

PAD TEST-BASED ASSESSMENT OF RISK FACTORS FOR NOT APPROPRIATE CONTINENCE PRODUCTS PROVISION IN ITALY: THE DIAPPER STUDY

Hypothesis / aims of study

People suffering from persistent urinary incontinence (UI) not suitable for active treatments can only be managed with properly applied incontinence aids to achieve a 'social continence'. The selection of a well-fitted absorbent product is of utmost importance in order to empower independent and dignified living to incontinent subjects [1]. A thorough patient assessment is an important part of the product selection process in continence care services, and the appraisal of the UI severity is a key aspect of this assessment [2].

The "Determining the Individual Appropriateness in Pads Provision and Enhancing its Realization" (DIAPPER) study has been the largest reported study of its kind aimed to objectively assess and improve the appropriateness of continence products prescription in a very large population of Italian incontinent subjects. Preliminary results in terms of inappropriateness rates before and after pad test-based correction of the products provision have been previously reported [3]. Herein the results of the analyses of meaningful risk factors affecting products appropriateness are reported in order to provide continence professionals with a better insight empowering them to prevent inappropriate pad provision.

Study design, materials and methods

Five Italian continence care services were involved in the study. Overall, 15,385 patients suffering from UI and provided with absorbent products from 01/2012 to 03/2016 were included. All patients/carers have been invited to perform a 48-hour home-based pad test and to fill in a diary with detailed information on their pad usage, as standard of care. Patients had to perform usual daily activity and use their usual pads. The diaries were analysed by continence professionals. The pad usage was defined as appropriate if the maximum absorbent capacity of the product was from 30% to 50% higher than the mean real urine load. A limit of ± 50 ml has been considered in order to define borderline products. To investigate risk factors influencing prescription appropriateness, univariate and multivariate logistic regression analyses were performed using Logit model. Several demographic, antropometric and clinical patients' characteristics have been included in the model. Statistically significant factors at univariate analysis have been included in the multivariate model. Statistical significance has been set at $P < 0.05$.

Results

Overall, 14,493 patients (94.2%) (mean age 78 years, range 5-104; 26% males, 74% females) adequately performed the pad test, using during the study days 98,362 pads.

Overall, 59,017 products (60%) were found to be not appropriate: in particular 51,148 (52%) were found to be inappropriate and 7,869 (8%) borderline. In most of cases (75%), products were inappropriate because too large. Sixty-two percent of the patients were found to use not appropriate products. Statistically significant higher rates of not appropriate usage were observed for products indicated for moderate (82%), severe (83%) and very severe UI (71%).

At multivariate analysis the patients characteristics positively and independently associated to the propensity to inappropriate pad use were younger age (in the range 0-79 years) and age higher than 79 years, male gender, lower body weight, lower waist circumference (≤ 179 cm) and waist circumference higher than 179 cm, lower level of activity, need for assistance (versus autonomy), lower mobility, lower mean pad wearing time (in the range 2.1-14 hours) and mean wearing time higher than 14 hours, lower mean urine load (especially < 500 ml), unhealthier skin status, absence of catheterization and belonging to a northernmost located health district (Figure 1).

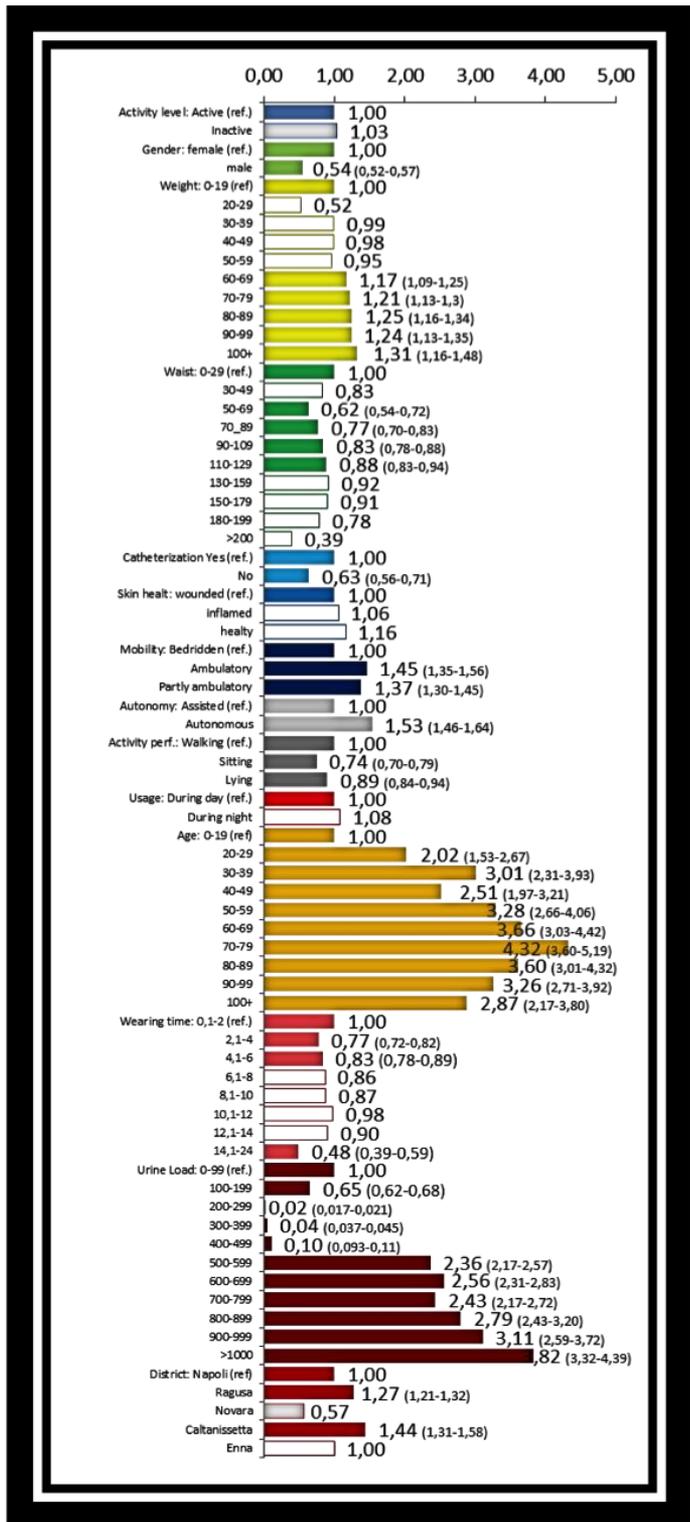
Interpretation of results

The results suggest that younger and male incontinent patients give to the absorbency a higher priority compared to older and female patients and consequently they tend to use bigger products than strictly necessary. Patients with restricted mobility and needing assistance may be provided with too large products in order to reduce the changing frequency and ease the caregivers' work. The association of inappropriateness with lower urine load is justified by the frequent utilisation of a limited proportion of the product's absorbent capacity particularly among patients with light-moderate UI. Patients with very long wearing time had very light UI but were provided with excessively large products. The differences between health districts can be multifactorial: clients' cultural differences, regional health services disparities in resources and methods of products provision, different products costs.

Concluding message

Younger age and lower mean pad weight gain, followed by male gender, need for assistance and restricted mobility and very long mean wearing time are the most significant characteristics associated to inappropriate absorbent product use in incontinent subjects managed with containment strategies. A careful patients assessment, including the pad test with a diary, can enhance continence professionals to provide a well-fitted product avoiding prescription inappropriateness.

Figure 1. Results of the logistic regression multivariate analysis (dependent variable: continence product prescription appropriateness). Solid rectangles indicate statistically significant odds ratio (OR) reported with confidence interval (OR >1 indicating higher appropriateness and OR <1 indicating lower appropriateness than reference, set at 1).



References

1. Cottenden A, Bliss DZ, Buckley B, Fader M, Gartley C, Hayder D, Ostaszkiwicz J, Wilde M. Management Using Continence Products. In: Incontinence. 5th International Consultation on Incontinence, 5th Edition 2013. Editors: Abrams P, Cardozo L, Khouri S, Wein A. p.1653-1788. ISBN : 978-9953-493-21-3
2. Hellstrom L, Ekelund P, Larsson M, Milsom I. Adapting incontinent patients incontinence aids to their leakage volumes. Scand J Caring Sci 1993;7(2):67-71
3. Sacco E, Bientinesi R, Gandi C. Objectively improving appropriateness of pads prescription to patients with urinary incontinence: the pad test-based study. Neurourol Urodyn 2016;35(S4):S460-S461

Disclosures

Funding: This study was supported by Fater S.p.A., supplier of the continence products. Marcello Ricci and Claudio Cimmino, Scientific Committee of S.I.Ria. (Italian Society of Rehabilitation, sponsor of the research), provided a fundamental support for study planning and implementation. Data Analysis by Gianrocco Pironi, ALES MARKET RESEARCH S.r.l.. Sacco E. received

consultancy fees from Fater S.p.A. **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** All the study procedures have been performed as standard of care. **Helsinki:** Yes **Informed Consent:** Yes