) in people with kidney stones. This tool is a 21-item version based on a 4-point rating scale. The reliability value (a) of the tool is 0.781. The researchers adopted the showball sampling method to collect the data, and the study was descriptive in nature. Therefore, the required sample size was 120. Samples were collected from May to August 2013. The time taken by each respondent was one hour. An average of two respondents was interviewed in a day and analyzed using the SPSS package to draw suitable statistical analysis.

**Data Analysis and Interpretation:**

**Socio-economic Background**

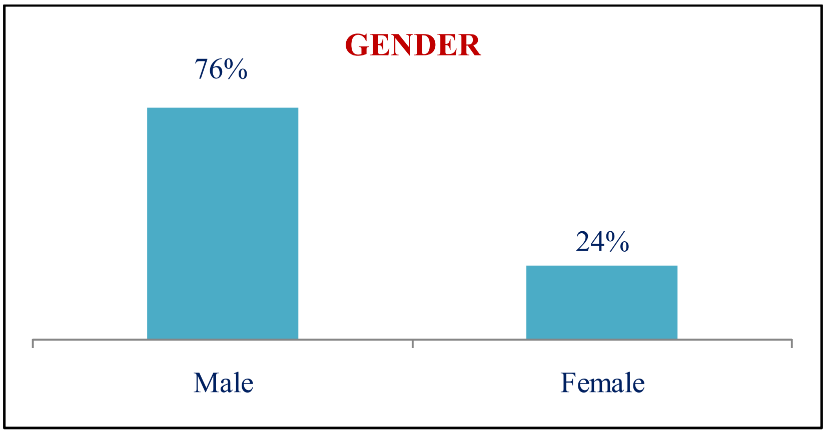
**Diagram: 1**




*(Source: Compiled from the primary data)*

The above diagram shows that more than half (59%) of the respondents belonged to the middle-aged group (36-59 years), one-fourth (25%) of them belonged to the young age group (35years or less), and the remaining few (16%) belonged to the old age group (60 years and above). The average age of the respondent was 44.92 year (SD-12.855) with a minimum of 20 years to a maximum of 80 years of age

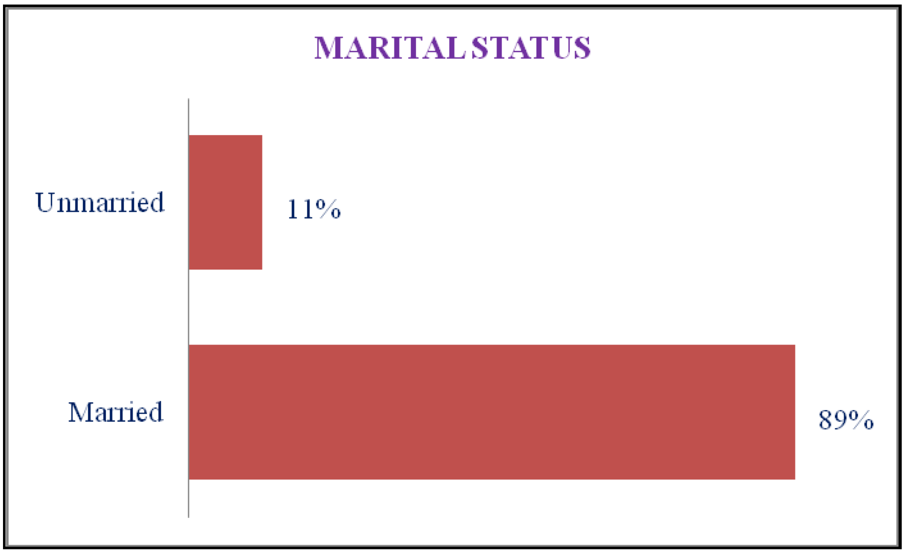
**Diagram: 2**




***(Source: Compiled from the primary data)***

The diagram above shows that the majority (76%) of the respondents was male and the remaining (24%), of them were female.

**Diagram: 3**




***(Source: Compiled from the primary data)***

From the chart, the researcher revealed that the majority (89%) of respondents were married and the remaining few (11%) were unmarried.

**Religion and Caste**

- The majority (85.8%) of respondents were Hindus, (7.5%) of them were Muslims, and the remaining (6.7%) of them belonging to Christianity.
- The majority (62.5%) belonged to scheduled castes. About (24.2%) of them belonged to the backward class, (5.8%) of them belonged to the most backward class, (4.2%) of them belonged to the forward class, and the remaining (3.35%) of the respondents belonged to the scheduled tribal.

**Type of family:**

- The majority (80%) of the respondents lived in nuclear families, and the remaining (20%) of them lived in joint families.

**Educational Qualification, Occupation and Monthly Income:**

- About one-third (35%) of the respondents had studied primary school and middle school, respectively. About (19.2%) had studied up to the high school level, and the remaining (10.8%) were illiterate.
- The majority (84.2%) of the respondents were engaged in agriculture, (5.8%) of them worked as teachers. About (5.8%) of them were unemployed, (4.2%) of them were engaged as mechanical and electrical technicians, and the remaining (0.8%) of them were engaged as agricultural laborers.
- More than half (57.8%) of the respondents were in the income group of Rs.5000 or less, (32.5%) of the respondents were in the income range of Rs. 5001-10000, and the remaining (10%) of the respondents were in the income range of Rs. 10001 and above.

**Monthly Family Expenditure:**

- More than one-third (36.7%) of the respondents' family Expenditure was between Rs. 2001-4000, (28.3%) of the respondents' family expenditure was below Rs.2000, (26.7%) of the respondents' family expenditure was Rs.4001-6000 and the remaining (8.3%) of the respondents family expenditure was Rs.6001 and above.

**House Particulars:**

- The majority (90.8%) of the respondents lived in their own houses, and the remaining (9.2%) lived in rented houses.
- Nearly half (46.7%) of the respondents lived in concrete houses, (40%) of them lived in tiled houses, and the remaining (13.3%) of them lived in huts.
- Nearly half (45%) of the respondents had two rooms in their houses, (28.3%) of them had one room in their house, and the remaining (26.7%) of the respondents had one room in their house.
- The majority (57.5%) of the respondents had water facilities in their houses, and the remaining respondents (42.5%) did not have a water facility at their house.
- The majority (94.2%) of respondents had electricity connections in their houses, and the remaining (5.8%) did not have an electricity connection at their houses.

**Number of landholding:**

- More than one-third of the respondents (35.8%) had one acre of land, (31%) of them were not, (20.8%) of the respondents had two acres of land, and the remaining (11.7%) of the respondents had three acres of land.

**Food habit:**

- The majority (61.7%) per cent) of respondents were non-vegetarians, and the remaining (38.3%) were vegetarians.

**Kidney Stone Problem:**

- More than two-fifths (41.7%) of them were affected by kidney stones for about one year, (22.5%) of them mentioned that kidney stones formed for about two years, (18.3%) of them reported that it had been lost three years, and the remaining (17.5%) of them stated that this problem has been continued for more than four years.

- The majority (78.3%) of the respondents reported that water was the main reason for kidney stone formation, and the remaining (1.7%) did not have any idea of the cause of kidney stones.
- The majority (90.8%) of respondents underwent treatment for kidney stones, and the remaining (9.2%) did not receive any treatment.
- The majority (94.2%) of the respondents was taking allopathic medicine, and the remaining (5.8%) were taking Sidha medicine for the treatment of kidney stones.
- The majority (70.8%) of the respondents did not undergo any surgery for kidney stone problems, and the remaining (29.2%) underwent surgery for kidney stone problems.
- Nearly half (49.2%) of them spent Rs.5000 and below for their treatment, one-fourth (25%) of the respondents spent Rs.10001-15000 for their treatment, and the remaining (9.2%) of the respondents spent Rs.15001 and above for their treatments.
- The majority (97.5%) of the respondents reported that their family members were not suffering from kidney stones, and very few (2.5%) reported that their family members were affected by kidney stones.
- More than half (52.5%) of the respondents availed drinking mineral water as a source of water, (34.2%) of them were getting drinking water from public water taps, (9.2%) of them were using water from wells, and the remaining (4.2%) of the respondents were getting drinking water from bores and wells.
- The majority (84.2%) of the respondents were taking banana stem juice, about (11.7%) of them were taking nerinjimul juice, and the remaining (4.2%) of them dependent on other treatments (homeopathy).

**Mental Health (Depression, Anxiety and Stress) of the respondents**

**Table: 1: One way analysis of variance between Age group and mental health**

| S. No | Age Group | N | Mean | Std. Deviation | df | F | Sig |
|---|---|---|---|---|---|---|---|
| 1. | Young (35 years or less) | 30 | 22.20 | 10.571 | 2<br>117 | 0.806 | 0.450 |
| 2. | Middle (36-59 years) | 71 | 23.69 | 7.756 | | | |
| 3. | Old age(60 years and above) | 19 | 25.26 | 6.118 | | | |
| **Total** | | **120** | **23.57** | **8.320** | | | |

***(Source: Compiled from the primary data)***

**$H_0$** - There is no statistically significant difference between the age group of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant there was difference between the age group of the respondents in the mean score of mental health.

**Result** : F (2,117) = 0.806, p = sig 0.450

**Conclusion :** Since p-value = sig 0.450 > 0.05, $H_0$ is accepted and $H_1$is rejected

The above table indicates that the mean score of mental health (depression, anxiety and stress) is found higher among the respondents at old age group (25.26) than the respondents at middle age group (23.69) and young age group (22.20). However, the ANOVA result (F=0.806, p>0.05) exhibits that "there is no statistically significant difference between the age group of the respondents in the mean score of mental health." and accepted the null hypothesis.

**Table: 2 : One way analysis of variance between Gender and mental health**

| S. No | Gender | N | Mean | Std. Deviation | df | t | Sig |
|---|---|---|---|---|---|---|---|
| 1 | Male | 91 | 22.88 | 8.572 | 118 | 1.614 | 0.109 |
| 2 | Female | 29 | 25.72 | 7.186 | | | |

***(Source: Compiled from the primary data)***

**Ho** - There is no statistically significant between the genders of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant between the genders of the respondents in the mean score of mental health.

**Result :** t (118) = 1.614, p = sig 0.109

**Conclusion :** Since p-value = sig 0.109 > 0.05, $H_0$ is accepted and $H_1$ is rejected

The above table depicts that the mean score of mental health (depression, anxiety and stress) is found higher among the female respondents (25.72) than the male respondents (22.88). However, the independent sampl 't' test (t=1.614, p>0.05) exhibits that "there is no statistically significant between the gender of the respondents in the mean score of mental health." and rejected the research hypothesis

**Table: 3 : One way analysis of variance between marital status and mental health**

| S. No | Marital Status | N | Mean | Std. Deviation | df | t | Sig |
|---|---|---|---|---|---|---|---|
| 1. | Married | 107 | 23.32 | 8.096 | 118 | 0.940 | 0.349 |
| 2. | Unmarried | 13 | 25.62 | 10.120 | | | |

***(Source: Compiled from the primary data)***

**Ho** - There is no statistically significant difference between the marital status of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant difference between the marital status of the respondents in the mean score of mental health.

**Result :** t (118) = 0.940, p = sig 0.349

**Conclusion :** Since p-value = sig 0.349 > 0.05, $H_0$ is accepted and $H_1$ is rejected

The above table infers that the mean score of mental health (depression, anxiety and stress) is found higher among the unmarried respondents (25.63) than the married respondents (23.32). However, the independent sample 't' test (t=1.940, p>0.05) exhibits that "there is no statistically significant between the marital status of the respondents in the mean score of mental health" and accepted the null hypothesis.

**Table: 4 : One way analysis of variance between Caste and mental health**

| S. No | Caste | N | Mean | Std. Deviation | df | F | Sig |
|---|---|---|---|---|---|---|---|
| 1. | Forward class | 5 | 24.40 | 9.864 | 4<br>115 | 0.290 | 0.884 |
| 2. | Backward class | 29 | 24.72 | 7.755 | | | |
| 3. | Most backward class | 7 | 24.29 | 12.645 | | | |
| 4. | Scheduled caste | 75 | 23.12 | 8.240 | | | |
| 5. | Scheduled tribal | 4 | 21.25 | 5.737 | | | |
| **Total** | | **120** | **23.57** | **8.320** | | | |

***(Source: Compiled from the primary data)***

**Ho** - There is no statistically significant between the castes of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant between the castes of the respondents in the mean score of mental health.

**Result :** F (4,115) = 0.290, p = sig 0.884

**Conclusion :** Since p-value = sig 0.884 > 0.05, Ho is accepted and $H_1$is rejected

The above table stated that the mean score of mental health (depression, anxiety and stress) is found higher among the respondents belongs to backward class (24.72) than the respondents belongs to forward class (24,40), the most backward (24.29), scheduled caste (23.12) and the respondents belongs to scheduled tribal (21.25).However, The ANOVA result (F=0.290, p>0.05) exhibits that "there is no statistically significant difference between the caste of the respondents in the mean score of mental health" and accepted the null hypothesis.

**Table: 5: One way analysis of variance between Religion and mental health**

| S. No | Religion | N | Mean | Std. Deviation | Df | F | Sig |
|---|---|---|---|---|---|---|---|
| 1 | Hindu | 103 | 23.90 | 8.413 | 2<br>117 | 0.965 | 0.384 |
| 2 | Christian | 8 | 23.38 | 5.153 | | | |
| 3 | Muslim | 9 | 19.89 | 9.347 | | | |
| **Total** | | **120** | **23.57** | **8.320** | | | |

***(Source: Compiled from the primary data)***

**Ho** - There is no statistically significant difference between the religions of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant difference between the religions of the respondents in the mean score of mental health.

**Result :** F (2,117) = 0.965, p = sig 0.384

**Conclusion :** Since p-value = sig 0.384 > 0.05, Ho is accepted and $H_1$is rejected

The above table shows that mean the score of mental health (depression, anxiety and stress) is found higher among the Hindus (25.90) than the Christian (23.38) and the Muslim (19.89). However, the ANOVA result (F=0.965, p>0.05) exhibits that "there is no statistically significant difference between the religion of the respondents in the mean score of mental health" and accepted null hypothesis.

**Table: 6 : One way analysis of variance between Type of family and mental health**

| Type of family | N | Mean | Std. Deviation | Df | t | Sig |
|---|---|---|---|---|---|---|
| Nuclear | 96 | 23.84 | 8.869 | 118 | .728 | .468 |
| Joint | 24 | 22.46 | 5.626 | | | |

***(Source: Compiled from the primary data)***

**Ho** - There is no statistically significant difference between the types of family of the respondents in the mean score of mental health.

**$H_1$**- There is a statistically significant difference between the types of family of the respondents in the mean score of mental health.

**Result :** t (118) = 0.728, p = sig 0.468

**Conclusion :** Since p-value = sig 0.468 > 0.05, Ho is accepted and $H_1$is rejected

The above table depicts that the mean score of mental health(depression, anxiety and stress) is found higher among the respondents living in nuclear family (23.84) and the respondents belongs to joint family (22.46). However, the independent sample 't' test result (t=0.728, p>0.05) exhibits that "there is no statistically significant difference between the type of family of the respondents in the mean score of mental health and accepted the null hypothesis.

**Table: 7 : One way analysis of variance between education and mental health**

| S. No | Education | N | Mean | Std. Deviation | df | F | Sig |
|---|---|---|---|---|---|---|---|
| 1 | Illiterate | 13 | 24.85 | 8.112 | 3<br>116 | 0.635 | 0.594 |
| 2 | Primary | 42 | 24.48 | 6.904 | | | |
| 3 | Middle | 42 | 22.21 | 9.049 | | | |
| 4 | High School and above | 23 | 23.65 | 9.542 | | | |
| **Total** | | | **120** | **23.57** | | | |

***(Source: Compiled from the primary data)***

**Ho** - There is no statistically significant difference between the educations of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant difference between the educations of the respondents in the mean score of mental health.

**Result :** F (3,116) = 0.635, p = sig 0.594

**Conclusion :** Since p-value = sig 0.594 > 0.05, Ho is accepted and $H_1$is rejected

The above table indicates that the mean score of mental health (depression, anxiety and stress) is found higher among the illiterates (24.85) than for those who have been educated up to primary school level (24.48), who has been educational high school and above (23.65). Middle school level (22.21).However, the ANOVA result (F=0.635, p>0.05) exhibits that "there is no statistically significant difference between the education of the respondents in the mean score of mental health" and accepted the null hypothesis.

**Table: 8 : One way analysis of variance between occupation and mental health**

| S. No | Occupation | N | Mean | Std. Deviation | df | F | Sig |
|---|---|---|---|---|---|---|---|
| 1 | Unemployed | 6 | 27.67 | 8.779 | 4<br>115 | 1.070 | 0.375 |
| 2 | Agriculture | 101 | 23.27 | 8.206 | | | |
| 3 | Agri cooly | 1 | 11.00 | . | | | |
| 4 | Teacher | 7 | 25.00 | 8.583 | | | |
| 5 | Others | 5 | 25.20 | 9.757 | | | |
| **Total** | | **120** | **23.57** | **8.320** | | | |

*(Source: Compiled from the primary data)*

**Ho-** There is no statistically significant difference between the occupations of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant difference between the occupations of the respondents in the mean score of mental health.

**Result :** F (4,115) = 1.070, p = sig 0.375

**Conclusion :** Since p-value = sig 0.375 > 0.05, Ho is accepted and $H_1$is rejected.

The above table highlighted that the mean score of mental health is found higher among the unemployed respondents (27.67) than the respondents engaged in others works like (mechanic, electricians etc..) (25.20) the respondents working as teacher (25.00), the respondents engaged agriculture (23.27) and the respondents engaged in agricultural coolie (11.00).However, the ANOVA result (F=0.070, p>0.05) shows that "there is no statistically significant difference between the occupation of the respondents in the mean score of mental health" and accepted the null hypothesis.

**Table: 9 : One way analysis of variance between income and mental health**

| S. No | Income | N | Mean | Std. Deviation | df | F | Sig |
|---|---|---|---|---|---|---|---|
| 1 | Rs. 5000 or less | 69 | 23.10 | 8.376 | 2<br>117 | 0.435 | 0.648 |
| 2 | Rs. 5001 - 10000 | 39 | 24.59 | 7.903 | | | |
| 3 | Rs. 10001 and above | 12 | 22.92 | 9.690 | | | |
| **Total** | | **120** | **23.57** | **8.320** | | | |

*(Source: Compiled from the primary data)*

**Ho** - There is no statistically significant difference between the incomes of the respondents in the mean score of mental health.

**$H_1$** - There is a statistically significant difference between the incomes of the respondents in the mean score of mental health.

**Result :** F (2,117) = 0.435, p = sig 0.648

**Conclusion :** Since p-value = sig 0.648 > 0.05, Ho is accepted and $H_1$is rejected**.**

The above table illustrates that the mean score of mental health (depression, anxiety and stress) is found higher among the respondents income in the income range of Rs.5001-10000 and above (24.59) than the respondents in the range of Rs.5000 or less (23.10), the respondents in the income range of Rs .10001 and above (22.92). However, the ANOVA result (F=0.435, p>0.05) exhibits that "there is no statistically significant difference between the income of the respondents in the mean score of mental health" and accepted the null hypothesis.

**Table: 10 : One way analysis of variance between years of living with kidney stone and mental health**

| S. No | Years of living with kidney stone | N | Mean | Std. Deviation | df | F | Sig |
|---|---|---|---|---|---|---|---|
| 1 | One year | 50 | 23.44 | 9.444 | 3<br>116 | 0.433 | 0.730 |
| 2 | Two years | 27 | 23.85 | 7.492 | | | |
| 3 | Three years | 22 | 22.14 | 7.674 | | | |
| 4 | Four years and above | 21 | 25.00 | 7.348 | | | |
| **Total** | | **120** | **23.57** | **8.320** | | | |

***(Source: Compiled from the primary data)***

**Ho** -There is no statistically significant difference between the years of living with kidney stone of the respondents in the mean score of mental health.

**$H_1$**- There is a statistically significant difference between the years of living with kidney stone of the respondents in the mean score of mental health.

**Result :** F (3,116) = 0.433, p = sig 0.730.

**Conclusion :** Since p-value = sig 0.730 > 0.05, Ho is accepted and H1is rejected.

The above table indicates that the mean score of mental health (depression, anxiety and stress) is found higher among the respondents living with the kidney stone for about four years and above (25.00) than the respondents living with kidney stone for about two years (23.85), the respondents living with kidney stone for about one year (22.44), and the respondents suffering with kidney stone for about three year (22.14). However, the ANOVA result (F=0.433, p>0.05) exhibits that "there is no statistically significant difference between the years of living with kidney stone of the respondents in the mean score of mental health".

**Findings of the Study:**

**Socio-Economic Background:**

More than half (59%) of the respondents were belonging to middle age group (36-59 years); the majority (76%) of the respondents were male; majority (89%) of the respondents were married; majority (85.8%) of the respondents were Hindus; majority (62.5%) of them were belonging to Scheduled castes; majority (80%) of the respondents were living for nuclear families; about one third (35%) of the respondents had studied up to primary school; majority (84.2%) of the respondents were engaged in agriculture; more than half (57.8%) of the respondents are between the income group of Rs.5000 or less; more than one third (36.7%) of the respondents family Expenditure was between Rs. 2001-4000; majority (90.8%) of the respondents were living at their owned houses; nearly half (46.7%) of the respondents were living in concrete houses; nearly half (45%) of the respondents were having two rooms at their houses; majority (57.5%) of the respondents having water facility at their houses; majority (94.2%) of the respondents were having electricity connection at their houses; more than one third are (35.8%) of the respondents were having one acrs of land and majority (61.7%) per cent) of the respondents were non- vegetarians.

**Kidney Stone Problem:**

More than two-fifths (41.7%) of them were affected by kidney stones for about one year; the majority (78.3%) of the respondents reported that water was the main reason for kidney stone formation; the majority (90.8%) of the respondents underwent treatment for their kidney stone; the majority (94.2%) of the respondents were taking allopathic medicine; the majority (70.8%) of the respondents did not undergo any operation for their kidney stone problem; nearly half (49.2%) of them were spending Rs.5000 and below for their treatment; the majority (97.5%) of the respondents reported that their family members were not suffering from kidney stones; more than half (52.5%) of the respondents were availing drinking mineral water as sources of water and the majority (84.2%) of the respondents were taking banana stem juice.

**Findings Related to Hypotheses:**

**Mental health the respondent's background characteristics:**

**Age group and mental health:**

The mean mental health score was found to be higher among the respondents in the old age group (25.26) than in the other age categories. Statistical analysis showed that there was a statistically significant difference in the mean score of mental health between the age groups of the respondents.

**Gender and mental health:**

The mean mental health score was higher among female respondents (25.72) than among male respondents (22.88). However, there was no statistically significant difference in the mean mental health score between female and male respondents.

**Marital status and mental health:**

The mean mental health score was found to be higher among unmarried respondents (25.63) than the other categories. However, there was no statistically significant relationship between marital status and mean mental health score.

**Caste and mental health:**

The mean mental health score was found to be higher among respondents belonging to the backward class (24.72) than the other caste categories. However, there was no statistically significant difference in the mean mental health scores between the castes of the respondents.

**Religion and mental health:**

The mean score for mental health was found to be higher among Hindus (25.90) than the other caste categories. However, there was no statistically significant difference in the mean mental health scores between the religions of the respondents.

**Type of family and mental health:**

The mean score of mental health was found to be higher among respondents living in nuclear families (23.84) than among those belonging to joint families (22.46). The statistical analysis shows that there is no statistically significant difference in the mean score of mental health between the types of families of the respondents.

**Education and mental health:**

The mean score of mental health was found to be higher among illiterates (24.85) than among the other education categories. However, there were no statistically significant differences in the respondents mean mental health scores.

**Occupation and mental health:**

The mean mental health score was higher among the unemployed respondents (27.67) than among the other caste categories. However, there was no statistically significant difference in the mean mental health scores between the occupations of the respondents.

**Family Income and mental health:**

The mean score of mental health was found to be higher among the respondents' income in he bracket of Rs.5001-10000 than among the respondents in other family income categories. However, there was no statistically significant difference between the respondents' income in the mean mental health score.

**Years of living with kidney stone and mental health:**

The mean score of mental health was found to be higher among the respondents who suffered from kidney stones for four years (25.00) and the other years of suffering from kidney stones. However, there was no statistically significant difference in the mean mental health score between the years living with kidney stones.

**Suggestions:**

- ❖ Awareness camps/programmes must be conducted among the village people by the medical practitioner to prevent kidney stone problems.
- ❖ Since older people have more depression, anxiety, and stress steps must be taken to provide counselling for better mental health in their lives.

**Conclusion:**

It is concluded that the mean score of mental health such as depression, anxiety, and stress was higher among the respondents, such as those who are older, unmarried, female, belong to the backward class, Hindus, nuclear families, illiterate, unemployed, and those who have been living with kidney stones for about four years and above in the study area.

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