

## Selected determinants of quality of life in women with urinary incontinence

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### Abstract

Urinary incontinence (UI) is one of the most common diseases in women. It involves uncontrolled leaking of urine through the urethra. UI incidence depends on age and in certain age groups it can affect up to 60% of the female population. The symptoms can be persistent and due to their embarrassing nature they can lead to significant deterioration of quality of life and psychological functioning. The aim of this study was to investigate the relationship between the quality of life and selected aspects of functioning. Seventy female outpatients of a public clinic in Nałęczów, Poland, were examined, and the following methods were used: the Urinary Incontinence Life Quality Scale (Szymona-Pańkowska, Kraczkowski), Disease-Related Appraisal Scale (Janowski, Steuden), Coping Inventory for Stressful Situations (Endler, Parker), Disease-Related Social Support Scale (Brachowicz, Janowski, Sadowska), and the Knowledge Appraisal Scale for Urinary Incontinence (Szymona-Pańkowska, Kraczkowski). The obtained results suggest that the strongest predictors for the quality of life with UI would be: perception of the disease as an injustice and a challenge (a reverse relationship) and an avoidance-oriented style of coping with stress through companionship seeking (a positive relationship). The duration of the disease and the level of related knowledge proved to be crucial in the analysis of one dimension, i.e. distance to the symptoms.

**Key words:** quality of life, urinary incontinence.

### Introduction

Urinary incontinence (UI) is one of the most prevalent diseases in women. It involves uncontrolled urine leaking through the urethra [1, 2]. Epidemiological data suggest that UI symptoms occur worldwide: in 4-10% of women in their twenties and up to as many as 60% of women in their sixties [2, 3]. The Standardisation Committee of the International Continence Society distinguishes the following types of UI: stress incontinence, urge incontinence (overactive bladder), mixed incontinence, and other types of UI.

The disease is not a life-threatening condition but it severely disturbs somatic, social, and psychological functioning. From the social and subjective point of view, it is a shameful disorder; therefore UI sufferers take long to visit a specialist. Typically, they do not complain of the symptoms because of their shame and embarrassment [4-6], fear of being diagnosed, and fear

of not being understood, critically evaluated, or rejected. Research suggests that women are great procrastinators when a consultation is necessary; they try to find their own ways to deal with the issue by testing various medications. They try to control and hide the symptoms [5]. Scant knowledge is a key factor – many women regard UI as a natural consequence of births and the process of ageing. Sanitary pads easily mask the first symptoms, and the sufferer's close friends acknowledge that such symptoms are natural [6, 7]. Ignoring or hiding the first symptoms leads to worse health (increased symptoms and complications, such as recurring inflammations of the urinary tract).

Urinary incontinence patients often demonstrate a markedly lower quality of life. They lose their confidence, giving up active participation in social and professional life. Worse health brings about discomfort, worse physical and mental state or even depression; it changes the motivation for treatment, causes women

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to give up their career and stay at home [3]. In its late stage the disease decreases the sensory ability to perceive leaked urine and personal hygiene, and as a result UI patients leave a disagreeable odour. The exacerbation of the symptoms is often accompanied by other medical irregularities. It is a source of stress for caregivers and increases treatment costs [8, 9]. Apart from somatic symptoms, UI patients often report their bad psychological state (anxiety and lowered mood) and significant discomfort and embarrassment [3, 5].

The aim of this research was to determine which psychological factors constitute predictors of life quality in women with urinary incontinence. Psychological factors that would account for a particular level of life quality were sought among the following variables: stress coping styles, subjective perception of own disease, perceived social support, and knowledge of the condition. Our study was controlled for the age of the respondents and the duration of symptoms.

## Material and methods

The study was carried out in the Lublin Region, Poland, covering 70 women aged 35-79 showing symptoms of UI. Demographically, 54% of them were females with secondary education, 22% with higher, 14% with vocational training, and 10% with primary education. Their average age was 53.4. Clinically, the study group included 65% patients with stress incontinence, and 35% with urge incontinence or the mixed type. In 61% the symptoms had persisted for 1 to 3 years before the examination, whereas 39% reported to have had the symptoms for a period longer than 3-5 years.

## Methods

1. The Urinary Incontinence Life Quality Scale (Szymona-Pałkowska, Kraczkowski) is designed to measure the level of quality of life in UI patients. It contains 44 statements concerning various difficulties encountered by a sufferer. The statements relate to thoughts and fears, changes in personal and professional life, restrictions, and control. A factorial analysis established three factors that account for 51% of variation in the scale. Factor I, Psychological Well-Being (Cronbach  $\alpha = 0.967$ ), relates mainly to emotional functioning and internal tension that patients may experience relative to their condition. Factor II, Physical and Social Well-Being (Cronbach  $\alpha = 0.945$ ), consists of statements concerning being attractive, enjoyment of life, decreased physical fitness in disease, sense of smell, sexual performance, and restricted social life. Factor III, Independence of Symptoms (Cronbach  $\alpha = 0.829$ ), consists of state-

ments dealing with the technical and descriptive aspect of the experience of symptoms.

2. The Knowledge Appraisal Scale for Urinary Incontinence (Szymona-Pałkowska, Kraczkowski) features 25 statements on urinary incontinence, its causes, predisposing and symptom-promoting factors, and the nature of its treatment. The statements were formulated on the basis of data provided in the literature [1] and pilot studies.
3. The Disease-Related Appraisal Scale (Janowski, Steuden) is a multidimensional questionnaire that measures ways to perceive one's own disease. The scale features 47 items that make up 7 subscales including six themes (Threat, Profit, Obstacle/Loss, Challenge, Harm) and one control subscale labelled Importance. The reliability indicators (Cronbach  $\alpha$ ) for individual scales range from 0.64 to 0.87.
4. The Coping Inventory for Stressful Situations (CISS, by Endler & Parker) contains 48 statements concerning different behaviours that people may use in stressful circumstances. On a 5-point scale, a respondent determines the frequency of undertaken measures. The scores are captured on three scales measuring three stress-coping styles: Task-Oriented, Emotion-Oriented, and Avoidance-Oriented style. The last one can have two sub-components: Distraction and Social Diversion.
5. The Disease-Related Social Support Scale (Brachowicz, Janowski, Sadowska) consists of 30 items. These are affirmative statements dealing with 5 kinds of social support a sufferer can receive: spiritual, emotional, instrumental, material, and informational support. The reliability coefficients (Cronbach alpha) for each subscale are high and range between 0.84 and 0.87.

## Statistical operations

In order to find factors that would substantially account for the quality of life, a stepwise regression analysis was used. The statistical significance of the regression models was tested for four dependent variables: 1) Overall Quality of Life, and three factors for the quality of life: 2) Psychological Well-Being, 3) Physical and Social Well-Being, and 4) Independence of Symptoms. In each of the analysed regression models, the following independent variables were used: stress-coping styles, subjective appraisal of own disease, knowledge of the disease, and types of perceived social support. Also, each model featured age and symptom duration as independent variables.

## Results

The conducted regression analysis proved three independent variables to be statistically significant for the

explanation of Overall Quality of Life (Tables I and II): the perception of one's condition in terms of harm, the perception of the condition as a challenge, and an avoidance-oriented style of coping with stress that involves seeking social contact. A stronger tendency to

perceive the condition as a challenge and harm is associated with a lower score on Quality of Life, while a stronger preference for social contact as a way of dealing with stress correlates with a higher quality of life. Taken together, these three variables account for

**Tab. I.** Results of stepwise regression analysis for dependent variable Overall Quality of Life

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Statistics of change		
				R <sup>2</sup> change	F	F significance
Harm	0.535 <sup>a</sup>	0.287	0.256	0.287	9.241	0.006
Harm Challenge	0.669 <sup>b</sup>	0.447	0.397	0.160	6.386	0.019
Harm Challenge Social diversion	0.739 <sup>c</sup>	0.547	0.482	0.100	4.620	0.043

F = 8.45; p = 0.001

**Tab. II.** Parameters of the regression model for dependent variable Overall Quality of Life

Model	Non-standardised coefficients		Standardised coefficients	t	Significance
	B		β		
(Constant)	214.297			8.278	0.000
3 Harm			-0.382	-2.479	0.022
Challenge			-0.415	-2.710	0.013
Social diversion			0.318	2.150	0.043

**Tab. III.** Results of stepwise regression analysis for dependent variable Factor I Psychological Well-Being

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Statistics of change		
				R <sup>2</sup> change	F	Significance of F
Challenge	0.562 <sup>a</sup>	0.316	0.286	0.316	10.615	0.003
Challenge Social diversion	0.675 <sup>b</sup>	0.455	0.406	0.139	5.632	0.027
Challenge Social diversion Harm	0.743 <sup>c</sup>	0.553	0.489	0.097	4.567	0.045

F = 8.64; p < 0.001

**Tab. IV.** Parameters of regression analysis model for dependent variable Psychological Well-Being

Model	Non-standardised coefficients		Standardised coefficients	t	Significance
	B		β		
(Constant)	88.947			5.961	0.000
3 Challenge			0.648	-3.001	0.007
Social diversion			0.615	2.307	0.031
Harm			0.430	-2.137	0.045

**Tab. V.** Results of stepwise regression analysis for dependent variable Factor II Psychological and Social Well-Being

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Statistics of change		
				R <sup>2</sup> change	F	F significance
Obstacle	0.573 <sup>a</sup>	0.328	0.299	0.328	11.244	0.003
Obstacle challenge	0.676 <sup>b</sup>	0.457	0.407	0.128	5.198	0.033

B = 81.45; F = 9.25; p < 0.001

**Tab. VI.** Parameters of the regression analysis model for dependent variable Physical and Social Well-Being

Model	Non-standardised coefficients		Standardised coefficients	<i>t</i>	Significance
	<i>B</i>		$\beta$		
(Constant)	81.449			12.222	0.000
2	Obstacle		-0.484	-2.991	0.007
	Challenge		-0.369	-2.280	0.033

**Tab. VII.** Results of stepwise regression analysis for dependent variable Factor III Independence of Symptoms

Model	<i>R</i>	<i>R</i> <sup>2</sup>	Adjusted <i>R</i> <sup>2</sup>	Statistics of change		
				<i>R</i> <sup>2</sup> change	<i>F</i>	<i>F</i> significance
Knowledge of UI	0.481 <sup>a</sup>	0.232	0.198	0.232	6.929	0.015
Knowledge of UI Duration of symptoms	0.707 <sup>b</sup>	0.500	0.454	0.268	11.807	0.002

*F* = 10.996; *p* = 0.000

**Tab. VIII.** Parameters of regression analysis model for dependent variable Independence of Symptoms

Model	Non-standardised coefficients		Standardised coefficients	<i>t</i>	Significance
	<i>B</i>		$\beta$		
(Constant)	16.45			6.38	0.000
2	Knowledge of UI		0.564	3.70	0.001
	Duration of symptoms		-0.525	-3.44	0.002

about 55% of variance in Overall Quality of Life. The strongest predictor of the overall score for Quality of Life is the perception of the condition as harm.

Similarly, three independent variables proved statistically significant in the explanation of the variance of Psychological Well-Being (Factor I): the perception of the condition as a challenge, an avoidance-oriented stress coping style (seeking social contact), and the perception of the condition as harm. A stronger perception of the disease in terms of challenge and harm is associated with worse psychological well-being, whereas better coping with stress by seeking social contact implies better psychological well-being. Taken together, these three variables account for about 55% of variance in Psychological Well-Being. The strongest predictor for this variable is the perception of the disease in terms of a challenge.

The following two independent variables proved statistically significant in the explanation of variance in Physical and Social Well-Being: perception of the disease as an obstacle and challenge. This tendency is associated with lower Psychological and Social Well-Being. These two variables account for 45% of the variance in the dependent variable.

The following two independent variables account for variance of the dependent variable Independence of Symptoms: knowledge of the disease and its duration. Greater knowledge of the condition and shorter duration are associated with a greater distance to one's

symptoms of UI. This knowledge accounts for 23% of variance in Independence from Symptoms, while the combination of the two variables accounts for 50% of variance of the result.

## Discussion

The symptoms of urinary incontinence are not directly life-threatening, but they significantly affect the quality of life. Of the clinical manifestations of the disease, the severity of the symptoms is undoubtedly a substantial factor, yet not the only one. The outcomes of this study suggest that also psychological factors are at play, especially perception of one's disease as harm, obstacle, and challenge, a stress-coping style oriented towards social contact, and a patient's knowledge of her disease. A strong perception of the condition in terms of harm and challenge typically implies a worse quality of life, and lower psychical, physical and social well-being. Women who see their condition mostly in terms of harm, i.e. undeserved misfortune, display higher mental and physical discomfort resulting from the experienced symptoms. They experience the symptoms and negative emotions, and their psychological attitude deters them from seeking treatment, leading to isolation.

In many somatic conditions, the perception of disease as a challenge is associated with a better quality of life but prompts the sufferer to struggle with his or

her sickness and to observe the doctor's advice. However, in the case of UI, this study demonstrates a reverse direction of this dependency. The link between the perception of UI as a challenge and a lowered quality of life is likely to be secondary to the nature of the symptoms. Struggling with the symptoms, over which the sufferer has little control, produces a feeling of inefficiency and failure. Women focus their attention on the symptoms, wishing to protect themselves well. This leads to a lower sense of attractiveness, loss of spontaneity, and surrender of personal interests.

A higher quality of life is associated with a deeper knowledge of the disease and an avoidance-oriented stress coping style that involves seeking social contact. The amount of knowledge about the disease facilitates coming to terms with it by using preventive measures that decrease the severity of the symptoms. Those women who choose to avoid the issue by using social diversion manifest a better general quality of life. It seems that these women pay less attention to their symptoms, have a more active social life; they do not withdraw and as a consequence they have a better quality of life.

Contrary to our expectations, the outcome of the study suggests no statistically significant connection between social support and the quality of life with UI. In studies of the importance of social support in the adjustment to living with a disease (in different clinical groups), researchers obtained results suggesting a positive role of social support [10-13]. The lack of such a link observed in the present study may be due to the unique nature of urinary incontinence. Probably, on account of its embarrassing nature, sufferers are less liable to seek social support, which may account for the observed lack of correlation between perceived support and the quality of life.

## Conclusions

1. Psychological variables constitute important predictors for the quality of life in incontinent women.
2. A lower quality of life is associated with a subjective perception of one's disease in terms of harm, obstacle, and challenge.
3. A preference for social diversion as a means of dealing with stress is a predictor for a higher quality of life.
4. More extensive knowledge of the disease and shorter duration of the symptoms turned out to be important predictors for a higher quality of life visible on Independence from Symptoms.
5. No significant influence of social support on the quality of life was found in the female patients with UI.

## Disclosure

Authors report no conflicts of interest.

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