Determine the Quality of Life and to assess the Effectiveness of Nurse Instructional Package on Self-care management among Type 2 Diabetes Mellitus Patients in selected Hospital, Tamilnadu.


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Abstract:

Aim: to assess the level of knowledge and quality of life among Type 2 Diabetes Mellitus Patients before and after Nurse instructional package. Objectives: (i) To determine the pre and post-test Quality of Life among Type 2 Diabetes Mellitus patients in the control and experimental group. (ii) To assess the pre and post-test level of knowledge regarding self-care management in the control and experimental group. (iii) To evaluate the effectiveness of Nurse Instructional Package on knowledge and Quality of Life among Type 2 Diabetes Mellitus patients in Experimental group. (iv) To compare the post test level of knowledge and Quality of Life between the control and experimental group. (v) To associate the post test level of knowledge on self care management and Quality of Life with their selected socio-demographic variables of type 2 Diabetes Mellitus patients.

Methodology: A quasi-experimental research design with pre-test, post-test control group design was carried out in this study. 60 samples were selected by using convenient sampling technique. The pre and post test level of knowledge and Quality of Life were assessed by using EQ-5D-5L quality of life scale, and structured knowledge questionnaires. Results: The findings show that there is a significant difference between pre and post-test levels of knowledge and Quality of Life with t values 15.36 and32.12 respectively in experimental group and there is a significant difference between control and experimental group knowledge and Quality of Life 12.92 and 14.86 respectively. Hence it indicates that the level of Knowledge and quality of life are improved after Nurse instructional package. Conclusion: The study concluded that the Nurse instructional package was effective in improving the knowledge and Quality of Life among Type 2 Diabetes Mellitus Patients

Key words: type 2 diabetes mellitus, Quality of life, level of knowledge, Nurse instructional package.
INTRODUCTION:

Health is a dynamic condition resulting from a body's constant adjustment and adaptation in response to stress and changes in the environment to maintain gainer equilibrium. Wellness is first and foremost a choice to assume responsibility for the quality of our life. It begins with a conscious decision to shape a healthy lifestyle. Wellness is a mindset, a predisposition to adopt a series of key principles in varied life areas that lead to high levels of wellbeing and life satisfaction.

Diabetes in adults is a global health problem. Diabetes mellitus is a disorder of the endocrine system characterized by abnormal fluctuations in blood glucose levels, usually related to a defect in insulin production and glucose metabolism. Although its prevalence varies widely between different populations, the rate has generally increased worldwide. The total number of people with diabetes is estimated to increase from 171 million in 2000 to 366 million by 2030, with more than 80% of them living in developing countries. Lifestyle and behavioural factors play an important role in the development of diabetes, and lifestyle change is crucial to successful management.

OBJECTIVES

1. To determine the pre and post-test Quality of Life among Type 2 Diabetes Mellitus patients in the control and experimental group.
2. To assess the pre and post-test level of knowledge regarding self-care management in the control and experimental group.
3. To evaluate the effectiveness of Nurse Instructional Package on knowledge and Quality of Life among Type 2 Diabetes Mellitus patients in Experimental group.
4. To compare the post test level of knowledge and Quality of Life between the control and experimental group.
5. To associate the post test level of knowledge on self care management and Quality of Life with their selected socio-demographic variables of type 2 Diabetes Mellitus patients.

HYPOTHESIS

- **H1** - There is a significant difference in pre and post-test quality of life and level of knowledge on self-care management of a type 2 Diabetes Mellitus patients in experimental group.
- **H2** - There is a significant difference in post level of knowledge and quality of life among type 2 Diabetes Mellitus patients between control and experimental group.
- **H3** - There is a significant association between post test level of knowledge on self care management and Quality of Life with their selected socio-demographic variables of type 2 diabetes mellitus patients.
MATERIALS AND METHODS:

A Quasi-experimental pre-test /post -test control group design was carried out in this study. The study was conducted at ES Hospital, Villupuram, and ES College of Nursing Hospital Villupuram District, Tamil Nadu. 60 samples (30 Control; 30-Experimental) were selected by using convenient sampling technique. The pre and post test level of knowledge and Quality of Life were assessed by using EQ-5D-5L quality of life scale, and structured knowledge questionnaires. In the experimental group, the researcher was implemented the Nurse Instructional Package to Type II Diabetes Mellitus patients for 30 to 45 minutes which includes, Exercise, Foot care, Relaxation techniques and Health education about diet.

RESULTS AND DISCUSSION:

Table-I
Distribution of pre and post-test Quality of Life among Type 2 Diabetes Mellitus patients

<table>
<thead>
<tr>
<th>Level of Quality of Life</th>
<th>Control Group (n=30)</th>
<th>Experimental Group (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre test</td>
<td>Post test</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Excellent</td>
<td>2</td>
<td>6.7%</td>
</tr>
<tr>
<td>Good</td>
<td>18</td>
<td>60%</td>
</tr>
<tr>
<td>Low</td>
<td>8</td>
<td>26.6%</td>
</tr>
<tr>
<td>Poor</td>
<td>2</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

*Significant at p<0.05

Table I shows that in the Control group pre-test 18(60%) of them in good and 08(26.6%) of them in low Quality of life. In post-test 19(63.3%) of them in good and 5(16.7%) of them in low Quality of life. In the Experimental group pre-test 20(66.7%) of them in Good and 06(20%) of them in low Quality of life. In post-test 14(46.7%) of them in good and 12(40%) of them in excellent Quality of life.

Table II
Distribution of pre and post-test level of knowledge regarding self-care management among Type 2 Diabetes Mellitus patients

<table>
<thead>
<tr>
<th>Level of Knowledge</th>
<th>Control Group (n=30)</th>
<th>Experimental Group (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre test</td>
<td>Post test</td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>n%</td>
</tr>
<tr>
<td>Adequate Knowledge</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

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Table II shows that in the control group pre-test 19 (63.3%) of them in Moderate knowledge and 11 (36.7%) of them in Inadequate Knowledge. In post-test 17 (56.7%) of them in Moderate knowledge and 13 (43.3%) of them in inadequate Knowledge. In the Experimental group pre-test, 15 (50%) of them were in Inadequate knowledge and 15 (50%) of them in Moderate Knowledge. In the post-test 23 (76.7%) of them had adequate knowledge and 7 (23.3%) of them in Moderate Knowledge.

Table III
Mean, Standard Deviation, Mean difference, Standard Error, and t-test value for the on knowledge and Quality of Life in Experimental group.

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Mean difference</th>
<th>Standard error</th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Life</td>
<td>Mean</td>
<td>Standard deviation</td>
<td>Mean</td>
<td>Standard deviation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>58</td>
<td>17.2</td>
<td>76.37</td>
<td>14.86</td>
<td>18.37</td>
</tr>
<tr>
<td>Knowledge</td>
<td>10.37</td>
<td>1.65</td>
<td>22.9</td>
<td>2.66</td>
<td>12.53</td>
</tr>
</tbody>
</table>

*Significant at p<0.05

Table 4.3 shows that values for the Quality of life among patients with type 2 diabetes mellitus in the Experimental group pre-test Mean score was 58 with the Standard Deviation of 17.2 and post-test Mean score was 76.37 with the Standard Deviation of 14.86 the Mean difference of 18.37 with the standard error 1.2 The t-test value was 15.3 shows Highly significant and also the table shows that values for knowledge level in Experimental group pre-test Mean score was 10.37 with the Standard Deviation of 1.65 and post-test Mean score was 22.9 with the Standard Deviation of 2.66, the Mean difference of 12.53 with the standard error 0.39. The t-test value was 32.12 shows Highly significance. Hence the hypothesis H1 is accepted.

Table IV
Post-test Mean, Standard Deviation, Mean difference, Standard Error, and t value for the level in Quality of life between the control and experimental group.
Table IV shows that values for the Quality of life in the control group post-test Mean score was 55.67 with the Standard Deviation of 12.92 and the Experimental group post-test Mean score was 76.37 with the Standard Deviation of 14.86. The Mean difference of 20.7 with a standard error of 3.5. The t-test value was 5.91 shows significance and In knowledge level the control group post-test Mean score was 10.97 with the Standard Deviation of 1.72 and in the Experimental group, the post-test Mean score was 22.9 with the Standard Deviation of 2.66. The Mean difference of 11.93 with a standard error of 0.67. The t-test value was 17.81 shows highly significance. Hence the hypothesis H2 is accepted.

DISCUSSION:

Frequency and Percentage distribution of Demographic Variables:

In the control group out of the 30 samples, In Age 13 (43.3%) of them belong to 31-40 years of age, In gender, 16(53.3%) of them belong to the Male gender. In educational Status 8(26.7%) of them belongs to High secondary. In Occupation 12(40%) of them belongs to self-employed. In Income 17(56.7%) of them belongs to Rs.10,001-15000 per month. In Marital Status 26(86.6%) of them belongs to Married. In Religion 19(63.3%) of them belongs to Hindu. In Type of Family 13(43.3%) of them belongs to Joint Family. In Residence 12(40%) of them belongs to Semi-urban. In Types of Food Habits, 24(80%) of them belongs to Non-vegetarian. In Health Information Obtained from, 15(50%) of them belongs to Mass media. In Habits 23(76.7%) of them belongs to None.

In the Experimental group out of the 30 samples, In 13 (43.3%) of them belong to 31-40 years of age. In Gender, 15(50%) of them belong to the Male gender. In Educational Status 9(30%) of them belongs to Secondary. In Occupation 19(63.3%) of them belongs to self-employed. In Income 12(40%) of them belongs to 10,001-15000 per month. In Marital Status 23(76.7%) of them belongs to the Married. In Religion 21(70%) of them belongs to Hindu. In Type of family 17(56.7%) of belongs to the Joint Family. In Residence 15(50%) of them belongs to Urban. In Type of Food Habit 26(86.7%) of them belongs to Non-vegetarian. In Health Information Obtained from 11(36.7%) of them belongs to Mass media. In Habits 23(76.7%) of them belongs to None.
The first objective of the study is to determine the pre and post-test Quality of Life among Type 2 Diabetes Mellitus patients in the control and experimental group.

**Control group:** In the pre-test 18(60%) of them were in good and 08(26.6%) of them in low quality of life. In post-test 19(63.3%) of them in good and 5(16.7%) of them in low quality of life.

**Experimental group:** In pre-test 20(66.7%) of them in good and 06(20%) of them in low quality of life. In post-test 14(46.7%) of them in good and 12(40%) of them in the excellent quality of life.

The second objective of the study is to assess the pre and post-test level of knowledge regarding self-care management in the control and experimental group.

**Control group:** In the pre-test 19(63.3%) of them in moderate knowledge and 11(36.7%) of them in inadequate Knowledge. In post-test 17(56.7%) of them in moderate knowledge and 13(43.3%) of them in inadequate Knowledge.

**Experimental group:** In the pre-test 15(50%) of them in inadequate knowledge and 15(50%) of them in moderate Knowledge. In post-test 23(76.7%) of them had adequate knowledge and 7(23.3%) of them in moderate Knowledge.

The third objective of the study is to evaluate the effectiveness of Nurse Instructional Package on knowledge and Quality of Life among Type 2 Diabetes Mellitus patients in Experimental group.

The findings of the study show that quality of life in the Experimental pre-test Mean score was 58 with the Standard Deviation of 17.2 and the post-test Mean score was 76.37 with the Standard Deviation of 14.86 the Mean difference of 18.37 with the standard error of 1.2.

The t-test value was 15.3 shows highly significant at p < 0.05 it indicates the quality of life of the patient with type 2 diabetes mellitus was improved after the administration of the Nurse instructional package. Hence it indicates that hypothesis H2 is accepted.

The findings of the study show that the level of knowledge in the Experimental pre-test Mean score was 10.37 with the Standard Deviation of 1.65 and the post-test Mean score was 22.9 with the Standard Deviation of 2.66, the Mean difference of 12.53 with the standard error of 0.39.

The t-test value was 32.12 shows high significance at p < 0.05 it indicates that the knowledge level of self-care management of patients with type 2 diabetes mellitus was improved after administration of the Nurse instructional package. Hence the hypothesis H1 is accepted.

The fourth objective of the study is to compare the post test level of knowledge and Quality of Life between the control and experimental group.
The study shows that the quality of life in the control group post-test Mean score was 55.67 with the Standard Deviation of 12.92 and the Experimental group post-test Mean score was 76.37 with the Standard Deviation of 14.86. The Mean difference of 20.7 with a standard error of 3.5.

The t-test value was 5.91 shows significance at p < 0.05 it indicates that the quality of life of a patient with type 2 diabetes mellitus was improved after the administration of the Nurse instructional package. Hence it indicates that hypothesis H2 is accepted.

The study shows that level of knowledge in the control group post-test Mean score was 10.97 with the Standard Deviation of 1.72 and the Experimental group post-test Mean score was 22.9 with the Standard Deviation of 2.66. The Mean difference of 11.93 with a standard error of 0.67.

The t-test value was 17.81 shows highly significant at p < 0.05 it indicates that the knowledge level of the patient with type 2 diabetes mellitus was improved after the administration of the Nurse instructional package. Hence the hypothesis H2 is accepted.

The fifth objective of the study is to associate the post test level of knowledge on self care management and Quality of Life with their selected socio-demographic variables of type 2 Diabetes Mellitus patients.

The finding of the study shows that there is a significant association between the quality of life with health information obtained from selected demographic variables in the control group. Hence it indicates hypothesis H3 is accepted.

The finding of the study shows that there is no significant association between the level of knowledge with selected demographic variables in the control group.
The finding of the study shows that there is no significant association between the quality of life with selected socio-demographic variables in the experimental group.

The finding shows that there is no significant association between the level of knowledge with selected demographic variables in the experimental group.

CONCLUSION

The findings of the study show that there is a significant difference between pre and post-test levels of quality of life and knowledge with t-value 15.3 and 32.12 respectively and there is a significant difference between control and experimental group quality of life and knowledge 5.91 and 17.81 respectively. Hence the study concluded that the Nurse Instructional Package was effective in improving the quality of life and knowledge among type 2 diabetes mellitus patients.
RECOMMENDATIONS:

- A similar study can be used as a video-assisted teaching programme on self care management for type 2 diabetes mellitus patients.
- A similar study can be done to assess the psychological status of type 2 diabetes mellitus patients.
- A similar study can be conducted for a large group.
- The study can be conducted on the prevention and promotion of type 2 diabetes mellitus patients.

REFERENCE


