A new curriculum to improve the "quality of life" for people with URinary inCOntinence by the use of ICT technologies

The URO Project

INTRODUCTION

The URO project has now finished its first year of life. This period has served the partners to get to know each other and to better define the objectives of the project and take the first steps towards achieving them. In this past year, the first version of the curriculum that will be proposed has been created. This curriculum has been achieved by a careful analysis of the various target groups and of their training needs. The Slovenian partners have been invaluable in their work concerning the preparation of the curriculum model, with the help of the partners, that serves to conclude the first phase of the project and the workshop held in Salerno in May. At this moment, the partners are involved in the definition of a pedagogical model which is the basis of the way in which an e-learning platform will be developed to hold the didactic contents produced. For this reason, a detailed analysis is being made of the e-learning platforms already available. The first chance to verify the activities held until now will be the next meeting in China, in June. Therefore, in this newsletter the first results of the project will be presented, with particular attention given to the first version of the curriculum to create experts in continence therapy.

Recognition of the learning/training needs

This activity had the aim of showing the needs of the final users in terms of the characteristics of the learning service, interface and contents. The aim was to recognize in a clear manner the learning needs of each Target group. The Direct Target group was selected according to the following criteria: Slovenian partner selected a Target group of 100 people comprised of second year undergraduate students of different study programs (25 physiotherapy students, 25 occupational therapy students, 25 midwifery students, 25 nursery students). Similarly, Indian and Chinese partners selected 140 and 120 people, respectively. Under the leadership of Slovenian partner a series of interviews of members of the three Direct target groups was performed to highlight the needs of users with regard to the learning system to be implemented. The Italian partner proposed a validated questionnaire (ILS – Index of Learning Styles questionnaire) for the evaluation of preferred learning styles. ILS is an instrument used to assess preferences in four dimensions (active/reflective, sensing/intuitive, visual/verbal and sequential/global) of a learning style model and was designed by Richard M. Felder and Linda K. Silverman. A subgroup of 25 professionals of different fields (PT, OT, Nurses, etc.) from clinical settings who have more than 3 yrs of work experiences have been included in all three Direct target groups (Slovenia, India and China) in order to obtain the information on preferred learning styles amongst people who had less experience with ICT than current undergraduate students.
Preparation of the draft syllabus/curriculum

In order to prepare a draft syllabus each partner overviewed their undergraduate study programs for non-medical health professions and identified the extent of knowledge acquired by students of different professions in the field of urinary incontinence, faecal incontinence, gynaecology, obstetrics, proctology and urology.

The leader of the activity (University of Ljubljana), aided by the partners, carried out a “background research” aimed to review the main educational experiences that are oriented to create a professional figure similar to the “Continence Therapist”. An overview of comparable postgraduate study programs which are offered by domestic or worldwide Universities, Polytechnics and other award-giving-power institutions was then prepared. The following were recognised as the most relevant:

- University of Bradford – UK
- McMaster University – Canada
- Canyon College – Santiago – Cile
- Buckinghamshire Chilterns University College – UK
- Glasgow Caledonian University – UK
- University of Stirling – UK

The content of acquired study programmes was analyzed and a draft curriculum was prepared. The syllabus includes 6 modules covering both medical, economical and sociological aspects of incontinence (Anatomy, Physiology and neural control, Epidemiology and aetiology of urinary incontinence, Faecal incontinence, Pelvic organ prolapse, Pathophysiology of urinary incontinence, faecal incontinence, pelvic organ prolapse, Assessment, Treatment of incontinence, Economics of incontinence).

The proposed curriculum for one-year (2 semesters) postgraduate “Continence therapist” study programme is depicted in the following tables.

1st SEMESTER

Module 1: Anatomy, physiology and neural control

Contents:
- Female lower urinary tract anatomy
- Anatomic basis of urinary continence
- Pelvic organ support
- Male lower urinary tract anatomy
- Lower urinary tract innervation and the normal micturition cycle (storage phase, conscious inhibition of the micturition reflex, voiding phase)
- Anatomy of the anorectum
- Normal bowel function (storage, defaecation)
1st SEMESTER

Module 2: Epidemiology and aetiology of UI, FI, POP

Contents:
- Definitions of UI
- Classification of UI (symptom, signs, urodynaminc observations, conditions)
- Types of UI
- Definitions of anal incontinence and FI
- Definitions of POP
- Classification of UI in children
- Epidemiology of NE, day and night-time incontinence, faecal incontinence in children:
  - Prevalence
  - Potential risk factors
- Epidemiology of UI in women:
  - Prevalence in general population
  - Prevalence in specific population (long term care facilities, pregnant women, women of different race/ethnicity)
- Main risk factors:
  - Predisposing factors (familiar predisposition, gender, race, anatomic, neurological and muscular abnormalities,
  - Inciting factors (Pregnancy/Childbirth/ Parity)
  - Side effects of pelvic surgery and radio therapy
  - Promoting factors (obesity, constipation, lung disease and smoking, neurological diseases, occupational and recreational stresses, menopause, drugs/medication
  - Decompensating factors (age, cognitive impairment, drugs/medication, co-morbidities and changes in environment)
- Epidemiology of UI in men:
  - Prevalence
  - Potential risk factors
- Epidemiology of FI:
  - Prevalence
  - Risk factors and strategies for prevention (primary prevention, secondary prevention)
- Epidemiology of POP:
  - Prevalence
  - Incidence
  - Potential risk factors
  - Reasons for variation in prevalence of UI, FI
1st SEMESTER

Module 3: Pathophysiology of UI, FI and POP
Contents:
• The overactive bladder (neurogenic detrusor overactivity, non-neurogenic detrusor overactivity)
• Pregnancy, childbirth and the pelvic floor
• SUI in women
• Pelvic organ prolapse
• Faecal incontinence (obstetrical perspective, gastroenterological perspective)
• UI in men
• Transient incontinence in older adults
• Pathophysiology of NE in children

2nd SEMESTER

Module 4: Assessment
Contents:
• Assessment (children, men, women, frail older men and women, neurogenic incontinence, painful bladder syndrome, pelvic organ prolapse, faecal incontinence):
  o General assessment
  o Symptom assessment
  o Assessment of quality of life impact
  o Assessment of the desire for treatment
  o Physical examination (neurological, abdominal, vaginal, rectal)
  o Urinalysis
• Symptom and quality of life assessment
• The measurement of incontinence and quality of life
• Recommended questionnaires
• Investigations
  o Investigations of urinary function:
    - Cystometry
    - Urethral pressure profilometry
    - Uroflowmetry
    - Distal urethral electric conductance
    - Electrophysiological tests (Electromyography, Motor conduction tests)
    - Imaging
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- Investigations of anorectal function:
  - Anorectal manometry
  - Ultrasound of the anal canal
  - Proctosigmoidoscopy, colonoscopy
  - Abdominal X-ray
  - Pudendal nerve terminal motor latency
  - Electromyography
  - Barostat
  - Magnetic resonance imaging
  - Vector manometry

Module 5: Treatment of incontinence

Contents:
- Urinary incontinence in adults conservative (men, women, frail elderly)
- Lifestyle interventions (weight loss, physical forces, smoking, dietary factors, constipation)
- Pelvic floor muscle training (biofeedback, electrical stimulation, vaginal cones)
- Magnetic stimulation
- Scheduled voiding regimens
- Complimentary therapies
- Improving patient’s adherence
- surgery (women, prolaps. men)
- Women:
  - Anterior colporrhaphy
  - Colposuspension
  - Marshall-Marchetti Krantz procedure
  - Paravagina repair
  - Laparoscopic colposuspension
  - Needle suspension
  - Slings
  - Tension free vaginal tape
  - Injectable agents
  - Surgery for detrusor overactivity
  - Neuromodulation
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- Men:
  - Urethral bulking agents
  - Male sling
  - Artificial urinary sphincter

- Pharmacological treatment of UI
  - Drugs used for treatment of:
    - overactive bladder symptoms/detrusor overactivity
    - stress incontinence
    - overflow incontinence
    - Hormonal treatment of UI

- Faecal incontinence in adults
  - conservative and pharmacological treatment of FI
  - Education and lifestyle (physical exercise and work, smoking, medication side-effects, toilet facilities, patient and care-giver education and attitudes, complimentary therapies)
  - Diet and fluid intake
  - Bowel management and retraining programmes (bowel habit, resisting urgency, evacuation training, behaviour modification, rectal irrigation, digital or other stimulation, manual evacuation)
  - Biofeedback and/or anal sphincter / pelvic floor exercises
  - External electrical stimulation
  - Drug treatment (treatment of diarrhoea-associated faecal incontinence with antidiarrhoeal drugs, increasing anal canal pressure in patients with passive FI, drug treatment of constipation-associated FI)

- Surgery for FI
  - Sphincter repair/sphincteroplasty
  - Postnatal repair
  - Non-stimulated muscle transposition
  - Simulated muscle transposition
  - Artificial anal sphincter
  - Sacral nerve stimulation
  - Injectable biomaterials
  - Radiofrequency ablation
  - Colostomy
  - Surgery for childhood incontinence
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- Treatment of UI and encopresis in children
  - Explanation/education
  - Enuresis dairy
  - Alarm
  - Bladder training
  - Bowel management
  - Pharmacological therapy
  - Pelvic floor relaxation +/- biofeedback
  - Neuromodulation
  - Intravesical electrical stimulation
  - Clean intermittent cath.
  - Surgical treatment
- Continenence products
  - Management with continence products:
    - Patient assessment and product evaluation
    - Products for prevention or containing UI (handheld urinals, commodes and bedpans, absorbent products, sheaths, urine drainage bags and accessories, bodyworn urinals, occlusive devices for UI, catheters
    - Products for prevention or containing FI (products to prevent or contain leaked stool)
    - Skin health and continence products
    - Odour control products

Module 6: Economics of incontinence
Contents:
- Direct costs of UI, FI:
  - diagnosis (laboratory tests, physical examination, physician consultation, urodynamic evaluation
  - treatment (conservative therapies e.g. devices, medication, surgery, complications of treatment)
  - routine care (pads, supplies e.g. laundry, hygiene products)
- Indirect costs of UI, FI:
  - lost productivity due to early retirement, inability to work, hospitalisation, recovery from surgery, informal community care giving
- Continenence promotion: prevention, education and organisation

Legend
UI – urinary incontinence  |  FI – faecal incontinence  |  POP - pelvic organ prolapse  |  NE – nocturnal enuresis