

## Effectiveness of a Short-Term OT-Based Health Promotion Program Focused on Improving the Quality of Life and Weight Management

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### Statement of Problem

The effectiveness of a Lifestyle Redesign program on improving the quality of life and functioning of the elderly has been documented thoroughly in the [1]. However, there has been little research conducted on other populations such as young and middle-aged adults. As recently as 2008 the Center for Disease Control and Prevention (CDC) estimated that the medical cost of people who were obese was \$1,400 higher than people of normal weight costing a total of \$147 billion dollars [2]. Despite this information, the number of people in the US who are overweight or obese has continued to rise. One-third of all adults in the United States are obese [3]. Furthermore, Obesity negatively impacts a person's mental health and decreases the quality of life [4].

When compared to people of normal or healthy weight, obese people have increased risks of health conditions and severe health conditions including death, cancer, stroke, mental illness, heart disease, hypertension, high cholesterol, decreased the quality of life, decreased physical functioning, and osteoarthritis [4]. The use of traditional diet programs has been proven to be minimally effective [5]. The number of people who are adhering to healthy lifestyle habits was steadily decreasing [6].

Healthcare has been changing towards a health promotion and disease prevention model. As of 2010, all insurance companies must include a broad range of preventive services that don't require a copay [7]. However, outside of Occupational Therapy field little is known about how Occupational Therapy can address health promotion and disease prevention in the area of weight management. Rationale for Study.

The purpose of this study was to test the effectiveness of Occupational Therapy Based Health Promotion Program (OTBHPP) program on young and middle-aged adults. The effectiveness of an OTBHPP program Lifestyle Redesign (LR) has shown to be a valuable tool in the Well Elderly Studies [1]. LR focuses on incorporating health-promoting habits and routines into daily living. LR aligns with OT philosophy of creating or improving habits and routines in everyday living to increase the client's ability to function independently in their occupations. The researchers believed the program would have the capacity to produce similar results in a younger population.

With the continued rise of people who are overweight or obese despite the awareness and numerous diet programs available. Utilizing an OT intervention that will address the person holistically could prove beneficial in improving the overall quality of life and engagement in occupation. The study focused on demonstrating the ability of Occupational Therapy to promote health and prevent disease. The area of weight management was selected due to the number of comorbid conditions that are associated with being overweight and obese. Furthermore, several modifiable risk factors can be addressed through OT and an OTBHPP. Addressing these modifiable risk factors will improve the client's ability to function in their occupations and increase their overall quality of life. The risk factors that were addressed by the OTBHPP were social activities, emotional health, leisure access, stress management, coping strategies, and self-care behaviors that promote resiliency [8].

Healthcare policies have begun to value function for reimbursement. The Centre for Medicare and Medicaid implemented a value-Based Purchasing program in Traditional Medicare that offers incentives for the quality and value of care and not just the quantity of care [7]. Healthcare has also begun to limit the amount of time that clinicians can spend with clients [8]. LR provides OTs with a way to provide occupation-based treatment with the answer to the demands of today's healthcare world. LR is not an entirely new concept. It is a somewhat remodeled version of what OT practitioners have typically done [8]. Occupational therapy practitioners provide meaningful, purposeful and efficient interventions that increase engagement participation in occupations by the client through modifying daily life habits, roles, and patterns that contribute to chronic conditions, including obesity. According to LR has four core ideas. First, occupation is a necessary part of the human existence [8]. This belief that active participation in occupation is the foundation of the OT profession. Second, humans can envision a new self and create life changes through the experience of occupation [8]. Third, leaders in the field of OT have demonstrated the function of occupation on physical health, mental health, life order, and life routine [8]. Fourth, the OT profession has been considered a part of the health system since World War I, yet even then the profession saw the potential for OT with people who were considered well [8].

Finally, the aim of this study was to utilize an OTBHP similar to LR on young adults for health promotion and weight management. Being overweight and obese negatively impact a person's quality of life, engagement in occupations, and is extremely expensive for the individual and the healthcare industry.

### Review of Literature

According to Clark F. A. Well-Elderly 1 demonstrated the effectiveness of preventive OT on the well elderly study that utilized LR. The study tested the long-term benefits that could be addressed through preventive OT [9]. The subjects were tested after nine months of treatment then there was a follow-up test after six months of no treatment. The results of the follow-up test showed that almost 90% of the improvement seen directly after treatment were maintained. The results of a long-term effect of preventive OT provides examples of the effectiveness of LR with elderly. According to Clark F. J.-M., Well-Elderly II study LR increased the level of health and decreased the loss of independence of older adults [9]. It also provided evidence of how LR can be applied on a large scale and is effective on a diverse elderly population. Looney, used a Behavioural lifestyle intervention for the treatment of obesity [10]. The results showed a 7% weight loss at the completion of the intervention. Matuska, et al., implemented an OT wellness program for six months that consisted of groups that addressed aging, preventing falls, transportation, lifestyle balance, and communication [11]. The group also had to complete assignments outside of the group, and they were taken on a community outing once a week. The results showed an improvement in vitality, social participation, and mental health. Brown, et al., demonstrated the effectiveness of a 12-week behavioural intervention program for weight reduction with a history of mental illness [12]. Despite only a six. -pound weight loss, this demonstrated the potential benefits of using an interdisciplinary approach to weight management that could be positively impacting by the unique skill set of an OT. AOTA, explained that AOTA and its members are focused on dealing with the management of obesity [13]. Promoting community health and supporting three levels of care to treat obesity the overall client quality of life will improve. OTs have a holistic view and understanding of the health and knowledge of the factors that impact performance in occupation. Due to this knowledge and skill set OTs are uniquely qualified to help clients build and utilize structured treatments to change behaviors and lifestyles [13]. AOTA, states that OT interventions for weight management could be implemented in several ways such as Health promotion program, facilitates the development of new habits and routines, Lifestyle Redesign® programs, education programs, teaching compensatory strategies, wellness programs [14].

### Methods Recruitment

The researchers utilized recruitment strategies that were purposive sampling, convenience sampling, and snowball sampling. The strategies included recruitment flyers in approved areas on the North Central Campus, referral by school staff or administrator, or referral by another member who was participating in the study. The subject population included six students, five male, 1 female between the ages of 18-22 at North Central College. The participants were provided with contact information for the Principal Investigator, Mark Kovic, who responded to calls,

explained the project, obtained verbal consent, and then, with permission, provided the student researcher with their names and contact information for scheduling. Researchers provided participants with the opportunity to ask questions and review the informed consent form [15-20].

### Program Content

The participants attended one 60-minute session, six out of eight weeks. The program consisted of 8 educational modules focused on weight management adapted from the modules presented in Clark, et al., including occupations, time management, stress management strategies, physical activity-dining, nutrition, relationships and thriving [8]. Through their involvement in the pilot study, researchers anticipated that the participants in the program will learn how to develop habits, routines, and improve overall quality of life. Researchers expected that education provided during the meeting would provide the participants with the ability to create personal engagement plans to improve their quality of life and manage their weight. These educational tools were included throughout the six sessions.

### Meeting Format

The meetings followed a general format. The researchers educated participants on a specific topic. Then education will be supplemented with the use of handouts/worksheets, discussion, peer exchange, self-analysis, and activities related to that session's module. The sessions concluded with a discussion where the participants verbalized their understanding of the information presented during the module and how it would be applied in the future.

### Instrumentation

The study used the RAND SF-36 to measure the quantitative data gathered in this study. The RAND SF-36 is short self-report, standardized assessment that measures health related to quality of life. The assessment was administered during session 1, session 6, and approximately 21 days post intervention.

### Study Sites

The study site was the North Central College Campus. Through their involvement in the pilot study, researcher anticipated that the participants in the program will learn how to develop habits, routines, and improve overall quality of life.

### Data Collection

The RAND SF-36 was used to measure the quantitative data gathered in this study. As stated previously RAND SF-36 is a short self-report, standardized assessment that measures health related to quality of life. This assessment was administered during the session one, after the session 6, and 21 days after session 6.

### Data Analysis

Researchers scored the assessments according to the instructions provided with the assessment. Once the assessments were scored, the researchers calculated the mean and standard deviation for each health domain scale. The mean and standard deviation were also calculated for the overall score of the assessment. The results are located in Table 1.

**Table1: Pretest, Post-Test, Follow-Up Results**

| Scale                                     | Pretest (Session 1)<br>Mean (SD) | Post-test (Session 6)<br>Mean (SD) | Follow-up (21 days)<br>Mean (SD) |
|---|----------------------------------|------------------------------------|----------------------------------|
| Physical functioning                      | 95(6.3)                          | 95.8(4.9)                          | 89.2(15)                         |
| Role limitation due to physical health    | 66.7(37.6)                       | 100(0)                             | 91.7(12.9)                       |
| Role limitation due to emotional problems | 83.3(40)                         | 94.4(13.6)                         | 77.8(34.4)                       |
| Energy/Fatigue                            | 56.7(9.8)                        | 63.3(6.8)                          | 55.0(15.8)                       |
| Emotional well-being                      | 74(13)                           | 78.7(13.5)                         | 80.0(12.9)                       |
| Social Functioning                        | 87.5(11.1)                       | 91.7(10.2)                         | 95.8(6.5)                        |
| Pain                                      | 65.4(23.5)                       | 73.3(20.6)                         | 64.6(19.2)                       |
| General Health                            | 65(13.4)                         | 83.3(10.8)                         | 87.5(12.9)                       |
| Health Change                             | 66.7(25.8)                       | 87.5(13.7)                         | 87.5(13.7)                       |
| Total Score                               | 660.3(85.4)                      | 781.1(59.3)                        | 706.3(58.9)                      |

### Results

The preliminary results after the six-session indicated role limitation due to physical health had the highest mean with 100 (out of 100), and the lowest mean was energy/fatigue with 63.3. The domain with the highest SD was pain with 20.6, and the lowest was role limitation due to physical health. The average total score after the six sessions was 768.1 (out of 800) and the standard deviation is 59.3. The closer the scale score was to 100 the better the participant is functioning in that area of health. The physical functioning of the participants remains consistent during the intervention. However, the role limitation due to both physical health and emotional problems, general health, health change, and total score all improved. This result would indicate an increase in the ability to function without a change in physical health. The final results approximately 21 days after the intervention indicated that social function had the highest mean with 95.8(out of 100) and the lowest mean was energy/fatigue with 55. The domain with the highest SD was role limitation due to emotional function with 34.4 and the domain with the lowest SD was social functioning with 6.5. The average total score for the follow-up was 706.3, and the standard deviation was 59.9.

### Conclusion

The researchers believed utilization of an occupational therapy intervention which would address the person holistically could validate the potential benefits to improve the overall quality of life. Furthermore, several modifiable risk factors can be addressed through an OTBHP. The preliminary results indicated that the program was effective in improving general health and quality of life. Furthermore, participants had a high level of physical health, while simultaneously having low energy/fatigue levels. The net result of this mismatch may be an impact on quality of life and ability to engage in meaningful activities. The follow-up results saw a decrease in total score, but the score was still higher than the initial total score. The physical functioning and score decreased lower than the previous two assessments. However, the overall health change score remained the same, and there was an increase in social functioning. Despite a decrease in physical function and low energy/fatigue levels the subjects were able to increase their social functioning. These results lead researchers to conclude that the subjects were able to increase the ability to engage in meaningful activities. Furthermore, the results of the follow-up assessments demonstrate improvements despite not being involved in the intervention for approximately three weeks. The habits and routines through occupation appear to improve quality of life and ability to engage in meaningful activity [20-27].

### Implications

This study supports the use of the use of an Occupational Therapy Based Health Promotion Program focused on Quality of life and weight management. It may be possible to use a group only model for OTBHP. With continued studies in this field, it may be possible demonstrate an Occupational Therapist skill set and eventually get reimbursed by all insurance companies.

### Limitations

There were a few limitations in this pilot study. There was a small number of participants involved in the study with only 6 participants. The duration of intervention was eight weeks. The intervention was scheduled to be six consecutive weeks. Due to outside circumstances, the intervention ran for four weeks straight, off for two weeks, and then finished with two weeks of intervention. Descriptive biometrics were not used to track changes in weight, body mass index, or body fat. An Occupational profile and formal occupational therapy assessments were not utilized. The use of qualitative data about the participant's current weight management strategies or quality of life. This information may have led to an even more effective program.

### Future

There are several ways to study the study could be replicated or improved in the future. Compare the effectiveness of the utilization of individual sessions and groups sessions for the interventions. Replicate the study with the use of qualitative and quantitative assessments. Assess the program over a longer period to determine how long the quality of health changes last after the intervention is completed. Replicate the study with a larger sample size to determine if results are consistent. Finally, assess the changes in health utilizing formal occupational therapy assessments and biometrics.

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