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Impact of Lifestyle Modification Program on Quality of Life, and Psychological Wellbeing among Elderly Women with Urinary Incontinence

Nahla Ahmed Abd Elaziz[1] Sahar Mahmoud [2]
1Assistance professor of Community Health Nursing, Faculty of Nursing, Ain Shams University
2Assistance professor of Psychiatric Nursing. Faculty of Nursing, Ain Shams University

Abstract
Background: urinary incontinence has a major impact on physical, quality of life, emotional and social health and wellbeing. Objective: Our study aimed to evaluate the efficacy of the lifestyle modification program on quality of life, and psychological well-being of women with urinary incontinence, Methods: an Experimental study carried out at 6 health center on 190 women with urinary incontinence.
Tools of data collection: interview questionnaire, the incontinence impact questionnaire , the Urogenital distress inventory, and psychological well-being index.
Results: More half of women in age more than fifty years and were married, and have duration of incontinence from one to less two years. Urinary incontinence has a moderate impact on the women life. There was highly significant difference in the quality of life score and psychological wellbeing after program implementation
Conclusion: Lifestyle modification has a positive impact on quality of life and psychological wellbeing in women with urinary incontinence in present study so recommended that providing counseling services in clinic to counsel women on how to best incorporate lifestyle modification into their lives in order to manage incontinence
Keywords: urinary incontinence -quality of life – psychological well-being – lifestyle

Introduction

Urinary incontinence (UI) is an important health and social problem among women, with a prevalence of 25–45% *(Milsom et al, 2013).* Differences in definition, ethnicity and underreporting due to embarrassment would probably affect its prevalence. There are lots of different kinds of urinary incontinence, including stress, urge, mixed, and overflow incontinence *Abrams et al, (2002).*The prevalence of urinary incontinence among women is approximately twice prevalence in men, the prevalence increased with age, from 7% to 37% at 20-39years,31% to 48% at 40-59 years.30% to 61% at60-79years and 37to 63% at 80+. The annual incidence of any new urinary incontinence ranges from 3% to 11%, increase with age. *(Franzen,2011).*The prevalence of UI among Egyptian women is 54%. The number, however, may actually be higher because most Egyptian women are reluctant to seek help regarding this problem and thus more studies are required to estimate the exact magnitude of the problem. *(Dedicação et al, 2009).*

Urinary incontinence has a major impact on physical, emotional and social health and wellbeing, including sleep problems psychological distress, restrictions in physical activity, travel, leisure, work, relationships, and sexuality. (Burgio,2014).

Urinary incontinence is associated with shame, anxiety, embarrassment and silence.

It also affects the sufferer's confidence and self-respect, since they often prefer to conceal the problem for as long as possible moreover incontinence has been shown to affect personal relationships and cause patients to cease employment, increase dependence on caregivers and restrict activities of daily life (Flowers, and Smith, 2006).

Well-being is a positive feedback that is meaningful for people and for many sectors of the society, this could be seen from the fact that people tend to visualize that their lives are going as well as Wellbeing also focuses on assets in functioning, including positive emotions and psychological resources as an example, positive effect, autonomy, mastery as key components Centers for Disease Control and Prevalence (CDC) (2013).

Lifestyle modification for UI generally refers to the adjustment of aspects of daily behavior to directly or indirectly alter UI such as weight control, smoking cessation, elimination of bladder irritants from the diet, management of fluid intake, physical activity, the establishment of normal voiding intervals and management of bowel regularity. *Wyman Burgio, & Newman,(2009).*

Significant of the Study

Urinary incontinence was not a problem that threatened women lives or limited their activities, but disturbed their lifestyles and especially their functioning and psychological well-being. Of a total of 82 women with urinary incontinence, 26% had depressive symptoms, while 29% had anxiety symptoms. There is a probability of

psychological morbidity due to an impact of urinary incontinence on quality of life. Major depression and co morbidity significantly affect the quality of life in women with urinary incontinence. Women with urinary incontinence showed decreased the quality of life and reported more symptoms of depression. Urinary incontinence has some psychological likewise some social consequences on the well-being of people suffering from it. One should bear in mind that this illness is not a one size fit event, it affects women differently. This can be felt from different dimensions in the sphere of one's life. looking at the consequences broadly, the impact is felt on the physical, social, mental and psychological wellbeing of women. There can also be a significant financial burden on individual sufferers in terms of lost livelihood and purchase of continence products. Lifestyle modification for UI generally refers to the adjustment of aspects of daily behavior to directly or indirectly alter UI such as weight control, smoking cessation, elimination of bladder irritants from the diet, management of fluid intake, physical activity, the establishment of normal voiding intervals and management of bowel regularity. It is essential to counsel patients on how to best incorporate these strategies into their lives so that adherence to lifestyle change, thus an optimal treatment outcome, is more likely. Lifestyle modifications" or "behavior therapies." They're safe, easy, effective and inexpensive. should be equal as useful in primary care for educating patients in the maintenance of good bladder function and perhaps even for preventing future bladder problems so that this study aiming to implement and evaluate the efficacy of the lifestyle modification program on quality of life, and psychological well-being for women with urinary incontinence. "Lifestyle modifications" or "behavior therapies." They're safe, easy, effective and inexpensive.

Definition

Urge incontinence - A sudden and strong desire to void accompanied by an involuntary loss of urine.

Stress incontinence - An involuntary loss of urine that occurs due to increased intra-abdominal pressure for example during physical activity, coughing, sneezing, laughing, or exercise

Overflow incontinence -Involuntary loss of urine associated with over distension of the bladder, with or without a destructors contraction

Mixed incontinence - A combination of the symptoms of both urges and stress urinary incontinence

Aim of the study

To evaluate the efficacy of lifestyle modification program on quality of life and psychological well-being among women with urinary incontinence.

Research hypothesis

Lifestyle modification program have a significant impact in an enhancing
The quality of life and psychological wellbeing in Women with Urinary Incontinence.

Study design: Experimental Research design was used in this study

Setting:

The present study was conducted at three maternal and child health centers (MCH) located at El Daher, El Waily, and Hadaiek El Koba. In addition to three health centers located at El-Abbasia, El-Mahkma square (Heliopolis) and El Hikestep, representing women from the different socio-demographic background from different Urban districts in Cairo.

Sample:

A total 190 women(35 women from each center) attending or mention setting and have the following inclusion criteria: presence of symptoms of urinary incontinence, without another associated disease for ≥ 1 year and aged <45 to >65 years. Women with any of following characteristics were excluded:

Having a past history of medications or surgery for urinary continence.
Presently under hormone or drug therapy for urinary incontinence
Presently under therapy for obstetric/gynecologic, or urologic disease,
Presence of proteinuria or glucosuria,
Presence of mobility problems or an abnormal blood pressure,
Presently taking diuretics

Tool of data collection

Four tools were used for data collection to achieve the aim of the study:

Tool I: - An interviewing questionnaire format: it was developed by the researchers, and consisted of three parts including:

a. The socio-demographic characteristics of Urinary Incontinence women, it has consisted of questions such as age, educational level, occupation, marital status and others.

b. Body mass index (BMI) was calculated from the weight and height data according to the following equation:

$$BMI = \frac{\text{Weight (Kg)}}{\text{Height (m)2}}$$

Accordingly, the scale of BMI was divided into five categories by Dudeck, (2001):

Normal weight: 20- 25.9kg/m
Overweight: 26- 29.9kg/m
Grade I obese: 30- 34.9kg/m
Grade II obese: 35- 39.9kg/m
Grade III obese: ≥ 40kg/m

c- The Incontinence Impact Questionnaire and the Urogenital Distress Inventory

-The Incontinence Impact Questionnaire (IIQ) Short Form

It was designed by *Shumaker et al, (1994)* to assess the impact of urinary incontinence on activities and emotions in women .it is consist of 7 items cover four domains: physical activity, social relationships, travel, and emotional health. Each question has a 4-point response scale: (0, not at all; 1, slightly; 2, moderately; 3, greatly)

Scoring system in this study :

< 7 Mild impact
7 :< 14 Moderate impact
14: 21 Sever impact

-Urogenital Distress Inventory Short Form

It was designed by *Shumaker et al, (1994)* to assess to assess the degree to which symptoms associated with incontinence are troubling. It consists of 6 questions covering 3 domains: symptoms related to stress urinary incontinence, destructors over activity, and bladder outlet obstruction it. Each question has a 4-point response scale: (0, no -tat all; 1, slightly; 2, moderately; 3, greatly)

Scoring system in this study

0: < 6 Mild Urogenital distress
.6: <12 Moderate Urogenital distress
12: 18 Sever Urogenital distress

2- Incontinence Quality of Life (I-QoL) Questionnaire

It was developed by Wagner et al, (1996) for evaluating concerns related to incontinence. it consist of 22 items and is divided into three subcategories, consisting of eight questions for "avoidance and limiting behavior, "nine questions for "psychosocial impact," and five questions for "social embarrassment".

Scoring

Each question was scored on a five -point Likert scale, (1 = extremely, 2 = quite a bit, 3 = moderately, 4 = a little, 5 = not at all).with scores ranging of 0–110, higher scores signified a higher quality of life.

Extremely 1 < 22
Quite a bit 22 < 44
Moderately 44 < 66
A little 66 < 88
Not at all 88 < 110

3- The Psychological Well-Being Index (PGWBI)

It was developed by *Dupuy, (1984)* for the evaluation of perceived well-being and distress. It contains 22 items divided into six dimensions: anxiety, depression, positive mood, vitality, self-control and general health. Each item can be answered on a Likert scale with five response categories classified according to the degree, intensity or frequency of items in the last week.

Scoring

The 22 items of the PGWBI are grouped in 6 dimensions. A global score is also computed as the sum of scores on the 6 dimensions.

Dimensions	Item n	Item Cluster	Range
Anxiety	5	5, 8, 17, 19, 22	0-25
Depressed mood	3	3, 7, 11	0-15
Positive well-being	4	1, 9, 15, 20	0-20
Self control	3	4, 14, 18	0-15
General health	3	2, 10, 13	0-15
Vitality	4	6,,12,16, 21	0-20
Global score	22		0-110

The total score is calculated from dimensional scores, with categories created as such: 0 to 60 represents a serious discomfort.

61 to 72 is a moderate malaise and from 73 to 110 is a positive welfare.

4- Lifestyle modification program

The lifestyle modification program was developed by researchers based on the review of current literature. It includes healthy behavior: fluid intake. Diet, weight reduction, physical activity and exercise, body care and clothing, environmental modification and practicing Kegel exercise .it was written in simple Arabic language.

Phases of implement the program

Assessment phase

Each woman was interviewed individually before applying the planned program to collect baseline patient's data using all study tools. This interview took about 25 to 30 minute. At the end of assessment phase, the researchers calculated the body mass index for each woman

Implementation phase

The developed lifestyle program was implemented individually for women in each health center. It was conducted in 7 sessions each session took about 25 to 30 minutes. The first session was carried out during the assessment phase. During the first session, the researchers explained the aim of the study, meeting time. This session focused on building rapport relationship it is aimed to identify and understand the program and its objectives and discuss an impact of urinary incontinence on women life as well as methods of coping with incontinence problems. The second session aimed to women acting out guidelines for modifying her fluid intake, diet, and an environment. Third session concerned with women carries out a healthy modification for body care, hygiene, and clothing as well as dealing with incontinence in Social occasions. The fourth session aimed to carry out activities for women to weight reduction. Fifth to the seventh session aimed to practice Kegel exercise and how to manage incontinence in a social occasion.

The instructional booklet was given to each woman in the study group to
motivate her, and help for reviewing at home and support teaching at home.

Data collection covered a period of 4months, started from the first of June 2015 to the end of September 2015

Evaluation phase

After four months of implementing the lifestyle modification

Pilot study: The pilot study was conducted on 10 % (they are executed from the study sample) in order to ensure the clarity of questions, Applicability of the tools and time needed to complete them and perform the required modification according to the available resources.

Results of pilot study

The researchers alternate questions about impact of urinary incontinence by Urogenital Distress Inventory

Field Work

After obtaining the approval from the directors of the above-mentioned health settings for conducting the proposed study, researchers communicated with the respondents. The nature and objectives of the study were explained and their consent to participate was taken from the respondents. All women fulfilling the inclusion criteria were interviewed. Anonymity and confidentiality were assured. Data were partially collected from the Women with Urinary Incontinence who attended MCH centers and the rest of target population was completed from those who attended the Health Centers for follow-up visits. Data collection spanned four months started from first of June 2015to the end of September 2015. The total time needed for conducting interviewing questionnaire including other tools ranged from 25 - 40 minutes

Ethical consideration:

The ethical research considerations in this study included the following:

• The research approval obtains before training program implementation.

• Subjects are allowed to choose to participate or not participates 'voluntary participation' and they have the right to withdraw from a study any time without penalty.

• The researcher describes the objective and aim of the study to subjects.

• Maintain confidentiality and anonymity for every selected woman who involved in the study sample.

Instructional Guidelines Booklet:

The purpose of the developed instructional guidelines for Women with Urinary Incontinence is to achieve better coping with Urinary Incontinence. It was developed to raise the Incontinence women awareness regarding Incontinence related aspects, including; introduction, definition, causes, the predictable signs and symptoms in addition to the proper intervention measures over the course of Urinary Incontinence. Elaborations were completed by giving examples for the proper management. Additionally, it includes different coping strategies (e.g. when to seek a doctor, and how to cope with Urinary Incontinence, etc.). This instructional guidelines booklet will help Women with Urinary Incontinence have better coping during the menopausal period. Some elaborating pictures were included.

Statistical design

IBM compatible PC. Was used to store and analyzes the data and to present the important results calculations were done by means of statistical software

Package namely "SPSS". The statistical process used in the analysis included:

The statistical process used in the analysis included:

• Simple frequency tables.

• Paired "t" test for comparing quantitative continuous data before and after sessions.

The statistical process used in the analysis included:

Non-significant (NS) if P value > 0.05
Significant (S) if P value < 0.05
High significant (HS) if P value < 0.01

Results:

Table (1) displayed the demographic characteristics of the Women with Urinary Incontinence, it was found that 53.2% of them aged 50+ years old and also 53.2% of the respondents were married. 36.8% were able to read and write, while. 52.6% of the Women with Urinary Incontinence were non-working, and their mean number of children they have was =3.47+ SD 2.97. And, 82.6% of Women with Urinary Incontinence had insufficient family income/ month, 42.6% were living with their husbands. Those who were obese (grade I) represented 50.5% of the respondents.

Table (2) elaborated the details of urinary incontinence in elderly women. Duration of incontinence 52.6% were incontinence from one to less two years, 48.5% have incontinence frequency less than once a week, regarding time of incontinence 76.3% from the subject answer during the day ,63.1 % stated that Irritating factors were Straining activities (laughing, coughing, sneezing), 41.6% consulted any doctor, 50% Treated by Popular Recipes and 36.3% not response to treatment

Table (3) revealed that mean score for incontinence and Urogenital Distress were significantly increased after program implementation p = .000

Table (4) Shows that there was highly a significant difference in mean score of lifestyle pattern .the highest score was observed in physical activities and exercise

Table (5) revealed that the urinary incontinence has a moderate impact on the women life. There was a significant difference between pre and post program

Table (6) illustrated that there was significant improving the quality of life score at post program p =.000

Table (7) shows that there was upgrading in psychological wellbeing score at post program the highest mean was observed in Positive welfare level p =.000

Discussion

Urinary incontinence is the complaint of involuntary leakage of urine often remains undetected and undertreated by health care personnel worldwide, despite its substantial impact on affected individuals and health care systems.

Urinary incontinence is consistently associated with adverse effect on quality of life for patient, adverse effect include social isolation, loneliness, and sadness, psychiatric illness including depression, embarrassment , that affects the activities of daily living, stigmatization effect on sexual relationships and disturbed sleep , practical incontinence associated with leakage of urine such as frequent change clothes and bed linen and need to bath more often will have adverse effect on quality of life , the patient's perception of the impact of their urinary incontinence on their lifestyle is important .

Socio-Demographic Characteristics of Elderly Women with Urinary Incontinence

The present study revealed that half of the studied women with urinary incontinence in age group more than fifty years old, .this result is agreement with *Cameron institute / Canada, (2014*) reported that in the prevalence of urinary incontinence increases rapidly with age – particularly once adults reach the age of 65 years and the incidence among women in Canada was fifty-five percent. The result explained that more one-third of women are read and write and two-third of women lived in urban area this result is disagreement with *Menezes, Pereira, and Hextall,(2010)* they study predictor of urinary incontinence among female they found that women aged 57–61 years constituted one-third of the woman's, three-quarters of women lived in the city and one-third of women had higher education. The result denotes that half of study sample in Grade I obese: 30- 34.9kg/m. These contradicting with *Kirss et al, (2013*)they estimate the prevalence of urinary incontinence (UI) and to assess its risk factors among postmenopausal Estonian women. They found around one fifth of the participants were obese with a body mass index (BMI) 30 kg/m2 or over and 41.9% of women had BMI of 25–29 kg/m. The result shows that more half of the women are a housewife and highest percent of women have insufficient income .this result is contradicting with *Gozukara, Koruk, and Kara,(2015*) they determine the prevalence and risk factors for UI among women in the Southeastern Anatolia Region/Turkey. They found that the highest percent of women have a permanent job and have a very low level of income.

Details of urinary incontinence in elderly women

The present study showed that the highest percent of women have a mixed type of urinary incontinent and half of them have been incontinent for duration1 :< 2 years and most irritating factors for incontinence were cough sensing. This result is consistent with *Abha, Priti, and Nanakram, (2007)* and *Jokio, Rizvi,and Arthur, (2013)* they have been assessing the prevalence of incontinence in India and Pakistan they found that more half of women have mixed type of incontinence for duration 36 months and leakage of urine increase with coughing and sneezing . Concerning to frequency of complaint and Time of incontinence. The result of the present study explained that the highest proportion of women have been complaining from several times of incontinent mainly during a day with a lot of leakages. this result was in the same line with *Al-Badr et al,(2012)* they estimate the

prevalence of female urinary incontinence (UI) in Jeddah, Saudi Arabia and determine associated risk factors, they found the most of the women had daily urinary leakage (8frequency) during a day .about medical consultation the result illustrated that near half of the women seek medical advice from any doctor this may be they did not take incontinence problems seriously and perceive it as neutral phenomena of aging this result is contradicting with *Kaliti, (2012)* who assess the prevalence, severity and healthcare provider consultation rate of female urinary incontinence among outpatients at Kenyatta National Hospital. He found that highest percent of women does not seek medical consultation.

Severity of urinary incontinence and Urogenital Distress score among elderly women pre and after program

The result revealed that there was highly significant difference in mean score of severity and Urogenital distress after program implementation These may be due to the most of the women practice lifestyle modification such as Kegel exercise ,follow guidelines regarding diet ,fluid intake caffeine consumption and, managing constipation moreover the women have strong desire to get rid of these problems . This result in the same line with *Virtuoso, and Mazo,(2013)* they examine the modifiable risk factors of urinary incontinence in 200 elderly women and found that The symptoms of urgency can be softened by regular physical exercise. Through a healthy lifestyle can minimize the number of modifiable factors in the genesis of urge urinary incontinence. This result is consistent with *Wyman, Burgio,and Newman,(2009)* explained that counseling the patients about lifestyle modifications, including the establishment of normal voiding intervals, elimination of bladder irritants from the diet, management of fluid intake, weight control, management of bowel regularity and smoking cessation were most effective in treatment of overactive bladder and urgency urinary incontinence

Lifestyle patterns before and after the pre and after lifestyle modification program

The finding of the present study showed that the all incontinent women follow a healthy lifestyle pattern at post-program implementation .this may be due to the incontinent women have strong desire to control a negative consequence of incontinence problems, as well as they, gain self-confidence after decrease frequency of leakage due to practices certain healthy lifestyle . This result is consistent with *De Gagne et al,(2015)* they develop, implement and evaluate a urinary incontinence self-management program for community-dwelling women aged 55 and older with urinary incontinence in rural South Korea. They found there were significant changes in the frequency, quantity, and mean overall impact on daily life before and after the intervention.

The result revealed the highest observed lifestyle change was Physical activity and exercise. This related to the researchers more emphasis on Kegel exercise throughout program implementation as well as the most of the women suffer from increased frequency of micturition during physical activities. This result is agreement with

Smith et al, (2010) they measure the prevalence and correlates of UI in a cross-sectional sample of 572 older Latinos participating in Caminemos. They found that an association between physical exercise and lower UI rates. Also, the highest significant changes in lifestyle were observed in fluid intake and body care, hygiene, and clothing this may be due to maintaining healthy fluid intake, it is easy to carry out it as well as most of the women have been suffering from restriction in the amount of fluid intake lead to increase frequency of leakage before starting medical consultation . This result is consistent with *Soda, et al, (2010)* they explained that Controlled fluid intake, such as restricting fluids in the evening, and night-time toileting might reduce UI symptoms in the elderly people .Concerning to body care, hygiene, and clothing, the result reflects that the most of the incontinent women insist on paying attention to body hygiene and clothing .this may be due to the women perform prayers (prayer - reading Koran)that require purity and cleanliness of body clothing. ,lessen embarrassment and shame during social event to preserve their self-esteem by wearing dark long dress, additionally to lessen financial burden from purchase sanitary pads .this explanation is agreement with *ALBader,(2012)* they explain particular problem for Muslim women with UI is the inability to perform daily prayers (Salat) Salat is a spiritual activity that requires cleanliness of body .Also, the result and explanation are similar to *Teunissen, et al, (2009*) they explained that women with urinary incontinence problems experience shame, so they hiding the problems from other and have been pay attention to cleanliness for their body, wearing certain clothes. Clothes that after urination it cannot be seen. This in a way makes them to always wear black clothes.

Impact of Urinary Incontinence on the Elderly Women's Life

The result explained that the urinary incontinence has a moderate impact on the elderly women life this may be due to all women not suffering from another chronic disease more over they have support from other family members. Concerning to home life there was modern technology such as (vacuum – washing machine) helping in performing house activity and most of the women have been organizing homework. As regarding hygiene, the Egyptian women insist on performing spiritual activities so that they pay attention to cleanliness their bodies and houses, frequent changing clothes, bed linen additionally the women have an embarrassment in choosing a dress. About the social life, the urinary incontinence limited the women social activities such as shopping,

visiting friends, relatives. Most of the women refuse to travel for long distance. Regarding sexual life the urinary incontinent leading to limit sexual life. This result is similar to *Jokhio, et al,(2013*) they estimate the prevalence of urinary incontinence (UI)and its subtypes in women in rural Pakistan, associated factors, severity and impact on daily life. They found that near half (45%) of women saying that it had a great or moderate impact overall.

Finally about Practice physical exercise "Kegel exercise " the result explained that there was a highly significant difference between pre and post program this may be due to women are motivated to practice Kegel exercise during program implementation, as well as practicing kegel exercise easy to carry and not taken a long time to carry out it. This result is consistent with *Cavkaytar, et al,(2014)*they assess the effects of home-based Kegel exercises in women with stress and mixed urinary incontinence. A total of 90 women with aerodynamically proven urinary stress (SUI) and mixed incontinence in the uro- gynecology clinic of Ankara Zekai. Turkey. They found that a statistically significant improvement in pelvic floor muscle strength in the Oxford scale after Kegel exercises. Also, the result refers that practice of Kegel exercise have a moderate and severe impact on the women quality of life this may be due to the practice of exercise strength the pelvic muscle floor so decreases the frequency and amount of urination.

This result is similar to Pang, Leung, *Chan, and Yip,(2005)* they determine the prevalence of female urinary incontinence in Hong Kong and its impact on quality of life. They found practice physical exercise has moderate effect on the quality of life

Quality of life among elderly women with urinary incontinence before and after lifestyle modification. The result denote that there was a significant improvement in the mean score of quality of life past lifestyle modification .this may be due different factors such as the women were starting treatment and engage in active process of lifestyle change in daily living activities more over the women gain self-control for incontinence, accepting the condition, expressing their feeling to treatment team and researchers, knowing that their condition is normal part of aging process . All these factors leading to decrease shame, embarrassment and improving psychological status. This result is consistent with *Bromley, and Cook, (2011*) found that at the final of 8 weeks of behavioral interventions for incontinent women, the subject reported that she felt 'totally in control' of her urgency symptoms and was 'delighted' with the outcome. She had stopped wearing a pad, and although she very occasionally leaked urine if she rushed to the toilet with a full bladder, this did not have a negative impact on their quality of life.

This result is in the same line with *Imamura, et al, (2015)* they determine the effectiveness of specific lifestyle interventions (i.e. weight loss; dietary changes; fluid intake; reduction in caffeinated, carbonated and alcoholic drinks; avoidance of constipation; stopping smoking; and physical activity)in the management of adult urinary incontinence. They found the lifestyle change is effective in reduction urinary incontinence beside medical treatment.

Psychological well-being among elderly women with urinary incontinence before and after lifestyle modification

the finding of the present study explained that there was a significant difference in the mean score of psychological well-being after program implementation this may be related to the women have been engaging in lifestyle change with following medical advice, thus leading to decrease the frequency of leakage, lessen shame and anxiety associated with incontinent. Additionally, most of the women have a self-efficacy regarding controlling incontinence outside the home (shopping, visiting the holy place. This leading to decrease social isolation, loneliness and sadness and enhancing psychological condition among women in the present study. This result is similar to *Sharaf , et al,(2010)* and Wyman, *Burgio, and Newman,(2009)* they illustrated that counseling the patients about lifestyle modification and applying nursing intervention for women with incontinence have a positive outcome in psychological aspect for incontinent women . This result is similar to *Brown, et al,(2009)* they examined whether an intensive lifestyle intervention or metformin therapy among overweight pre-diabetic women was associated with a lower prevalence of incontinence. They found that women at high risk for diabetes who were randomly assigned to an intensive lifestyle intervention involving weight loss and exercise had a substantially lower prevalence of stress urinary incontinence

Conclusion

The present study concluded that:

Lifestyle modification has a positive impact on quality of life and psychological wellbeing in women with urinary incontinence in present study

Recommendation

The present study recommended that :Further research that highlighted barriers that prevent the elderly women from going for help seeking with urinary symptoms

Providing counseling services in clinic to counsel women on how to best incorporate lifestyle modification into their lives in order to manage incontinence

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Tables

Table (1) Demographic data of women with urinary incontinence (N= 190)

Items	*No*	*%*
Age (in years):		
<40	**20**	**10.5**
40 -	**69**	**36.3**
50 +	**101**	**53.2**
Marital status:		
Single	**30**	**15.8**
Married	**101**	**53.2**
Divorced	**20**	**10.5**
Widow	**39**	**20.5**
Occupation :		
Working	**90**	**47.4**
House wife	**100**	**52.6**
Educational level:		
Illiterate	**20**	**10.5**
Read and write	**70**	**36.8**
Intermediate	**60**	**31.6**
University	**40**	**21.1**
Family Income/ month:		
Sufficient	**33**	**17.4**
Insufficient	**157**	**82.6**
Living with:		
Alone	**30**	**15.8**
children	**19**	**10.0**
husband	**81**	**42.6**
husband and children	**60**	**31.6**
Number of children:		
No children	**50**	**26.3**
≤ 3	**60**	**31.6**
≤ 6	**60**	**31.6**
≤ 9+	**20**	**10.5**
Mean=3.47 ± SD 2.97		
Body Mass Index:		
Normal weight: 20- 25.9kg/m	**50**	**26.3**
Over weight: 26- 29.9kg/m	**28**	**14.7**
Grade I obese: 30- 34.9kg/m	**96**	**50.5**
Grade II obese: 35- 39.9kg/m	**0**	**0.0**
Grade III obese: ≥ 40kg/m	**16**	**8.4**
Residence place		
Urban	**133**	**70**
Rural	**57**	**30**

Table *(2)* Details of urinary incontinence in elderly women *(N= 190)*

Items	**UI** *No*	*%* *%*
Duration of incontinence		
<1 year	**33**	**17.4**
1 < 2 years	**100**	**52.6**
2 - 5 years	**57**	**30**
Type of incontinence		
Urge	**52**	**27**
Stress	**59**	**31.5**
Mixed	**79**	**41.5**
Frequency of leakage		
About once a week or less	**70**	**36.8%**
Two or three time day	**28**	**14.7%**
Several times a day	**92**	**48.5%**
Time of leakage		
Mainly during the day	**145**	**76.3%**
Day and night	**40**	**21.1%**
Mainly at night	**5**	**2.6%**
Irritating factors		
Straining activities (laughing, coughing, sneezing)	**120**	**63.1**
Physical exertion (exercise, positional changes, lifting	**30**	**15.7**
Stimulating activities) hand washing	**24**	**12.6**
Both Straining and Exertional activities.	**16**	**8.6**
Quantity of the leakage		
Few drops	**5**	**2.6**
Moderate volume	**70**	**36.8**
Large volume	**115**	**60.6**
Medical consultation		
With any doctor	**79**	**41.6%**
Gynecologist	**40**	**21.1%**
Family physician	**36**	**18.9%**
Urologist	**27**	**14.2%**
Nurse	**5**	**2.6%**
	3	**1.6**
T**reatment**		
Popular Recipes	**95**	**50%**
Medication	**60**	**31.6%**
Surgery	**11**	**5.8%**
Pelvic exercise	**24**	**12.6**
Success of treatment		
Successful	**61**	**32.1%**
Partially successful	**60**	**31.6%**
No response	**69**	**36.3%**

Table (3) Severity of urinary incontinence and Urogenital Distress score among women before and after life style modification

Item	Preprogram			Post program			
	mean	SD	T	mean	SD	T	P values
Impact of urinary incontinence							
Mild impact: 0 :<7	3.16	1.68	13.28	4.13	1.41	27.40	.000
Moderate impact : 7 : <14	9.00	1.96	41.o3	10.75	1.85	45.18	.000
Sever impact : 14 : 21	16.100	1.70	73.16	18.00	1.71	67.10	.000
Urogenital Distress							
Mild :0:<6	2.25	1.43	13.19	3.30	1.04	25.52	.000
Moderate: 6:<12	7.48	1.05	67.53	8.68	1.01	85.61	.000
Severe : 12:18	14.56	1.88	42.26	15.96	1.54	51.79	.000

Table (4) Mean scores of Lifestyle patterns before and after the pre and after life style modification program

Life style items	Pre program		Post program		T test	P value
	No	%	No	%		
Fluid intake					0.200	000
Healthy life style	60	31.6	120	63.2		
Unhealthy life style `	130	68.4	70	36.8		
Diet					0.152	.003
Healthy life style	85	44.7	136	71.5		
Unhealthy life style `	105	55.3	54	28.5		
Weight reduction					0.110	0.147
Healthy life style	72	37.8	115	60.5		
Unhealthy life style `	118	62.2	75	39.5		
Physical activity and exercise					0.252	.000
Healthy life style	53	27.9	85	44.7		
Unhealthy life style `	137	72.1	105	55.3		
Body care, hygiene and clothing					0.178	.000
Healthy life style	112	59	146	76.9		
Unhealthy life style	78	41	44	23.1		
Environmental modification					0.173	.017
Healthy life style	89	46.8	122	64.2		
Unhealthy life style `	101	53 .2	68	35.8		

Table (5) Impact of Urinary Incontinence on the Elderly Women's Life

items	Pre program		Post program		T	P
	No	%	No	%		
Hygiene						
Slightly	**44**	**23.3**	**55**	**28.9**		
Moderate	**116**	**61**	**95**	**50**	**.218**	**.000**
Severe	**30**	**15.7**	**40**	**21.1**		
Social life						
Slightly	**35**	**18.4**	**50**	**26.3**		
Moderate	**110**	**57.9**	**100**	**52.6**	**4.71**	**.000**
Severe	**45**	**23.7**	**40**	**21.1**		
Home life						
Slightly	**60**	**31.6**	**43**	**22.6**		
Moderate	**95**	**50**	**118**	**62.1**	**-2.32**	**.021**
Severe	**35**	**18.4**	**29**	**15.3**		
Sexual life						
Slightly	**30**	**15.7**	**33**	**17.4**		
Moderate	**11 8**	**63.2**	**120**	**63.2**	**3.06**	**.002**
Severe	**40**	**21.1**	**37**	**19.4**		
Practice physical exercise Kegel exercise						
Slightly	**0**	**0**	**40**	**21.1**	**37.58**	**.000**
Moderate	**0**	**0**	**95**	**50**		
Severe (highly)	**0**	**0**	**55**	**28.9**		

Table (6) quality of life among elderly women with urinary incontinence before and after life style modification

Item	Preprogram			Post program			
	mean	SD	T	mean	SD	T	P values
Not at all 88≤ 110	90.90	2.79	152.66	99.17	6.18	102.68	.005
A little 66 < 88	73.10	6.11	65.52	80.66	4.09	132.12	.000
Moderately 44<66	53.05	6.79	66.21	58.10	4.84	89.73	.000
Quite a bit 22<44	32.75	6.51	37.61	37.04	4.31	41.20	.000
Extremely 1<22	11.30	5.33	6.69	15.68	3.61	21.69	.000

Table (7) Mean score of psychological well being among elderly women with urinary incontinence before and after life style modification

Item	Preprogram			Post program			
	mean	SD	T	mean	SD	T	P values
Serious discomfort :0: 60	31.12	17.44	11.28	25.75	14.23	14.01	.001
A moderate malaise: 61 : 72	66.54	3.26	218.28	67.74	3.46	205.19	.005
Positive welfare :73 :110	87.08	11.53	44.66	99.90	6.91	64.63	.000