

## **Not Only Depressed. A Pilot Study on Quality of Life of Women with Urinary Incontinence**

Paola Manfredi<sup>1</sup>, Vera Pagani<sup>1</sup>

<sup>1</sup> (Dynamic and Clinic Psychology, Department of Clinical and Experimental Sciences, University of Brescia)

---

**ABSTRACT:** *The urinary incontinence syndrome is a common disease, whose etiology is still unclear. The survey of psychological variables generally highlights a poverty quality of life, depressive features, and difficulties in sexual life. The goal of this pilot study – sample of 97 women with urinary incontinence - is to give these patients a more complex picture, evaluating aspects of pain (depression and other mental illness indicators, alexithymia, sex life), but also investigating if there are good aspects in their life which act as counterweight. It 's so emerged as the patients lead a healthy life and have generally good relations, it is a good couple relationship, both good relationships with parents and have different interests in life. In particular, the women with self-interest are not depressed and have no traits of alexithymia. It is so important in clinical practice to not take for granted the presence of a psychological suffering and rather encourage patients to cultivate self-interests.*

**Keywords:** *urinary incontinence, women, quality of life, depression, mental health.*

---

### **I. INTRODUCTION**

Urinary incontinence (stress, urge, mixed and overflow incontinence) is defined as involuntary leakage of urine [1] and it has been recognized by the WHO to be one of the current and most important health problems. It is between a common condition whose prevalence can range widely between 12.8% and 46.0% [2]. It can be stated that approximately 250 million people are regularly incontinent of urine in the world population [3]. As regards the studies on Italian samples can be seen a prevalence of UI around 11% for 50-years-old women [4] and around 16.4% for women with an age of 65 years and over [5]. Urinary incontinence is not a disease which could lead to a life-threatening condition, but it is well recognized that can significantly decrease quality of life (QOL): the women with UI are likely to show poorer lower extremity physical functioning and that disability is a multifactorial combination of behavioral, psychological and environmental factors, and not only functional. As described in the literature, the women suffering from UI have worse quality of life (QoL), with more difficulties to perform activities of daily living such as moving about, washing them-selves, or getting dressed, and with a greater perception of pain or discomfort and of anxiety or depression [6, 7, 8, 9, 10,11].

#### **1.1. The quality of life**

The concept of quality of life is certainly complex, over determined and declined in several areas. As it regards the health is central the definition of Health (Health) of the WHO Constitution of 1948 con Ottawa Charter for Health Promotion. WHO, Geneva, 1986. The WHO constitution states: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Quality of life concerns the way in which individuals are expected compared to the cultural context, the value system in which they live and respect for their goals, expectations, standards and interests. Therefore takes into account the level of independence, social relationships, personal beliefs and relationship with the salient features of the environment. The physical and psychological health of each individual. In particular the mental health is more than just the absence of mental disorders or disabilities. Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community.

There are various indicators and measures of quality of life; the first objective indicators were economic and social type, since the seventies are added indicators the measurement of psychological well-being or personal satisfaction [12]. A particular field is the application of the concept of quality of life in populations with diseases. Also with regard to urinary incontinence, it is a common practice: 80% Continence specialists routinely assessed QoL [13]. Although there are the measures of clinical parameters, such as the frequency Of incontinence episodes, and various urodynamic measures, the importance of evaluating patient reported outcomes is becoming more widely recognized [14]. A particular field is the application of the concept of quality of life in populations with diseases. Also with regard to urinary incontinence, it is a common practice: 80% continence specialists routinely assessed QoL. [13].

Although there are the measures of clinical parameters, such as the frequency of incontinence episodes, and various urodynamic measures, the importance of evaluating patient reported outcomes is in fact becoming more widely recognized[14].

There are generic questionnaires that measure general health-related quality of life (HRQOL) and provide a general assessment of the patient's overall; for example the Medical Outcomes Study Short-Form 36-Item Health Survey(SF-36), EQ-5D-5L[15, 16].

Among the specific instruments were also obtained: "King's Health Questionnaire (KHQ)", the Urogenital Distress Inventory short form (UDI-6) and Incontinence Impact Questionnaire short form (IIQ-7) [17].

The I-QoL was the best performing instrument and is recommended as a continence-specific measure of quality of life in a clinical trial setting. Although the majority of continence specialists used structured questions (41%) many of which were non-standardized single items (26%) or locally developed questionnaires (19%). Only 22% used standardized patient-completed questionnaires such as the King's Health Questionnaire and the Incontinence Quality of Life questionnaire[13].

Therefore the instruments are different and numerous Certainly the goals may be different: the more the indicators tend to be much more objective provide elements for evaluation of the effectiveness of medical care, but on the other hand the reduction or absence of physical limitations associated with the disease, does not amount to a good quality of life as perceived by the various parties.

The presence of a limit, for example, in everyday life it is not hear say unalterable way to the weight that it has in the subjective perception of quality of life. The quality is determined not only by the presence of negative data (limits, symptoms), but also by the positive resources, by the force elements. (This change in perspective has entered a long time in the psychological view, but less in medicine).

## **1.2. Depression**

Among the disorders and the symptoms most frequently found in women who suffer from urinary incontinence a central role has depression. There are many studies, even with remarkable samples, which detect the presence of depression (depressive symptoms, history of depression, mild, moderate, or severe depression) in patients with different types of incontinence (LUTS, urgency, mixed, stress) [18-23]. While noting that the prevalence of depression is higher in women with urinary incontinence at a young age (no more than 40 years) [24,25] compared to more mature women [24], the percentages are quite different across studies, for example, 11.45% [26] and 37% [24]. Vigod and Stewart [25] in their study have shown that the prevalence of depression was 15.5% in women with urinary incontinence (30% in women ages 18-44) and only 9.2% in women without urinary incontinence while Yazdany, Bhatia and Reina [27] recently claim that 20.4% of women in the incontinent group had severe depression. If you enlarge the focus also on anxiety, Choi, Lam, Chin [28] found that 17.7% of subjects with lower urinary tract symptoms (LUTS) reported depressive symptoms, 24,3% anxiety symptoms and 9,6% stress symptoms. In a random sample of women aged 40 years or more a significant proportion of women with urge incontinence reported symptoms of anxiety (56.6%) and depression (37.6%) [29]. Beyond the different prevalence rates of depressive disorder, what is even more important is the degree of association, which is found between depression and incontinence: in some studies it is more or less weak and in others moderate [21, 24, 26]. Another significant element is that in older studies the relevance of depression did not emerge. For example, in the study of Di Chiara et al. [30] the patients suffering from urge incontinence showed higher degrees of inner anger and anger trait than those suffering from stress or mixed incontinence, but neither group showed signs of depression. Even Zorn et al. [31] revealed an history of depression or an abnormal Beck depression inventory in 60% of patients with idiopathic urge incontinence, but the patient with stress or urge incontinence due to neuropathology or obstruction had no greater odds of having depression than continent controls.

Objective grasp aspects related to the quality of life that go beyond or transcend the disease. The aim of this study is to highlight some psychological factors that can shape the quality of life of patients (regardless co-etiological factors). Without underestimating the presence of psychological disorders, the intent is to give a broader picture by enlarging the survey also to other dimensions, positive or negative. In particular are considered significant for the assessment of psychological well-being or a good quality of life and the absence of psychological symptoms of (other) physical disorders, somatizations, good relations, in particular the one with the partner but also the parental relationships, the affective regulation, satisfaction with respect to the studies and work, the ability to find enjoy able activities and to perform daily activities with interest.

## II. METHODS

### 2.1. Setting

This study was conducted in the outpatient urology department of the Brescia Civil Hospital, in the northern Italy.

### 2.2. Participants

Participants consisted of 97 female patient aged between 23 and 68 years old ( $M = 44.96$ ;  $SD = 11.46$ ). The inclusion criteria of patients is the presence of UI (stress, urge, mixed, functional and overflow incontinence). Women who had UI due to tumors were excluded, but patients with prolapsed were included. Concerning education, 5 had attended primary school, 23 middle school, 38 had a high school degree, 10 a diploma and 21 a university degree. As regards marital status we registered that 69 women were married, 10 were single, 4 widow, 2 separated, 7 had a common-law husband and 4 were divorced. Finally, the data on urinary incontinence show that 60 women suffering SUI, 12 UUI and 16 mixed urinary incontinence (MUI). Through statistical analysis significant differences were not found among patients with these different types of disease. When measuring how long these women suffer from UI it can be seen that the average is 5 years.

### 2.3. Instruments

Ad hoc questionnaire has been prepared to collect socio-demographic information, data on the disease (diagnosis and dating of the early symptoms), menstrual cycle (current and previous), eating habits, consumption of wine or alcohol and smoking, reported by literature as predisposing factors for the onset of the disorder.

Furthermore, schedule 4 of the Cognitive Behavioural Assessment 2.0 (CBA – 2.0)[31] have been used to investigate the parental and current sentimental meaningful relationships. Particular attention is given to the sexual life of patients and any changes in their romantic relationships. It is required to indicate significant events - in the case that may have occurred traumatic events - the presence of psychological disorders and not; furthermore the dysphoric aspects and positive attitudes are investigated.

The couple satisfaction was evaluate by the use of Dyadic Adjustment Scale – Short Form (DAS – 7) [32]. It consists of 7-item Likert scale with 6 response categories, which assess consensus (three items), cohesion (three items) and dyadic satisfaction (one items). The presence of psychological symptoms has been detected through the Symptom Checklist -90-R Derogatis [33], which is a self-report instrument widely used in clinical and research. The nine subscales that comprise it are: somatization, obsessive-compulsive behaviors, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism.

Finally, the study was conducted also using the Toronto Alexithymia Scale (TAS-20) [34], which is a self-report scale consisting of 20 items that are grouped around three factors: 1) difficulty in identifying and distinguishing feelings and physical sensations; 2) difficulty in describing feelings; 3) externally oriented thinking. The questionnaire, whose Italian translation was edited by Bressi et al. [35], is based on a five-point Likert scale.

### 2.4. Procedure

After obtaining the consent from the referent authority, during regular visit at the outpatient department, health personnel proposed to the female patients to participate at the research and to fill out questionnaires closed in an envelope. It was not required to report personal data and the completed questionnaires, closed in an envelope, were returned by patients, placing questionnaires in a box. In this way were protected the privacy of the data. Patients could complete the questionnaires privately. In this way not only there was a privacy protection, but the medical staff was not even informed about the patients who had joined the search.

### 2.5. Statistical analysis

Statistical analysis was performed using SPSS 22.0. It was preferred to use non-parametric tests, respecting the nature of the data, which are for the majority ordinal data, but, according to common practice, parametric analyses were used when conditions allow.

## III. RESULTS

The quality of relationships has been investigated going to assess the current relationship of the couple and the parental relationship.

As it regards the first, 90.7% has a stable relationship, evaluated positively by 69% (good 37.1%, very good 28.9%) of the sample and negatively by 11.3%. In the Das-7 evaluation happiness in the report is low, only 7.2% (extremely unhappy and moderately unhappy) while 33% feels happy, 20.6% very happy, and 13.4% feels extremely happy or in perfect harmony. The result of dyadic satisfaction (item 7) show that 67% of the samples define the degree of happiness in their relationship from “happy” to “perfect”. Significant negative correlation

emerge between the quality of the relationship with the partner and decreased sexual desire ( $r_s(97) = .31, p < .01$ ) and positive correlation between the quality of the relationship and the couple happiness ( $r_s(97) = .46, p < .001$ ). However, there isn't statistically significant correlation between the decrease of the sexual desire and the couple happiness.

The other items of DAS-7 indicate that the women in our sample present high couple agreement not only on the consensus (philosophy of life, values, time spent together), but also on the cohesion, which is expressed as frequency of couples activities (work activities, discuss something together, exchange of ideas). Over time, this relationship would then have remained stable and even increased some positive characteristics, such as a feeling of closeness, dialogue, complicity; the feature that has grown more over time and is linked to "esteem and respect" (35%). With regard to the evaluation of the relationship with the mother, 34% believe it is fair and 56.4% good. A similar assessment is expressed with regard to the relationship with father, 36.5% fair and 49% good. No significant correlation between the quality of the couple relationship and the parent.

Lifestyle habits show a positive situation. The results regarding the eating habits indicate that just over half of the sample makes breakfast and eat to the main meals, although this is the overwhelming choice only for 35.1% of the sample. Over a third of the sample acknowledges to eat quickly (42.3%), and 34.1% eat between meals. Smaller percentages recognize to eat more or less if tired and nervous, while almost half the sample (46.2%) states that want to eat less in the future. As for smoking, 80.4% did not smoke, 17.5% stopped smoking, and only 15.4% smokes a lot. In relation to consumption of alcohol, 66% of women in the sample does not drink or drink only during the festivities; 29.9% drink at meals and only 2 persons happened to get drunk.

One of the open questions suggested to list what is pleasant for women and the questionnaire included the option of entering up to five answers.

Specifically, 67 people indicate an investment on object relations, principally affecting members of the restricted or extended family (grandchildren); overrepresented (101 responses) are the artistic interests and creative dimension (from dance, to decoupage, from painting to music, knitting or embroidery); travel (29 responses), sports (25 responses) and physical activities such as walking (20 responses). Several interesting elements are highlighted with respect to this variable. The indication of interest regarding concrete activities, programmable and manageable is positively associated with the presence of depression ( $r_s(97) = .237, p < .05$ ) and negatively with the dating of the first symptoms ( $r(97) = .240, p < .05$ ): Women who experience more interest occurred earlier to the outpatient urology department. The number of interests correlates negatively ( $r(97) = .237, p < .05$ ) with the third factor of the TAS-20 relative to the externally oriented thinking. There are no significant correlations between the type or the numerosity of interests and scales of the SCL and even between the interests and the type of incontinence. The presence of a psychological suffering nor does not correlate with the presence of personal interest or with the existence in the pair of common interests.

Important events include painful ones, such as bereavement, illness, separations, but also positive events such as weddings, births and graduations. Satisfaction with the course of studies and respect at work is quite good for 54.6% of the sample, very much for 16.7%, and negative (for nothing or little) for 8.1%.

Comparing the distribution of data relating to SCL 90-R scale with the reference population, the results show that the somatization scale is okay (absent and normal) in 78.4% of the sample; obsessive behavior is also normal in 74.2% of the sample; higher is the percentage of the normal sample compared to anxiety (79.4%), hostility (77.3%), phobic anxiety (83.5%) and the distress (77.3%); the percentage of the sample on psychoticism scale (73.5%) and severity index (72.2%) are around 70%. Instead, the individual hypersensitivity scale has a third of the sample in the situation of moderate and high suffering, less than a third of the subjects is depressed (28.9%); similar is the percentage of subjects with paranoid ideation (30.9%) and a slightly higher percentage of patients with positive symptoms (34%). In particular, the sample of adult young people with incontinence problems, (numerically limited) does not differ from the population, while the sample of adult women with urinary problems differs as regards the hypersensitivity ( $t(97) = 2.28, p < .05$ ) and depression ( $t(97) = 2.17, p < .05$ ).

Each item related to sexual difficulties had provided 4 point Likert scale without mid-point (0 = no; 1 = for months; 2 = for years; 3 = always). This kind of items has found a strong drop-out: from 15 to 26 women do not respond to the proposed questions. This is particularly surprising when we consider the specific nature of the medical problem and the research context: questions are certainly intimate, but it should not have been disregarded. A narrow range (10-15%) of the sample reveals wider disturbances in sexuality (too brief reports, annoyance and lack of interest for the partner). Concerning, in particular, sexual desire, it is important to highlight that, although 22 subjects did not respond, and 18.7% of the sample declares an absence of sexual desire (10.7% = for months; 8% = for years), the decrease of the same interests 43.9%. (15 subjects do not respond and 36, out of a total of 82 respondents, say they suffer this discomfort). Given the limited numerosity of data, it can't propose a detailed investigation, however, is already very significant narrative information according to which only 14.4% of the sample believed that their sexual life is completely satisfactory. However, it remains to point out that 47.4% of the sample does not detect a decrease in sex drive and 46.4% say they have



relationships with sufficient regularity, although fully satisfactory relations are experienced by a very small number (14.4%).

Regarding TAS-20 the distribution is comparable to the reference population with the exclusion of the third factor. In fact, the sample reports a higher level of operating-concrete thought ( $M = 18.94$ ,  $SD = 4$ ) that significantly differs ( $t(97) = 4.55$ ,  $p < .001$ ) from the Italian healthy normative population [36]. In addition, the third factor positively correlates with age ( $r(97) = .24$ ,  $p < .05$ ).

#### IV. CONCLUSION

This study allows us to highlight aspects a little different than those psychological variables routinely assessed in women with urinary incontinence. These women enjoy an healthy life: do not drink, do not take drugs, do not smoke. Of course also in this sample depression is present. However, such data is not common to all patients and the presence of elevated levels of depression affecting a small percentage of patients. It is important to remember that the studies on prevalence of common psychiatric disorders in primary care reported a prevalence of 12,4% for formal disorders and a range from 11% to 18% for sub-threshold disorders [37]. This should not lead to underestimate this condition of suffering, but rather to avoid the disrespectful simplification that woman suffering from urinary incontinence is also a depressed woman.

Respect to the evaluation of sexuality, which certainly contribute to a more or less good quality of life, it should be noted that it is a critical area not only in relation to the regularity of sexual intercourse, but in terms of the satisfaction of the same.

However, a fact that it seems important to highlight is that the presence of aspects of suffering does not go completely to influence the picture that these women have of their lives and of themselves. The women of the sample are, in fact, capable of cultivating interests, to find enjoyable activities and occupations, and the large number of their interests coexists with the presence of depressive traits.

It should also be noted that the possibility to identify more specific areas of interest, managed independently, in some way less dependent on the availability of other, would seem to have some kind of buffer function for depression. This may be an issue to consider and propose to women with urinary incontinence presenting signs of depression. From a clinical point of view, this is congruent with the mental functioning of people with depression. In fact, the "fear of self-gratification", or an inability to obtain self-esteem or pleasure through their own efforts rather than by means of another dominant, is a constant trait in depressed patients. The goal of the depressed is looking for love and acceptance and the success is permitted only if it is according to the wishes of the parents [38]. Pursuing the self-satisfaction is therefore a positive signal in the direction of health. Also in this direction should also read the negative correlation with self-interest and the externally oriented thinking (TAS-20 third factor). The self-interests often have a concrete expression, rather than the search for new friends or cultivate the affections, but generally involve symbolic thought, like paint, play the piano, embroidering, knitting or dance.

This work has all the limitations of a pilot study: it requires a larger sample and a greater focus on the investigation of the interests cultivated by women, both in terms of quality and time invested. However, it allows to approach the patients with a greater openness, which aims to capture the positive aspects and not just the limits. This an attitude which can help people, especially if that is depressive fragility. It is also clear indication of utilities to propose and to encourage patients to nurture personal and self-interest.

#### ACKNOWLEDGMENTS

The authors are grateful to the patients and outpatient urology department participating in this study.

#### REFERENCES

- [1]. P. Abrams, L. Cardozo, M. Fall, D. Griffiths, P. Rosier, U. Ulmsten, P. Van Kerrebroeck, A. Victor, and A. Wein, The standardisation of terminology in lower urinary tract function: report from the standardisation sub-committee of the International Continence Society, *Urology*, 61(1), 2003, 37-49.
- [2]. R. Botlero, D.M. Urquhart, S.R. Davis, and R.J. Bell, Prevalence and incidence of urinary incontinence in women: Review of the literature and investigation of methodological issues, *International Journal of Urology*, 15(3), 2008, 230-234.
- [3]. N.K. Beji, A. Ozbas, E. Aslan, D. Bilgic, H.E. Ayyildiz, Overview of the social impact of urinary incontinence with a focus on Turkish women. *Urologic Nursing*, 30(6), 2010, 327-334.
- [4]. A. Bortolotti, B. Bernardini, E. Colli, P. Di Benedetto, G. Giocoli Nacci, M. Landoni, M. Lavezzari, A. Pagliarulo, S. Salvatore, M. von Heland, F. Parazzini, and W. Artibani, Prevalence and risk factors for urinary incontinence. *European Urology*, 37(1), 2000, 30-35.
- [5]. S. Maggi, N. Minicuci, J. Langlois, M. Pavan, G. Enzi, and G. Crepaldi, Prevalence rate of urinary incontinence in community-dwelling elderly individuals: the Veneto study, *Journal of Gerontology*, 56A(1), 2001, 14- 18.
- [6]. R. Kafri, J. Shames, J. Golomb, and I. Melzer, Self-report function and disability: A comparison between women with and without urgency urinary incontinence, *Disability and Rehabilitation: An International, Multidisciplinary Journal*, 34(20), 2012, 1699-1705.
- [7]. M. Rebassa, J.M. Taltavull, C. Gutiérrez, J. Ripoll, A. Esteva, J. Miralles M. Navarro, M.M. Ribot, and J. Llobera, Grupo de estudio de la incontinencia urinaria en Mallorca urinary incontinence in Mallorcan women: Prevalence and quality of life, *Actas Urológicas Españolas*, 37(6), 2013, 354 – 361.

- [8]. M.V. Zunzunegui Pastor, A. Rodríguez-Laso, M.J. García de Yébenes, M.D. Aguilar Conesa, P. Lázaro y de Mercado, and A. Otero Puime, Prevalencia de la incontinencia urinaria y factores asociados en varones y mujeres de más de 65 años, *Atencion Primaria*, 32 (6), 2003, 337-342.
- [9]. K. Franzén, J.E. Johansson, G. Andersson, N. Pettersson, and K. Nils-son, Urinary incontinence in women is not exclusively a medical problem: a population-based study on urinary incontinence and general living conditions, *Scandinavian journal of urology and nephrology*, 43(3), 2009, 226-32.
- [10]. E. MartínezAgulló, J.L. RuizCerdá, L. GómezPérez, P. Rebollo, M. Pérez, and J. Chaves, Grupo de Estudio Cooperativo EPICC. Analysis of overactive bladder and urinary incontinence in working women aged between 25 and 64 years. EPICC study, *Actas Urológicas Españolas*, 34 (7), 2010, 242-50.
- [11]. J. Cambroner, S. Arlandis, C. Errando, and A.M. Mora, Profile of lower urinary tract symptoms in the male and their impact on quality of life, *Actas Urológicas Españolas*, 37(7), 2013, 401-407.
- [12]. D. Felce, and J. Perry, Quality of life: Issues of objective and subjective measurement. *Giornale Italiano delle Disabilità*, 5(1), 2005, 3-14.
- [13]. K.L. Haywood, A.M. Garratt, S. Carrivick, J. Mangnall, and S.M. Skevington, Continence specialists use of quality of life information in routine practice: A national survey of practitioners. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation*, 18(4), 2009, 423-433.
- [14]. B. Schurch, P. Denys, C. M. Kozma, P. R. Reese, T. Slaton, and R. Barron, Reliability and validity of the incontinence quality of life questionnaire in patients with neurogenic urinary incontinence, *Archives of physical medicine and rehabilitation*, 88 (5), 2007, 646-652.
- [15]. K.L. Haywood, A.M. Garratt, R. Lall, J.F. Smith, and S. E. Lamb, EuroQol EQ-5D and condition-specific measures of health outcome in women with urinary incontinence: Reliability, validity and responsiveness, *Quality of Life Research*, 17(3), 2008, 475-483.
- [16]. M.A. Garcia-Gordillo, D. Collado-Mateo, P.R. Olivares, and J.C. Adsuar, Application of EQ-5D-5L questionnaire in patients suffering from urinary incontinence, *Actas Urológicas Españolas*, 40(7), 2016, 457-462.
- [17]. D.M. Bushnell, M.L. Martin, K.H. Summers, J. Svihra, C. Lionis, and D.L. Patrick, Quality of life of women with urinary incontinence: Cross-cultural performance of 15 language versions of the I-QOL, *Quality of Life Research*, 14(8), 2005, 1901-1913.
- [18]. G., Felde, I. Bjelland, and S. Hunskar, Anxiety and depression associated with incontinence in middle-aged women: a large Norwegian cross-sectional study, *International Urogynecological Journal*, 23(3), 2012, 299-306.
- [19]. E. Dugan, S.J. Cohen, D.R. Bland, J.S. Preisser, C.C. Davis, P.K. Suggs, and P. McGann, The association of depressive symptoms and urinary incontinence among older adults, *Journal of the American Geriatrics Society*, 48(4), 2000, 413-416.
- [20]. J.L. Melville, K. Delaney, K. Newton, and W. Katon, Incontinence severity and major depression in incontinent women, *Obstetrics & Gynecology*, 106(3), 2005, 585-592.
- [21]. I. Nygaard, C. Turvey, T.L. Burns, E. Crischilles, and R. Wallace, Urinary incontinence and depression in middle-ages United States women, *Obstetrics & Gynecology*, 101(1), 2003, 149-156.
- [22]. W.D. Steers, and K.S. Lee, Depression and incontinence, *World Journal of Urology*, 19(5), 2001, 351-357.
- [23]. B. Stach-Lempinen, A.L. Hakala, P. Laippala, K. Lehtinen, R. Metsanoja, and E. Kujansuu, Severe depression determines quality of life in urinary incontinent women, *Neurology and Urodynamics*, 22(6), 2003, 563-568.
- [24]. G.D. Mishra, M.S. Barker, G.C. Herber-Gast, and T. Hillard, Depression and the incidence of urinary incontinence symptoms among young women: Results from a prospective cohort study, *Maturitas* 81(4), 2015, 456.
- [25]. S.N. Vigod, and D.E. Stewart, Major depression in female urinary incontinence, *Psychosomatics*, 47(2), 2006, 147-151.
- [26]. G. Tettamanti, D. Altman, A.N. Iliadou, R. Bellocco, and N.L. Pedersen, Depression, neuroticism, and urinary incontinence in premenopausal women: A nationwide twin study, *Twin research and human genetics*, 16(5), 2013, 977.
- [27]. T. Yazdany, and R. Narendar, Astrid association of depression and anxiety in underserved women with and without urinary incontinence, *Female Pelvic Medicine & Reconstructive Surgery*, 20(6), 2014, 349-353.
- [28]. E.P. Choi, C.L. Lam, and W.Y. Chin, Mental health of Chinese primary with lower urinary tract symptoms, *Psychology and Health and Medicine*, 21(1), 2016, 113-127.
- [29]. S. Perry, C. W. McGrother, K. Turner, and M.R.C. Leicestershire, Incontinence study group an investigation of the relationship between anxiety and depression and urge incontinence in women, *Development of a psychological model, British Journal of Health Psychology*, 11(3), 2006, 463-482.
- [30]. G. Chiara, V. Piccioni, M. Perino, U. Ohlmeier, S. Fassino, and P. Leombruni, Psychological investigation in female patients suffering from urinary incontinence, *International Urogynecological Journal*, 9(2), 1998, 73-77.
- [31]. B.H. Zorn, H. Montgomery, K. Pieper, M. Gray, and W.D. Steers, Urinary incontinence and depression, *The Journal of Urology*, 162(1), 1999, 82-84.
- [32]. E. Sanavio, G. Bertolotti, P. Michielin, G. Vidotto, and A.M. Zotti, *CBA-2.0 scale primarie: Manuale. Una batteria a largo spettro per l'assessment psicologico* (Organizzazioni Speciali, Firenze, 1986).
- [33]. J. Hunsley, M. Best, M. Lefebvre, and D. Vito, The seven-item short form of the Dyadic Adjustment Scale: Further evidence for construct validity, *American Journal of Family Therapy*, 29(4), 2011, 325-335.
- [34]. L.R. Derogatis, Symptom Checklist-90-R: *Administration, scoring, and procedures manual* (3rd ed.) (National Computer Systems, Minneapolis, MN, 1994).
- [35]. R.M. Bagby, J.D.A. Parker, and G.J. Taylor, The twenty-item Toronto Alexithymia Scale-I. Item selection and cross-validation of the factor structure, *Journal of Psychosomatic Research*, 38(1), 1994, 23-32.
- [36]. C. Bressi, G. Taylor, J. Parker, S. Bressi, V. Brambilla, E. Aguglia, I. Allegranti, A. Bongiorno, F. Giberti, M. Bucca, O. Todarello, C. Callegari, S. Vender, C. Gala, and G. Invernizzi, Cross validation of the factor structure of the 20-item Toronto Alexithymia Scale: An Italian multicenter study, *Journal of psychosomatic research*, 41(6), 1996, 551-559.
- [37]. M. Menchetti, B. Bertolotti, A. Bombi, and D. Berardi, Epidemiologia dei disturbi mentali nella medicina generale: i risultati delle ricerche italiane, *Noos*, 13, 2007, 201-210.
- [38]. S. Arieti, and J. Bemporad, *La depressione grave e lieve. L'orientamento psicoterapeutico*. (Feltrinelli, Milano, 1981).