Family-centered empowerment program on self-efficacy, quality of life and daily activity in patients with COVID-19

Mohammad Heidari  
Shahrekord University of Medical Sciences

Mohammad Ebrahimi  (✉ mohammad.e11500@gmail.com)  
Shahrekord University of Medical Sciences

Fatemeh Aliakbari  
Shahrekord University of Medical Sciences

Hadi Raeisi  
Shahrekord University of Medical Sciences

Research Article

Keywords: COVID-19, Family-Centered Empowerment, Self-Efficacy, Quality of Life, Activity of Daily Living (ADL)

Posted Date: January 4th, 2023

DOI: https://doi.org/10.21203/rs.3.rs-2350998/v1

License: ☺️  This work is licensed under a Creative Commons Attribution 4.0 International License.  
Read Full License
Abstract

Background

Coronavirus disease 2019 (COVID-19) has become the most important challenge in the world healthcare system today. We investigated the effect of a family-centered empowerment program on the self-efficacy and quality of life daily activity level of patients with COVID-19.

Methods

A quasi-experimental study on 60 patients with COVID-19 discharged from Shahrekord hospitals was performed. For the intervention group, family-based empowerment training was performed, which included three training sessions for patient caregivers, and for the control group, only routine discharge training was performed. All patients fulfilled questionnaires' include World Health Organization (WHO) quality of life, daily activities, and Sherer self-efficacy before and three months after the study. Data were analyzed by SPSS/21 with chi-square, ANOVA and Pearson tests.

Results

The results of a recent study showed that family-centered empowerment program in patients leads to improved quality of life \( p = 0.001 \) and also a significant change in the level of daily activity in the intervention group compared to the control group \( p = 0.001 \) but there was no significant difference between the two groups in terms of self-efficacy after three months.

Conclusion

In line with the results of a recent study, studies have shown that the empowerment program for patients' family caregivers can increase patient participation and daily activity level and overall quality of life by increasing their participation in patient care. It is recommended that this program be included in day-to-day care by nurses and patient caregivers in their training programs.

Background

In late 2019, with the outbreak of a new virus from the coronavirus branch in China, attention was drawn to this virus. The virus spread rapidly around the world and caused high infection and mortality [1]. Iran was one of the first countries involved in COVID-19, and after announcing two cases in Qom, it was immediately reported in the capital and other cities. From the very beginning of the outbreak, the announcement of simple and practical health recommendations through the media was on the agenda of the country's health officials [2]. However, exposure to any unknown disease leads to a decrease in the ability of individuals in various aspects. In fact, empowerment-based programs were considered as one
of the most important health promotion policies in the world [3]. Based on the empowerment-based approach, each individual is responsible for his or her own choices and the consequences of his or her decisions as well. Empowerment is considered as an alternative to adaptation, to guide the relationship between the care provider and its recipients. Empowerment includes increasing the capacity of individuals to have the ability to make choices and turning that choice into desirable actions and outcomes [4]. On the other hand, empowerment has individual and collective patterns, among which we can mention the family-centered empowerment model with the aim of empowering the family system (both patient and other family members) to improve the health level [5]. In addition to the patient himself/herself, paying attention to patients’ families as hidden patients and empowering them will reduce the effects and complications of the disease. This method is also very cheap and safe. The existence of these important points has led to planning so as to create a family-centered empowerment program [6]. Self-efficacy was reported as one of the dimensions could be enhanced through empowerment. Self-efficacy means a person's belief in having the ability to achieve the expected result. In addition to adapting to the disease, having self-efficacy also affects health behavior and leads to an increase in a person's sense of control over important life events [7]. Self-efficacy is one of the factors that is likely to affect the level of social health of individuals. This concept was first introduced by Bandura in 1977. Thus, the higher a person's self-efficacy, the better he/she can perform in the five dimensions of social health (social prosperity, social solidarity, social cohesion, social acceptance and social participation) [8]. Due to the increasing spread of the emerging COVID-19, many problems were created for the health system, economy and management around the world. Lack of sufficient knowledge about this virus due to its complexity and unpredictability, lack of enough knowing the appropriate treatment for this disease, and also extensive public concern and social constraints have led to a reduction in daily life activities due to the complications of the disease and a possible reduction in self-efficacy and the consequent serious risks to patients' health. The aim of this study was to investigate the effect of family-centered empowerment program on self-efficacy, quality of life and daily activity of patients with COVID-19.

**Method**

**Sample and procedure**

This research is a quasi-experimental study in two groups. Participants in the study were a total of 60 patients and caregivers with COVID-19, with a positive PCR test sample discharged from hospitals affiliated with Shahrekord University of Medical Sciences (SKUMS). The inclusion criteria were as following: having the consent to enroll the study, healthy caregivers, and being responsible for daily care of the patient. Patients were included in the study using the available method and were randomly assigned to two groups by quadratic block classification. Patients were divided into intervention and control groups based on this process. In the intervention group, patients and their caregivers were provided with empowerment trainings in addition to the usual trainings, and the control group received only the usual trainings by the medical centers after discharge. After obtaining the consent and cooperation of patients and caregivers to participate in the research, in the intervention group, in addition
to the usual follow-up, a family-centered empowerment program for caregivers and patients was implemented as described in Table 1, which has four axes in total. Before training, demographic, quality of life, self-efficacy questionnaires as well as Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) questionnaires were filled out immediately after the patient was discharged from the hospital with the cooperation of patient caregivers. Three months after the training, the quality of life, self-efficacy, ADL and IADL questionnaires were filled out again.

**Measures**

**WHO Quality of Life Questionnaire**

The WHO Quality of Life Questionnaire consists of 26 criteria and each criterion has five parts (never, rarely, relatively, most often, always) which has a total of 104 points and the questionnaire has four areas: social, physical, psychological and living environment. After performing the necessary calculations in each domain, a score of 4 to 20 for each domain was obtained, in which the score of 4 signs represents the worst and 20 signs represents the best status of the domain. The WHO quality of life questionnaire was evaluated for the first time in Iran by Nejat et al. in 2006. The reliability of the questionnaire was measured using Cronbach’s alpha and the correlation within the clusters obtained from the retest. Intra-cluster and Cronbach’s alpha values are above 0.7 in all domains with an acceptable reliability [9].

**Scherer Self-Efficacy Questionnaire**

The Scherer Self-Efficacy Questionnaire has 17 questions, each of which, on a Likert scale, ranges from strongly disagree to strongly agree. In scale scoring, each item is awarded from 1 to 5 points. The maximum score a person can get from this scale is 85 and the minimum score is 17. To assess the validity of the constructs of the General Self-Efficacy Scale, Bakhtiari Barati (1996) correlated the scores obtained from this scale with the dimensions of several personality traits including the Rutter Internal and External Control Scale, the Personal Control subscale, the Marlowe-Kran Social Degree Scale, and the Rosenberg Interpersonal Competency Scale. The predicted correlation between self-efficacy scale and moderate personality traits was obtained as 0.61 and significant at the level of 0.05 which was in order to confirm the desired structure. Also, the reliability coefficient of the scale using the Cronbach's alpha coefficient was calculated as 0.79 [10].

**ADL Questionnaire**

ADL and IADL criteria were used to assess daily activity. In the seven-item ADL questionnaire, each item has three points: depended, zero point; needing help, one point and two points as independent. The validity and reliability of the ADL index have been examined by Taheri and Azadbakht sensitivity and specificity for ADL and IADL were reported as 0.75 and 0.96 as compared to 0.71 and 0.77, respectively [11].

**Table 1.** Stages of family-centered empowerment of patients with COVID-19
Statistical analysis

The data obtained were analyzed by the software SPSS v. 21. The normal distribution for the variables was investigated by Kolmogorov-Smirnov test. To examine the differences between the groups, Fisher’s exact test or chi-square test as well as parametric analysis of variance (ANOVA) were used for qualitative variables. To examine the difference before and after the variables, paired t-test was used for quantitative normal variables and Wilcoxon symptomatic rank non-parametric test was used for quantitatively abnormal variables.

Ethics statement

We confirm that all procedures were performed in accordance with the ethical standards laid down in the Declaration of Helsinki and its later amendments or comparable ethical standards. The present study was approved by Ethical Committee Shahrekord University of Medical Sciences (ethics code: IR.SKUMS.REC.1399.163). Also, after selecting the eligible participant, the researcher was introduced to them and the objectives of the study were elaborated for the participants. The informed consent was obtained from the subjects and they were assured that their information will remain confidential.

Results

Characteristics of the sample

After data analysis, it was found that most patients and their caregivers were in the age group of 26-50 years (43.3% and 78.3%). Most participants in both groups (patients and caregivers) were female. Approximately 86.7% of patients and 80% of caregivers of patients participating in the study were married. In terms of education level, most patients (36.6%) had undergraduate education and among caregivers, 43.4% had diploma education. There was no significant difference between the two groups in terms of demographic characteristics.

The mean self-efficacy score of the samples was initially calculated to be 36.83 ± 5.87 in the control group, which reached to 36.11 ± 5.71 after three months. However, the mean self-efficacy score of the samples in the intervention group was initially 36.30 ±7.30 which increased to 37.07 ± 7.58 after three months. There was no significant difference between the group and within the group (Table 2).

Table 2.

<table>
<thead>
<tr>
<th>Table 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The mean score of daily activities of the samples was 9.70 ± 2.45 in the control group, which increased to 10.87 ± 1.85 after three months. Nonetheless, the mean score of daily activities in the intervention group was 9.47 ± 0.64 which after three months and using the training program it was increased to 13.53 ± 0.97. Inter-group comparison showed that there was no significant difference between the two groups before the intervention but it was significantly higher in the intervention group after the intervention. Intra-group comparison showed a significant difference in both groups with P = 0.001 (Table 3).</td>
</tr>
</tbody>
</table>
Table 3.

According to Table 4, the mean IADL score of the clients in the control group was 5.90 ± 0.71 with a standard deviation, which increased to 9.67 ± 1.73 after three months. Nevertheless, the mean IADL score in the intervention group was 6.27 ± 1.53 which increased to 11.83 ± 2.35 after three months. Inter-group comparison showed a non-significant difference before the intervention (P=0.24) while there was a significant difference after the intervention (P = 0.001). Intra-group comparison indicated a significant difference (P = 0.001).

Table 4.

The mean quality of life of clients before the intervention in the control group was 63.27 ± 7.50 with a standard deviation that after three months increased to 84.30 ± 8.69. However, the average quality of life of clients before the intervention in the intervention group was 63.03 ± 7.87, which reached to 93.60 ± 0.16 after three months. Inter-group comparison showed a non-significant difference before the intervention (P=0.91) and a significant difference after the intervention (P = 0.001).

Table 5.

Discussion

The aim of this study was to investigate the effect of family-centered empowerment program on self-efficacy, quality of life and daily activity level in patients with COVID-19 admitted to training hospitals affiliated with SKUMS. The results of the current study showed a non-significant difference in terms of self-efficacy between the two groups after three months of follow-up, which in this regard is not consistent with the results of most studies. A study by Royani et al. Showed that performing a family-centered empowerment program leads to improved self-care and self-efficacy in patients undergoing hemodialysis [12]. Rbeii and Mostfaee research also showed that performing an empowerment-based intervention program in elderly patients leads to improved and increased patient self-care and self-confidence as well as better treatment, and ultimately improved quality of life in patients [13]. Also, another research showed an improved self-care and better control of total knee arthroplasty patients' pain by performing an empowerment program [14]. However, there were studies showed the ineffectiveness of the empowerment program, including the study of Chan et al. who concluded that the implementation of a family-centered empowerment program in an educational way does not have a significant effect on job satisfaction [15]. The reason for this difference in results could be due to the unknown nature of the disease and the long process of treatment of patients and family involvement, which prolongs the process of achieving self-efficacy. For instance, a study by Yildirim and Guler reported that patients 'self-efficacy remained low for a long time after COVID disease infection and significantly reduced mental health of patients [16]. The results showed a significant difference in the improvement of quality of life in patients in the intervention group. These results are in line with the results of a study by Fernandez-Lazaro et al. (2020) showed that the sports empowerment program for patients with COVID-19 led to an improvement in quality of life and better progress in the patient recovery program [17]. Frisca study also...
showed that educating patients about self-care in diabetes improves the quality of life and behavior of people against diabetes [18]. Mosavi et al. study showed the positive effect of education based on the precede-proceed model on self-care and quality of life of hemodialysis patients [19]. The study of Gvozdanović et al. also showed that an empowerment program for diabetic patients with COVID-19 disease improves the quality of life and self-care of these patients. This study shows that using a regular program for individuals, both spiritually and in terms of improving glycosylated hemoglobin levels, might lead to an improvement in the patient's condition and health [20]. The results of the above study are in line with other studies showing the positive impact of family-centered empowerment program. Moreover, emphasizing the participation of an active family member and educating patients through this person could play an important role in increasing patient self-efficacy. The results of the study showed the improvement of daily activity in patients in the intervention group. In this regard, Mohammadi et al. research showed that performing an empowerment program leads to improving the activity of patients with acute coronary syndrome [21]. The results of another study showed that effect of intervention program based on social cognitive model on daily activities of patients with chronic obstructive pulmonary disease [22]. Due to the prevalence of COVID-19 and the spread of new strains of the disease worldwide, the patient and his/her family members are unconsciously affected by the disease. Self-confidence and daily activities as well as self-care are greatly affected by the disease. Therefore, the implementation of programs such as family-centered care could be effective in promoting daily activities and self-efficacy of patients due to its ease of use and positive effects on self-esteem and self-efficacy. The results of other studies also show the positive effects of this intervention on the daily activity of patients. A systematic review by Amani shows that infection with COVID-19 leads to a decrease in activity. Performing a daily exercise also improves the quality of life and reduces the complications of the disease, as well as reducing the risk of disease [23]. The results of the present study showed that the constructs of the family-centered empowerment model, especially perceived threat and self-efficacy, might empower patients and their families in self-care management. Perceived threat was able to motivate patients to engage in self-care behaviors by highlighting the adverse effects and problems of improper self-care. In addition, the self-efficacy structure made patients realize that they could easily perform a variety of self-care behaviors. Patients' quality of life could be enhanced by encouraging patient responsibility, participation in empowerment, and their families' participation in health education improving knowledge, attitude, and practice. Based on this finding, this educational method can be used to educate patients' families and improve the level of care effectively.

**Limitations**

One of the limitations of the study is that, due to the nature of the virus and the length of stay in the hospital and the degree of illness, individuals will have different levels of self-efficacy. The limitation was minimized by randomization and considering the difference between the number of factors before and after the study instead of considering the amount of each factor. Also, due to the pathogenic nature of the virus and the risks of its transmission, the researchers followed the meetings over the phone or through social media.
Conclusion

Developing and implementing an empowerment program based on the educational needs of patients and the cooperation of patients and their caregivers led to the achievement of positive results in order to improve the quality of life and the level of daily activities of patients. Given the researchers reports, the way things are done and the plans that each person makes throughout his/her life to advance his/her goals could be affected by physical, mental and social issues and do not lead to the expected result. Therefore, the self-confidence of those who have recovered from this disease will be impaired in their planning. Studies show long-term complications in patients with COVID-19 disease. Although many vaccines have been developed or are in the process of being developed in the world, the lack of permanent immunity after vaccination and even once the onset of the disease and the bitter experiences that patients experience at the time of infection lead to the stress of possible re-infection and fear of death. While identifying new variants of the virus has raised concerns that it could reduce individual beliefs about doing a particular task. Educational and the implementation of family-centered programs are influenced by various factors such as the lack of facilities and equipment available to patients to recover, no treatment plan approved so far, caregivers' stress from the possibility of getting sick while caring for patients and providing certified training through virtual networks. Lack of standard space for patients to recover and social constraints and some prohibitions can reduce the participation of families in the care program. Therefore, it is suggested to implement educational and empowerment programs in the nurses' care program and the follow-up of patients should be continued after discharge owing to the uncertainty of the end time of this disease.

Abbreviations


Declarations

Ethics approval and consent to participate

We confirm that all procedures were performed in accordance with the ethical standards laid down in the Declaration of Helsinki and its later amendments or comparable ethical standards. The present study was approved by Ethical Committee Shahrekord University of Medical Sciences (ethics code: IR.SKUMS.REC.1399.163). Also, after selecting the eligible participant, the researcher was introduced to them and the objectives of the study were elaborated for the participants. The informed consent was obtained from the subjects and they were assured that their information will remain confidential.

Consent for publication

Not applicable.
Availability of data and materials

The data that support the findings of this study are available on request from the corresponding author.

Competing interests

The authors declare that they have no competing interests.

Funding

This study is related to a master dissertation which was ratified and financial support by the research and technology deputy of the Medical Sciences University of Shahrekord [Code: 5566].

Authors’ contributions

MH and ME designed and reviewed the study materials. ME prepared the ethics submission. MH, ME, FA and HR critically reviewed the manuscript. MH oversaw all aspects of the study's implementation. All authors read and approved the final manuscript.

Acknowledgement

This study is related to a master dissertation which was ratified and financial Support by the research and technology deputy of the Medical Sciences University of Shahrekord (Code: 5566). I hereby express my deep gratitude toward the respectable Deputy of Researches and Technology of Shahrekord University of Medical Sciences, and all participants that assisted us in this research work, without whom the study could not be possible.

References


14. Mirmaroufi N. The Effect of Empowerment Program on the Self-Efficacy and Pain Control in the Patients under Arthroplasty referred to Tabriz Medical Centers 2016: Tabriz University of Medical Sciences, School of Nursing and Midwifery; 2017.


18. Frisca S, editor Effectiveness Diabetes Self-Management Education (DSME) to Foot Care Behaviour and Foot Condition in Diabetes Mellitus Patient. 4th International Virtual Conference on Nursing (IVCN); 2021: KNe Life Sciences (Knowledge Engaging Minds).


**Tables**

**Table 1.** Stages of family-centered empowerment of patients with COVID-19
<table>
<thead>
<tr>
<th>Stage</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived threat</td>
<td>In order to examine the perceived threat, attention was paid to two aspects. The first aspect was the perceived severity, which included information about complications, ways of transmitting the disease, and the persistence of the virus in levels and risks of the disease. Accordingly, the number of caregivers of patients with Covid-19 in the virtual education class and during 3 sessions of educational topics included a set of information, behaviors and practices that were trained based on the needs of caregivers to reduce and prevent complications and risks of the disease. The second aspect was the perceived sensitivity that led the caregiver to the question &quot;How at risk am I?&quot; This empowerment is a set of information, behaviors and practices that are used based on the education needs of patients and caregivers to reduce and prevent complications and risks of the disease for the caregiver and include: anxiety and depression control programs, relieving fatigue through long-term care and the need to follow the principles of personal protection, resolving the caregiver's physical problems, resolving problems and concerns related to the recurrence of the disease or transmission to other family members. The caregivers then began to discuss these issues over the phone based on their experiences. The second was the role of support, guidance and educational participation. The time of each session was considered to be about one hour according to the desire of the caregivers. At the end of each session, their questions were answered and the date and purpose of the next session were determined after summarizing the topics. At the beginning of the next sessions, they were asked about the previous sessions.</td>
</tr>
<tr>
<td>Improving self-efficacy</td>
<td>In order to improve the level of self-efficacy, a problem-solving method was considered; after explaining each of the required skills, that skill was displayed to the caregiver by sending a video file; for instance, regarding the effective breathing and methods of improving respiratory status, researchers (nurses) firstly explained the nature of the work, its importance and how to do it for caregivers according to the theory of self-efficacy; afterwards, the researchers tried to send the training file so that caregivers might repeat it. Caregivers were given the opportunity to practice and repeat to master the component; in order to increase the self-efficacy, some subjects such as training in effective breathing, relaxation mechanisms, and methods of increasing daily activity were reviewed. At this stage, caregivers and patients were informed about methods to improve nutrition and sleep of patients based on notified instructions. Also, stress control mechanisms including deep breathing and relaxation methods from foot to head and methods of increasing activity according to nursing books were taught. Patients were also taught how to make the best use of time and how to do simple exercise in bed and light exercise. The researchers then asked caregivers to become self-sufficient or empowered by practicing and repetition in other components of the task; it should be noted that knowing and being able to caregivers and receive encouragement from researchers increases caregivers' self-esteem. This step was performed in 2-3 sessions of 45 minutes by phone or through social networks for video and video calls and photos.</td>
</tr>
<tr>
<td>Improving the level of self-esteem with the help of educational participation</td>
<td>At this stage, caregivers were asked to participate in educating their patients to identify issues related to Covid-19 disease and to encourage them to help themselves; in this manner, they can convey to their patients what they have discussed in each group discussion and what they have learned through observation in self-efficacy sessions; caregivers were also given a training card on the contents of each session to hand over to their patients to read. Caregivers were asked to tell their patients, after reading the card and what they had learned from the caregivers' tips, and to write down any questions they might have, and to send them to the researchers; Thus, in the next session, all the notes of the patients and caregivers were received and reviewed, and the quality of the caregivers' training sessions for the patients was held. Due to the fact that patients may not have acquired the necessary competence through caregiver training and study card training, caregivers and patients at this stage were allowed to express their problems and were corrected by discussing caregiver perspectives. Caregivers and patients were encouraged to participate</td>
</tr>
</tbody>
</table>
effectively. There was also encouragement to work in groups, which was done through the media due to the nature of the disease. For this purpose, two group messaging channels were established in which general training and group exchange took place. Follow-up and questions and answers were done as a group through these groups.

**Assessment**

In the last stage, after follow-up and training, evaluation was performed at two levels, including:

**Process evaluation:** during empowerment sessions, knowledge, self-efficacy and self-esteem were evaluated. In order to assess the perceived threat, caregivers were asked five oral questions at the beginning of each session; the patient was asked to perform two skills taught by caregivers (correct exercise and proper exercise training). Self-esteem was assessed by examining the extent of caregivers' participation in educational participation by returning educational cards related to patients' notes.

**Final evaluation:** Three months after the last session, the family-centered and patient caregiver empowerment model was re-performed. Finally, the Scherer Self-Efficacy and Quality of Life Questionnaire of the WHO and ADL were filled out by researchers.

**Table 2.** Comparison of self-efficacy within and between groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Before intervention</th>
<th>After intervention</th>
<th>P-value of comparison within the group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Intervention</td>
<td>36.30</td>
<td>7±0.30</td>
<td>37.07</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>36.83</td>
<td>5±0.87</td>
<td>36.11</td>
</tr>
<tr>
<td>P-value of comparison between the group</td>
<td>0.50</td>
<td>0.67</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3.** Comparison of ADL within and between groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Before intervention</th>
<th>After intervention</th>
<th>P-value of comparison within the group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>ADL</td>
<td>Intervention</td>
<td>9.47</td>
<td>2±0.64</td>
<td>13.53</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>9.70</td>
<td>2±0.45</td>
<td>10.87</td>
</tr>
<tr>
<td>P-value of comparison between the group</td>
<td>0.72</td>
<td>0.03</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.** Comparison of IADL within and between groups
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Before intervention</th>
<th>After intervention</th>
<th>P-value of comparison within the group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>IADL</td>
<td>Intervention</td>
<td>6.27</td>
<td>±0.53</td>
<td>11.83</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>5.90</td>
<td>±0.71</td>
<td>9.67</td>
</tr>
<tr>
<td>P-value of comparison between the group</td>
<td>0.24</td>
<td>&lt;0.001</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Table 5.** Comparison of quality of life within and between groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Before intervention</th>
<th>After intervention</th>
<th>P-value of comparison within the group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Quality of life</td>
<td>Intervention</td>
<td>63.03</td>
<td>±0.87</td>
<td>93.60</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>63.27</td>
<td>±0.50</td>
<td>64.30</td>
</tr>
<tr>
<td>P-value of comparison between the group</td>
<td>0.91</td>
<td>&lt;0.001</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>