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Assessment of Mental Well-Being and Self-Care Abilities of Patients Suffering from Chronic Respiratory Illness

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Abstract: <u>Background</u>: Respiratory diseases include a broad range of diseases, such as acute respiratory infections, pneumonia, obstructive lung diseases, pleural disease and pneumoconiosis, as well as malignancies of the respiratory tract. <u>Objective</u>: The objective of the study was to assess the mental well-being and self-care ability of the patients suffering from chronic respiratory illness. <u>Material and methods</u>: A non-experimental approach and correlation design were used. 100 patients, suffering from chronic respiratory illness, were selected through purposive sampling technique from M.M.I.M.S.& R Hospital, Mullana. In view of the nature of the problem and to accomplish the objectives of the study, structured mental well-being scale and Structured Self-Care Ability Assessment Tool was prepared to assess the mental well-being and self-care abilities of the patients. <u>Result</u>: The mean score of mental well being and self-care ability were 106.31 and 67.68. The coefficient of correlation shows that there is a positive co relation (0.619) between mental well-being and self-care ability of the patients suffering from chronic respiratory illness. It was also found that the sample characteristics such as educational status was significantly associated with the mental well-being and type of respiratory illness, associated diseases, previous hospitalization were significantly associated with the self-care ability. <u>Conclusion</u>: The finding suggests that adequate self-care abilities can further protect for mental well-being among patients suffering from chronic respiratory illness.

Keywords: Respiratory diseases, Mental well-being, self-care ability

1. Introduction

Health is a highly personal responsibility and on the other hand a major public concerns. Health and disease lie along a continuum, and there is no single cut-off point. The lowest point on the health-disease spectrum is death. Chronic respiratory diseases narrow air passages of the lungs and obstruct breathing. The Major Respiratory Diseases are: Chronic obstructive pulmonary disease (COPD), Asthma, Occupational lung disease, Tuberculosis (TB), Bronchitis, Pneumonia. An estimated 1.4 million people died of chronic respiratory diseases (CRDs) in South East Asian Region (SEAR) in 2008. Eighty six percent deaths were due to COPD and 7.8% due to asthma. The projected prevalence also rate chronic asthma in India in the age group 15-59 years is 19 per 1000 population in urban areas and 26 per 1000 in rural areas. Total number of chronic asthma cases is nearly 32 million.² Respiratory diseases include a broad range of diseases, such as acute respiratory infections, pneumonia, obstructive lung diseases, pleural disease and pneumoconiosis, as well as malignancies of the respiratory tract. Respiratory diseases constitute a major cause of morbidity and mortality worldwide, the top five respiratory diseases accounting for 17.4% of all deaths and 13.3% of all disability-adjusted life. According to, The Global Alliance against Chronic Respiratory Diseases (GARD) Hundreds of millions of people suffers from these chronic respiratory diseases worldwide: 300 million have asthma, 210 million have COPD and millions of others have other chronic respiratory diseases. In 2005, 250,000 people died of asthma and 3 million of COPD. By 2030, COPD is predicted to become the third leading cause of death worldwide.³ In 2007, A community-based study by SK Chhabra was carried out to determine the patterns of tobacco smoking and to compare the chronic respiratory morbidity among beedi and cigarette smokers in the urban areas of Delhi. The prevalence of respiratory morbidity was significantly higher in beedi (1.67 times greater) as compared to cigarette smokers. Chronic respiratory diseases usually affect people not only physically, but also emotionally, as alterations in the person's social roles, relationships and self-perception so demands continual psychological adjustment. Psychological effects in chronic respiratory illness are identified. Self-management abilities and the qualities of chronic care delivery are important for the wellbeing of patients with respiratory illnesses. Furthermore, self-management abilities acted as mediators between wellbeing and low educational level and physical exercise among these patients.

Ethical Consideration

Ethical approval was taken from the University ethical committee of Maharishi Markandeshwar University, Mullana, Ambala, Haryana. The permission to conduct the study in the hospital was taken from the Medical Superintend of the hospital. The informed consent was taken from the participants before the collection of data.

2. Material and Methods

The research was conducted on 100 patients, suffering from chronic respiratory illness. A non-experimental approach, correlation design were used. The data was collected in the month of October, 2013 within the timings of 9am-6pm at Maharishi Markandeshwar institute of Medical Science & Research Hospital, Mullana.

The research sample of 100 patients suffering from chronic respiratory illness from last three months was selected from tuberculosis & chest ward, Medicine ward (A, B and C) through purposive sampling technique. To obtain free and frank response, the purpose of the study was explained and

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subjects were assured about the confidentiality of their responses. Also, patient's record file was also seen for the conformation of diagnosis and respiratory therapies carried out. Structured mental well-being scale and Structured Self-Care Ability Assessment Tool was prepared to assess the mental well-being and self-care abilities of the patients through interview technique. Reliability of the tools was tested by cronbach's alpha, which was 0.73 and 0.91. The instrument used for data collection were description of sample characteristics were demographic variables in terms of age, gender, educational status, religion, occupation, total family income in rupees per month, type of family, any previous hospitalization due to same diagnose, take medications regularly, an clinical variables in terms of duration of illness, anyone in the family suffering from same disease, associated disease, time of nebulization, use of respiratory therapy, do you smoke. Structured mental wellbeing Questionnaire comprises of 29 items covering the area of actions, spirituality, feeling and relationship with other people regarding mental well-being of a patient. The test items were graded in 5-point rating scale. Structured Self-Care Ability Assessment Tool comprises of 32 items covering the area of physical self-care, psychological selfcare, spiritual self care and social self-care regarding mental well-being of a patient. The test items were in the form of 3point rating scale.

3. Data Analysis

Data were analyzing by using SPSS software. For evaluation of the data, percentage, arithmetic mean and standard deviation, correlation and chi-square for association.

4. Result

The data presented in table 1 shows that majority of the subjects (37%) were in the age group of 36-45 years. Fifty seven percent subjects suffering from chronic respiratory illness were females. Most of the subjects (64%) were Hindus who were suffering from chronic respiratory illness. Thirty percent of them were non-literate who were suffering from chronic respiratory illness. Majority (38%) of subjects were homemakers who were suffering from chronic respiratory illness. There were 61% of the subjects suffering from chronic respiratory illness that lives in joint families. Among the subjects, 36% were having monthly income ranging from Rs. 5001-10,000.Sixty six percent of the subjects were not hospitalized due to same illness.

Majority of the subjects (68%) said 'yes' that they take medications regularly who were suffering from chronic respiratory illness. Most of the subjects (33%) were suffering from disease of respiratory illness since 3-6 months. Among the subjects 54% of the total family members of these subjects were not suffering from respiratory disease. Most of the subjects (52%) were having cardiovascular diseases as associated diseases. Thirty one percent of the total respondents were receiving nebulization whenever they need it.

Most of the subjects, 44% were receiving oxygen therapies as respiratory therapies. Most of the subjects 65%, were

suffering from chronic respiratory illness said that they do not smoke

The data presented in Table 2 indicates that the mental well-being ranges from 47-142 whereas, Median, Mean and Standard deviation of mental well-being score of patients suffering from chronic respiratory illness were 109,106.31±17.730 respectively

Data presented in Table 3 represents the four areas of mental well-being, such as feeling, actions, spirituality and social. The area, feeling ranges from 7-35, whereas, Median, Mean and Standard Deviation of mental well- being score of patients suffering from chronic respiratory illness were 27, 26.09±5.318. The area, action ranges from 16-80, whereas, Median, Mean and Standard Deviation of mental well-being score of patients suffering from chronic respiratory illness were 58.5, 57.10±10.006. The area, spirituality ranges from 1-5, whereas, Median, Mean and Standard Deviation of mental well- being score of patients suffering from chronic respiratory illness were 5, 4.57±0.700. The area, social ranges from 5-25, whereas, Median, Mean and Standard Deviation of mental well- being score of patients suffering from chronic respiratory illness were 19, 18.55±3.233. Action area was on 1^{st} rank with mean percentage of 39.37%. Feeling area was on 2^{nd} rank with mean percentage of 17.99%. Social area was 3rd rank with mean percentage of 12.79%. Spirituality area was on 4th rank with mean percentage of 3.10%. This data shows that patients suffering from chronic respiratory illness had the highest mental wellbeing score in action area.

Data presented in Table 4 indicates that, 78% of the subjects sufferings from chronic respiratory illness were partially compensatory self-care deficit, whereas, 17% of the subjects were under system educative and five percent of the subjects were wholly compensatory self-care deficit.

Table 1: Frequency Distribution According to Sample Characteristics of the Patients Suffering From Chronic Respiratory Illness, N=100

| S. No. | Sample Characteristics | (f) | | | |
|--------|---------------------------|-----|--|--|--|
| 1. | Age (in years) | | | | |
| 1.1) | 18-27 | 28 | | | |
| 1.2) | 27-36 | 35 | | | |
| 1.3) | 36-45 | 37 | | | |
| 2 | Gender | | | | |
| 2.1) | Male | 43 | | | |
| 2.2) | Female | 57 | | | |
| 3 | Religion | | | | |
| 3.1) | Hindu | 66 | | | |
| 3.2) | Muslim | 20 | | | |
| 3.3) | Sikh | 09 | | | |
| 3.4) | Christian | 05 | | | |
| 4 | Educational status | | | | |
| 4.1) | Non-literate | 30 | | | |
| 4.2) | Primary | 23 | | | |
| 4.3) | Secondary | 29 | | | |
| 4.4) | Higher secondary | 15 | | | |
| 4.5) | Graduate and above | 03 | | | |
| 5. | 5. Occupation | | | | |
| 5.1) | Homemaker | 38 | | | |
| 5.2) | Self-employed | 16 | | | |
| 5.3) | Farmer | 08 | | | |

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|---------|---|------|
| 5.4) | Govt. sector | 14 |
| 5.5) | Private sector | 24 |
| 6 | Type of family | |
| 6.1) | Nuclear | 39 |
| 6.2) | Joint | 61 |
| 7 | Monthly income (in Rupees) | |
| 7.1) | <5000 | 27 |
| 7.2) | Rs. 5,001-10,000 | 36 |
| 7.3) | Rs. 10,001-15,000 | 22 |
| 7.4) | Rs. 15,001-20,000 | 11 |
| 7.5) | ≥ Rs. 20,001 | 04 |
| 8 | Previous hospitalization due to | 1 |
| | illness(within1year) | |
| 8.1) | Yes | 34 |
| 8.2) | No | 66 |
| 9 | Do you take medications regularly? | 00 |
| 9.1) | Yes | 68 |
| 9.2) | No | 32 |
| 7.2) | CLINICAL VARIABLES | 32 |
| 10 | Duration of illness | + |
| 10.1) | 3-6 months | 33 |
| 10.1) | 6-12 months | 21 |
| | 12-24 months | 21 |
| 10.3) | | |
| 10.4) | ≥ 24 months | 25 |
| 11 | Anyone in family suffering from same disease? | 1.5 |
| 11.1) | Yes | 46 |
| 11.2) | No | 54 |
| 12 | Associated diseases | |
| 12.1) | Cardiovascular diseases and Blood Pressure | 52 |
| 12.2) | Renal disease | 03 |
| 12.3) | If any other, specify | |
| 12.3.1) | Cholelithiasis | 04 |
| 12.3.2) | Anemia | 03 |
| 12.3.3) | Gastritis | 04 |
| 12.3.4) | Urinary Tract Infection (UTI) | 05 |
| 12.4) | None | 29 |
| 13. | Frequency of nebulization | |
| 13.1) | 2 hourly | 20 |
| 13.2) | 4 hourly | 19 |
| 13.3) | 8 hourly | 24 |
| 13.4) | Whenever needed | 31 |
| 13.5) | No nebulization | 06 |
| 14. | Use of respiratory therapy: | |
| 14.1) | Oxygen therapy | 44 |
| 14.2) | Spirometry | 03 |
| 14.3) | Pump inhaler | 24 |
| 14.4) | None | 29 |
| 15. | Do you smoke? | |
| 15.1) | Yes | 35 |
| 15.2) | No | 65 |
| 16 | Type of respiratory illness | 35 |
| 16.1) | TB | 54 |
| 16.1) | COPD | 16 |
| 16.2) | Bronchial asthma | 21 |
| 16.3) | Pneumonia | 04 |
| | Pheumoma Pleural effusion | _ |
| 16.5) | | 03 |
| 16.6) | Pnemothorax | 02 |

Table 2: Range, Mean, Median and Standard Deviation of Mental Well-Being of Patients Suffering from Chronic Respiratory Illness N=100

| Respiratory filless, N=100 | | | | | | | | |
|----------------------------|--------|--------|----------------|--|--|--|--|--|
| | Range | Median | Mean \pm SD | | | | | |
| Mental well-being | 47-142 | 109 | 106.31± 17.730 | | | | | |

Minimum score= 29 Maximum score= 145

Table 3: Area Wise Range Mean, Median and Standard Deviation of Mental Well-Being of the Patients Suffering from Chronic Respiratory Illness, N=100

| Area | Range | Median | Mean± SD | Mean% | Rank |
|--------------|-------|--------|--------------|--------|------|
| Feeling | 7-35 | 27 | 26.09 ±5.318 | 17.99% | II |
| Actions | 16-80 | 58.5 | 57.10±10.006 | 39.37% | I |
| Spirituality | 1-5 | 5 | 4.57±0.700 | 3.10% | IV |
| Social | 5-25 | 19 | 18.55 ±3.233 | 12.79% | III |

Minimum score= 29 Maximum score= 145

Table 4: Frequency Distribution of Patients Suffering from Chronic Respiratory Illness in Terms of Level of Self-Care Ability of Patients, N=100

| Self-care ability | Range | F |
|--|-------|----|
| Wholly compensatory self-care deficit | 32-53 | 05 |
| Partially compensatory self-care deficit | 54-75 | 78 |
| System-educative | 76-96 | 17 |

Minimum Score=32 Maximum Score= 96

The data presented in Table 5 indicates that the self-care ability ranges from 47-85 whereas, Median, Mean and Standard deviation of mental well- being score of patients suffering from chronic respiratory illness were 68.5, 67.68±8.286 respectively.

Table 5: Range, Mean, Median and Standard Deviation of Self-Care Ability of Patients Suffering from Chronic Respiratory Illness, N=100

| | Range | Median | Mean ±SD |
|-------------------|-------|--------|-------------|
| Self-care ability | 47-85 | 68.5 | 67.68±8.286 |

Minimum score= 32 Maximum score= 96

Table 6: Area Wise Range Mean, Median and Standard Deviation of Self-Care Ability of the Patients Suffering from

Chronic Respiratory Illness, N=100 Range | Median | Mean± SD | Mean% | Rank 31.27±4.197 32.5% Physical 15-45 31 Ι 7-21 13.96±2.238 14.54% Psychological 14 III 4-12 8 8.02±1.980 8.35% IV Spiritual 14.43±2.185 15.03% Social 6-18 15

Minimum score= 32 Maximum score= 96

Data presented in Table 6 represents the four areas of selfcare ability, such as physical, psychological, spirituality and social. The area, physical ranges from 15-45, whereas, Median, Mean and Standard Deviation of self-care ability score of patients suffering from chronic respiratory illness were 31, 31.27±4.197. The area, psychological ranges from 7-21, whereas, Median, Mean and Standard Deviation of self-care ability score of patients suffering from chronic respiratory illness were 14, 13.96±2.238. The area, spirituality ranges from 4-12, whereas, Median, Mean and Standard Deviation of self-care ability score of patients suffering from chronic respiratory illness were 8, 8.02±1.980. The area, social ranges from 6-18, whereas, Median, Mean and Standard Deviation of self-care ability score of patients suffering from chronic respiratory illness were 15, 14.43±2.185. Physical area was on 1st rank with mean percentage of 32.5%. Social area was on 2nd rank with mean percentage of 15.03%. Psychological area was on 3rd

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rank with mean percentage of 14.54%. Spirituality area was on 4th rank with mean percentage of 8.35%. This data shows that patients suffering from chronic respiratory illness had the highest self-care ability score in physical self-care area.

Table 7: Correlation between Mental Well-Being and Self-Care Ability of the Patients Suffering from Chronic Respiratory Illness, N=100

| Variables | Mean | SD | R |
|-------------------|--------|--------|---------|
| Mental well-being | 106.31 | 17.730 | +0.619* |
| Self-care ability | 67.68 | 8.286 | |

^{*}Significant (p< 0.05) $r(98) \ge 0.197$

Findings in the Table 7 shows that the moderate positive correlation between mental well-being and self-care ability of the patients suffering from chronic respiratory illness (0.619). It indicates that when the mental well-being score increases the self-care ability scores also increases. The computed 'r' value between mental well-being and self-care ability obtained was significant at 0.05 level of significance. Hence, research hypothesis H_1 was accepted and H_{01} was rejected.

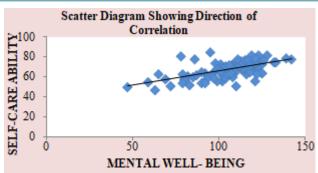


Figure: Scatter diagram showing the positive co-relation between mental well-being and self-care ability of the patients suffering from chronic respiratory illness

Data presented in table 8 shows that the computed chi square values of Selected Personal Variables and the level of levels of mental well-being of patients suffering from chronic respiratory illness with the Personal Variables.

It concludes that educational status influences the level of mental well-being of patients suffering from chronic respiratory illness from all Personal Variables. In educational status most of the patients (30%) were non-literate, which clears that being non-literate influences the level of mental well-being of respiratory patients.

Table 8: Association of Level of Mental Well-Being of Patients Suffering from Chronic Respiratory Illness with Personal Variables, N=100

| | Variables | | | | 9 | | 1= | |
|--------|---|---------|---------|---------|---------------------|----|--------|-------|
| S. No. | Demographic variables | Below | Average | | χ^2 /(Yates | df | Table | p |
| | | average | | average | correction) | | Value | value |
| 1. | Age (in years | | | | | | | |
| 1.1) | 18-27 | - | 11 | 17 | | | | |
| 1.2) | 27-36 | 01 | 11 | 23 | 2.097 ^{NS} | 4 | 9.488 | 0.352 |
| 1.3) | 36-45 | 03 | 16 | 18 | | | | |
| 2 | Gender | | | | | | | |
| 2.1) | Male | 03 | 13 | 27 | 1.658 ^{NS} | 2 | 5.991 | 0.205 |
| 2.2) | Female | 01 | 25 | 31 | | | | |
| 3 | Religion | | | | | | | |
| 3.1) | Hindu | 03 | 24 | 39 | | | | |
| 3.2) | Muslim | 01 | 10 | 09 | 3.425 ^{NS} | 6 | 12.59 | 0.470 |
| 3.3) | Sikh | - | 04 | 05 | | | | |
| 3.4) | Christian | - | - | 05 | | | | |
| 4 | Educational status | | | | | | | |
| 4.1) | Non-literate | 04 | 15 | 11 | | | | |
| 4.2) | Primary | - | 11 | 12 | 19.098* | 8 | 15.507 | 0.014 |
| 4.3) | Secondary | - | 09 | 20 | | | | |
| 4.4) | Higher secondary | - | 02 | 13 | | | | |
| 4.5) | Graduate and above | - | 01 | 02 | | | | |
| 5. | Occupation | | | | | | | |
| 5.1) | Homemaker | 01 | 21 | 21 | | | | |
| 5.2) | Self-employed | - | 03 | 10 | | | | |
| 5.3) | Farmer | 01 | 03 | 04 | 3.613 ^{NS} | 8 | 18.307 | 0.351 |
| 5.4) | Govt. sector | - | 03 | 09 | | | | |
| 5.5) | Private sector | 02 | 08 | 14 | | | | |
| 6 | Type of family | | | | | | | |
| 6.1) | Nuclear | 01 | 13 | 25 | 0.453 ^{NS} | 2 | 5.991 | 0.575 |
| 6.2) | Joint | 03 | 25 | 33 | | | | |
| 7 | Monthly income (in Rupees) | | | | | | | |
| 7.1) | ≤5000 | 02 | 13 | 12 | | | | |
| 7.2) | Rs. 5,001-10,000 | 01 | 17 | 18 | 6.199 ^{NS} | 8 | 15.507 | 0.267 |
| 7.3) | Rs. 10,001-15,000 | 01 | 05 | 16 | | | | |
| 7.4) | Rs. 15,001-20,000 | - | 03 | 08 | | | | |
| 7.5) | ≥ Rs. 20,001 | - | - | 04 | | | | |
| 8 | Previous hospitalization due to illness (within1year) | | | | | | | |

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| Section Sect | 8.1) | Yes | 03 | 13 | 18 | 1.583 ^{NS} | 2 | 5.991 | 0.199 |
|--|-------|---|----|----|----|----------------------|----|--------|-------|
| 9.1) Yes | | No | 01 | 25 | 40 | | | | |
| 9.1) Yes | 9 | Do you take medications regularly? | | | | | | | |
| 9.2) No | 9.1) | | 02 | 25 | 41 | 0.459 ^{NS} | 2 | 5.991 | 0.646 |
| Duration of illness | 9.2) | No | 02 | 13 | 17 | | | | |
| 10.1) 3-6 months | | Clinical Variables | | | | | | | |
| 10.2) 6-12 months - 12 09 7.996 | 10 | Duration of illness | | | | | | | |
| 10.3) 12-24 months 01 11 09 | 10.1) | 3-6 months | 01 | 11 | 21 | | | | |
| 10.4 ≥ 24 months 22 months 19 months 11 months 24 months 11.1 months 25 months 27 months 28 months 28 months 29 months 20 m | 10.2) | 6-12 months | - | 12 | 09 | 7.996 ^{NS} | 6 | 12.592 | 0.068 |
| 11 | 10.3) | 12-24 months | 01 | 11 | 09 | | | | |
| 11.1 Yes | 10.4) | ≥ 24 months | 02 | 04 | 19 | | | | |
| 11.2 No | 11 | Anyone in family suffering from same disease? | | | | | | | |
| 12 | 11.1) | Yes | 02 | 18 | 26 | 0.119 ^{NS} | 2 | 5.991 | 0.958 |
| 12.1) Cardiovascular diseases 01 22 29 | 11.2) | No | 02 | 20 | 32 | | | | |
| 12.2) Renal disease | 12 | Associated diseases | | | | | | | |
| 12.3 If any Other, specify | 12.1) | Cardiovascular diseases | 01 | 22 | 29 | | | | |
| 12.4) None | 12.2) | Renal disease | - | 01 | 02 | | | | |
| 13. Frequency of nebulization | 12.3) | If any Other, specify | 02 | 06 | 08 | 4.354 ^{NS} | 8 | 15.57 | 0.601 |
| 13.1) 2 hourly | 12.4) | None | 01 | 09 | 19 | | | | |
| 13.2) 4 hourly 01 10 08 | 13. | Frequency of nebulization | | | | | | | |
| 13.3) 8 hourly | 13.1) | 2 hourly | 01 | 05 | 14 | | | | |
| 13.4 Whenever needed | 13.2) | 4 hourly | 01 | 10 | 08 | | | | |
| 13.5 No nubulization | 13.3) | 8 hourly | 02 | 13 | 09 | | | | |
| 14. Use of respiratory therapy: 01 20 23 14.1 14.1) Oxygen therapy 01 20 23 0 14.2) Spirometry - 01 02 02 14.3) Pump (inhaler) 01 06 17 3.589 ^{NS} 6 12.592 0.704 14.4) None 02 11 16 0 0.704 15.1 Yes 02 12 21 0.704 | 13.4) | Whenever needed | - | 09 | | 12.344 ^{NS} | 8 | 15.507 | 0.137 |
| 14.1) Oxygen therapy 01 20 23 | 13.5) | No nubulization | - | 01 | 05 | | | | |
| 14.2) Spirometry - 01 02 - | 14. | Use of respiratory therapy: | | | | | | | |
| 14.3) Pump (inhaler) 01 06 17 3.589 ^{NS} 6 12.592 0.704 14.4) None 02 11 16 16 16 16 17 15.592 0.704 16 </td <td>14.1)</td> <td></td> <td>01</td> <td>20</td> <td>23</td> <td></td> <td></td> <td></td> <td></td> | 14.1) | | 01 | 20 | 23 | | | | |
| 14.4) None 02 11 16 | 14.2) | Spirometry | - | 01 | 02 | | | | |
| 15. Do you smoke? 02 12 21 5.1 15.1 Yes 02 12 21 21 22 25.991 0.730 15.2 No 02 26 37 0.88 ^{NS} 2 5.991 0.730 16 16.1 16.2 16.2 16.2 16.2 16.2 16.2 16.2 16.2 16.2 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.3 16.4 | 14.3) | Pump (inhaler) | 01 | 06 | 17 | 3.589 ^{NS} | 6 | 12.592 | 0.704 |
| 15.1) Yes 02 12 21 | 14.4) | None | 02 | 11 | 16 | | | | |
| 15.2 No | 15. | Do you smoke? | | | | | | | |
| 16) Type of respiratory diseases 04 24 26 16.1) TB 04 24 26 16.2) COPD - 06 10 16.3) Bronchial Asthma - 05 16 16.4) Pneumonia - 01 03 8.364NS 10 18.307 0.648 16.5) Pleural Effusion - 01 02 - - | 15.1) | Yes | 02 | 12 | 21 | | | | |
| 16.1) TB 04 24 26 | 15.2) | No | 02 | 26 | 37 | 0.88^{NS} | 2 | 5.991 | 0.730 |
| 16.2) COPD - 06 10 16.3) Bronchial Asthma - 05 16 16.4) Pneumonia - 01 03 8.364 ^{NS} 10 18.307 0.648 16.5) Pleural Effusion - 01 02 - 0 | 16) | Type of respiratory diseases | | | | | | | |
| 16.3) Bronchial Asthma - 05 16 - 16.4) Pneumonia - 01 03 8.364 ^{NS} 10 18.307 0.648 16.5) Pleural Effusion - 01 02 - 06 | 16.1) | TB | 04 | 24 | 26 | | | | |
| 16.4) Pneumonia - 01 03 8.364 ^{NS} 10 18.307 0.648 16.5) Pleural Effusion - 01 02 - 0 | 16.2) | COPD | - | 06 | | | | | |
| 16.5) Pleural Effusion - 01 02 | 16.3) | Bronchial Asthma | - | 05 | 16 | | | | |
| 16.5) Pleural Effusion - 01 02 | 16.4) | Pneumonia | - | 01 | 03 | 8.364 ^{NS} | 10 | 18.307 | 0.648 |
| 16.6) Pneumothorax - 01 01 | | | - | 01 | 02 | | | | |
| | 16.6) | Pneumothorax | - | 01 | 01 | | | | |

^{*}Significant (p< 0.05); NS- Not significant (p> 0.05); NA- Not applicable

Data presented in table 9 shows that the computed chi square values of the level of levels of self-care ability of patients suffering from chronic respiratory illness with the Selected Personal Variables

It concludes that no previous hospitalization and no associated disease influence the level of self-care ability of

patients suffering from chronic respiratory illness from all the selected Personal Variables. 66% of the patients were not hospitalized whereas 34% of the patients were hospitalized. 29% of the patients were having blood pressure. 47% of the patients were suffering from TB.

Table 9: Association of Levels of Self-Care Abilities of Patients Suffering from Chronic Respiratory Illness with Personal Variables, N=100

| S.No. | Sample characteristics | Wholly- | Partially | System- | $\chi^2/(\text{Yates})$ | df | Table | p value |
|-------|------------------------|-------------------|-------------------|-----------|-------------------------|----|--------|---------|
| | | compensatory | compensatory | educative | correction) | | value | |
| | | Self-care deficit | self-care deficit | | correction) | | | |
| 1. | Age (in years) | | | | | | | |
| 1.1) | 18-27 | 01 | 24 | 03 | | | | |
| 1.2) | 27-36 | 02 | 23 | 10 | 3.818 ^{NS} | 4 | 9.488 | 0.244 |
| 1.3) | 36-45 | 02 | 31 | 04 | | | | |
| 2 | Gender | | | | | | | |
| 2.1) | Male | 02 | 33 | 08 | 0.109^{NS} | 2 | 5.991 | 0.929 |
| 2.2) | Female | 03 | 45 | 09 | | | | |
| 3 | Religion | | | | | | | |
| 3.1) | Hindu | 04 | 50 | 12 | | | | |
| 3.2) | Muslim | - | 18 | 02 | 5.060^{NS} | 6 | 15.507 | 0.536 |
| 3.3) | Sikh | 01 | 07 | 01 | | | | |

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| | I | | 1 | | | | 1 | |
|---------|---|---------------|----------|----------|--|----------|--------------|--|
| 3.4) | Christian | - | 03 | 02 | | | | |
| 4 | Educational status | | | | | | | |
| 4.1) | Non-literate | 02 | 27 | 01 | | | | |
| 4.2) | Primary | 02 | 17 | 04 | | | | |
| 4.3) | Secondary | 01 | 20 | 08 | 5.568 ^{NS} | 8 | 15.507 | 0.381 |
| | | | | | 3.308 | 0 | 13.307 | 0.361 |
| 4.4) | Higher secondary | - | 12 | 03 | | | | |
| 4.5) | Graduate and above | - | 02 | 01 | | | | |
| 5. | Occupation | | | | | | | |
| 5.1) | Homemaker | 3 | 36 | 04 | | | | |
| 5.2) | Self-employed | 1 | 09 | 03 | 2.676 ^{NS} | 8 | 18.307 | 0.630 |
| 5.3) | Farmer | - | 07 | 01 | 2.070 | <u> </u> | 10.007 | 0.020 |
| | | | | | - | | | |
| 5.4) | Govt. sector | - | 08 | 04 | | | | |
| 5.5) | Private sector | 01 | 18 | 05 | | | | |
| 6 | Type of family | | | | | | | |
| 6.1) | Nuclear | 02 | 31 | 06 | 0.715 ^{NS} | 2 | 5.991 | 0.943 |
| 6.2) | Joint | 03 | 47 | 11 | | | | |
| 7 | | 03 | 77 | 11 | + | | | |
| | Monthly income (in Rupees) | | | 0.2 | 1 | | | |
| 7.1) | ≤5000 | 01 | 23 | 03 | | | | |
| 7.2) | Rs. 5,001-10,000 | 03 | 29 | 04 | | | | |
| 7.3) | Rs. 10,001-15,000 | 01 | 14 | 07 | 4.298 ^{NS} | 8 | 15.507 | 0.563 |
| 7.4) | Rs. 15,001-20,000 | - | 09 | 02 | | | | |
| 7.5) | Rs. 15,001-20,000 ≥ Rs. 20,001 | | 03 | 01 | † | 1 | | |
| | | - | US | 01 | | 1 | | 1 |
| 8 | Previous hospitalization due to illness | | | | 1 | | | |
| | (within1year) | | | | | | | |
| 8.1) | Yes | 05 | 25 | 04 | 10.678* | 2 | 5.991 | 0.004 |
| 8.2) | No | _ | 53 | 13 | | | | |
| 9 | Do you take medications regularly? | | | 1 | 1 | 1 | | † |
| | | 02 | 52 | 12 | 0.996 ^{NS} | 2 | 5 001 | 0.207 |
| 9.1) | Yes | 02 | 53 | 13 | 0.996 | 2 | 5.991 | 0.307 |
| 9.2) | No | 03 | 25 | 04 | | | | |
| | CLINICAL VARIABLES | | | | | | | |
| 10 | Duration of illness | | | | | | | |
| | 3-6 months | | 27 | 06 | | | | |
| | | - | | | 7 <17NS | | 10.500 | 0.050 |
| | 6-12 months | 01 | 18 | 02 | 7.617 ^{NS} | 6 | 12.592 | 0.060 |
| | 12-24 months | 03 | 17 | 01 | | | | |
| 10.4) | ≥ 24 months | 01 | 16 | 08 | | | | |
| 11 | Anyone in family suffering from same | | | | | | | |
| | disease? | | | | | | | |
| 11.1 | | 02 | 22 | 1.1 | 2.025NS | _ | 5 001 | 0.225 |
| 11.1) | Yes | 02 | 33 | 11 | 2.025 ^{NS} | 2 | 5.991 | 0.235 |
| 11.2) | No | 03 | 45 | 06 | | | | |
| 12 | Associated diseases | | | | | | | |
| | Cardiovascular diseases | 02 | 46 | 04 | | | | |
| | Renal disease | 01 | 02 | | 18.236* | 8 | 15 507 | 0.019 |
| | | | | - | 18.230 | ð | 15.507 | 0.019 |
| | If any other, specify | 01 | 12 | 03 | 1 | 1 | | |
| | None | 01 | 18 | 10 | <u> </u> | <u>L</u> | <u> </u> | <u> </u> |
| 13. | Frequency of nebulization | | | | | | | |
| | 2 hourly | 01 | 16 | 03 | 5.155 ^{NS} | 8 | 15.507 | 0.421 |
| | 4 hourly | 01 | 17 | 03 | 5.155 | 10 | 13.301 | 0.741 |
| | | | | | | 1 | | 1 |
| | 8 hourly | 03 | 17 | 04 | 1 | 1 | | |
| | Whenever needed | - | 23 | 08 | <u> </u> | <u>L</u> | <u> </u> | <u> </u> |
| 13.5) | No nubulization | - | 05 | 01 | | | | |
| 14. | Use of respiratory therapy: | | | | 1 | 1 | | |
| | | 02 | 40 | 02 | + | 1- | | 1 |
| | Oxygen therapy | 02 | 40 | 02 | O 4 5- NO | 1_ | 10.75 | 0.0 |
| | Spirometry | - | 03 | - | 9.162 ^{NS} | 6 | 12.592 | 0.068 |
| 14.3) | Pump (inhaler) | 01 | 15 | 08 | 1 | 1 | | I |
| | None | 02 | 20 | 07 | 1 | | | |
| | Do you smoke? | · | | <u> </u> | 1 | 1 | | t |
| | | Λ1 | 20 | 07 | 0.110 ^{NS} | 2 | 5.001 | 0.770 |
| 15.1) | Yes | 01 | 28 | 06 | 0.110 | 2 | 5.991 | 0.770 |
| 15.2) | No | 04 | 50 | 11 | | | | |
| 16) | Type of respiratory illness | | | | 1 | | | |
| | ТВ | 04 | 39 | 04 | | | | |
| | COPD | - | 18 | | 1 | 1 | | t |
| | | | | 1.1 | 20.647* | 10 | 10.207 | 0.000 |
| | Bronchial Asthma | - | 16 | 11 | 20.647* | 10 | 18.307 | 0.000 |
| | Peumonia | - | 03 | 01 | <u> </u> | <u>L</u> | | |
| | Pleural effusion | 01 | 02 | | | | | |
| | Pnemothorax | - | - | 01 | 1 | 1 | | |
| 10.0) | - IIIIIIIIIII | | | 01 | † | 1 | | |
| | licant (p< 0.05): NS- Not significant (p> 0.05) | | <u> </u> | I . | 1 | <u> </u> | | L |
| *Vianif | t_{cont} (m < () ()5), NC. Not significant (m> ()05) | . NA Not anni | مامام | | | | | |

^{*}Significant (p< 0.05); NS- Not significant (p> 0.05); NA- Not applicable.

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5. Discussion

The present study shows that majority (57%) of the patients who were suffering from chronic respiratory illness were females which are inconsistent to the findings of E. Prescott, shows that the prevalence of respiratory illness and mortality was stronger in males, (68%) as compared to females. 8 The illness behavior was found to be highest in crowding i.e., 3 people living in one room which are similar to the findings of Mehra Ravinder shows that the illness behavior of tuberculosis patients were more in joint family (57.32%) as compared to nuclear family (42.68%). Thirty percent of the patients were non-literate who were suffering from chronic respiratory illness which are similar to the findings by Susan A.H in 2008 to test for interactions between education and health status (i.e., physical, social, and psychological functioning) with respect to baseline cognitive performance and change over 6 years which resulted that high education attenuates age-related decline and lower baseline performance incurred by low health status in persons younger than 50.10 Thirty six percent were having monthly income ranging from Rs. 5001-10,000 which are consistent to the findings by Bhrett A. McCabe that the importance of assessing barriers to medication adherence in a population of low income individuals.11 Sixty six percent were not hospitalized previously (within1year) due to same illness which are consistent to the findings by Stephen R Leeder shows that factors related to sample characteristics such as failure to adhere with self-care recommendations were common and associated with frequent hospitalization.¹² There were (52%) of the patients who were suffering from cardiovascular diseases in associated diseases which are similar to the findings by Lori A. Crane shows that barriers to self-care, including physical limitations, lack of knowledge, financial constraints, logistics of obtaining care, a need for social and emotional support, aggravation of one condition by symptoms of or treatment of another, multiple problems with medications, and overwhelming effects of dominant individual conditions many of these barriers were directly related to having co morbid disease conditions¹³ but inconsistent to the findings by Jennifer L. Ellis in 2009 on Potential barriers to self-management significantly associated with lower levels of physical functioning were higher level of morbidity.¹⁴ There is a positive and significant correlation between the mental well-being and self-care abilities of the patients suffering from chronic respiration illness which are Similar to the findings by Cramm JM, Nieboer AP, shows that significant relationship between quality of chronic care delivery and wellbeing of patients with COPD.15

6. Limitation

The study was limited to 100 adult patients only, it could include more. In the present study, there was limited to only one hospital; hence it was difficult to make broad generalization of the findings. The study is limited to 18-45 years age adults.

7. Recommendation

The researcher recommended that the study need to be replicated on large sample to validate and generalize its findings. A comparative study among male and female can be conducted on assessing the relationship between mental well-being and self-care abilities among males and females suffering from chronic respiratory illnesses. An exploratory study can be conducted to assess the prevalence and factor influencing mental well-being and self-care abilities of the patients suffering from chronic respiratory illnesses. A study can be carried out to identify the extended care services for respiratory patients, covering the promotive and preventive aspects. A descriptive study can be carried out to identify the barriers of self-care abilities of patients suffering from chronic respiratory illnesses.

8. Conclusion

The present study aimed to assess the relationship between mental well-being and self-care abilities of patients suffering from chronic respiratory illness in M.M.I.M.S.& R Hospital, Mullana, Ambala, Haryana. The study concluded that there is a significant relationship between the mental well being and self care abilities of patient who suffer from chronic respiratory illness.

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