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The future of paediatric and adolescent gynaecology in Europe

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ABSTRACT

Paediatric and Adolescent Gynaecology (PAG) is a subspecialty under the umbrella of Obstetrics and Gynaecology but linked to other branches of medicine including Paediatrics, Surgery, Endocrinology and Urology. Therefore future developments in clinical care and education requires a multidisciplinary approach combining aspects of all the above medical specialties, and also with inputs from Public Health, Genetics, Radiology and Psychology. A multidisciplinary collaboration among different specialists is as important as the establishment and adoption of standards in education, training and management. PAG in Europe has evolved from its first steps and it is still growing with the aim of providing increasing protection of the gynaecological and reproductive health of female children and adolescents. In fact, without proper advice and care, inappropriate management of gynaecological issues in childhood and adolescence can be expected to have significant repercussions throughout later years, and into adulthood.

The aim of this third paper in this mini-symposium is to explore how PAG should develop in Europe in the near future.

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Introduction

This is the third paper in a mini-symposium produced jointly by EBCOG and EURAPAG to increase awareness for paediatric and adolescent gynaecology (PAG) services in Europe. EURAPAG is an organization aiming to provide knowledge for medical professionals, training of residents and providing evidence based best clinical practice. The future of PAG healthcare provision in Europe is dependent on the definition and application of clinical standards and development of a proper training curriculum. Bedei et al [1] described in the first paper the current situation of provision of paediatric and adolescent gynaecological care in Europe. They noted the differences of handling in dealing with adolescent females from adults and the challenges that health providers without special training may face. The second paper of Roos et al [2] reviewed the literature about lack of standards of care in PAG throughout Europe. There is limited information about best clinical practice and low quality of evidence of healthcare service available in the field of Paediatric and Adolescent Gynaecology. As a result there is a need to refine standards of clinical care, education and training. EURAPAG should take a lead to address the above challenges, develop standards and then, subsequently, encourage adaptation of these standards in each European country.

So, the future of PAG in Europe relies primarily on the definition, adoption and application of proper clinical standards. All of which has been facilitated by the European Board and College of Obstetricians and Gynaecologists (EBCOG). An EBCOG paper [3] on Standards of Care for Women's Health in Europe was published in 2014 and included a section on PAG, heralding an important step forward in recognition of this field as a recognised area of special interest or subspecialty within Obstetrics and Gynaecology.

The EBCOG Standards highlights how the physical and psychological well-being of children and adolescents is crucial for their future general and reproductive health. The document stresses how gynaecological dysfunction is common and disruptive, with rare conditions requiring specialized multidisciplinary management. The standards acknowledge how inappropriate provision of care can result in poor outcomes and adverse long term consequences.

In addition, there is insufficient curriculum training for recognition of patterns and symptoms. [2] Nowadays, an International Fellowship of Paediatric and Adolescent Gynaecology (IFEPAG) has been established by the International Federation of Pediatric and Adolescent Gynaecology (FIGIJ). This consists of an international diploma of recognition for those physicians of different specialties (including gynaecologists, endocrinologists, paediatricians, paediatric surgeons, specialists in adolescence and family physicians) who practice PAG. The EURAPAG strongly encourages physicians dealing with PAG to pass this examination, as IFEPAG is the only existing international accreditation in PAG. Our second paper recommends too, that EURAPAG should develop and encourage the standards in training in PAG. In our opinion training, education, prevention, and the provision of evidence based healthcare are the main areas of future development of PAG in Europe.

The focus of this paper is to explore this further.

Training and education

The provision of trained PAG specialists is the key to the future of the subspecialty [4].

Table 1 lists the main clinical areas covered by PAG and illustrate the breadth and depth of the subspecialty [5,6].

In 1997 the President of FIGIJ, Prof George Creatsas established an International Fellowship in Paediatric and Adolescent Gynaecology (IFEPAG). IFEPAG is at the moment the only existing international accreditation in PAG. EURAPAG strongly encourages physicians interested in PAG to sit this examination. The exam consists of initial written case reports with review of literature. This is followed by an online examination and an oral examination. The oral examination is usually arranged to coincide with international PAG Meetings and Congresses on a global basis. The examination is currently available in both English and Spanish. In some European countries this IFEPAG exam is acknowledged by the national society with CME credits, like in the Netherlands.

EURAPAG should encourage standards of training in PAG. There is a requirement to ensure the need to incorporate the skills to manage gynaecological problems of children and adolescents and to communicate with young people into the basic training of gynaecologists. EURAPAG welcomes the new EBCOG curriculum which incorporates PAG training. [3] Recently, EBCOG launched EBCOG-PACT [7], a project for achieving consensus in training across Europe. Problem identification, diagnosis, diagnosis with performance of a specific skill and portfolio for resident in PAG are a part of EBCOG-PACT. This parts of EBCOG-PACT can be used for a base to develop training standards in PAG across Europe.

In Europe, a special curriculum for trainees without a specialist or an outpatient PAG clinic in their training hospitals, as described by Higuelet et al [8] may be an another way to enhance basic PAG skills of residents.

There is also a need to incorporate the skills of the gynaecological assessment of premenarcheal girls into the training of paediatricians residents and incorporate the skills to perform gynaecological ultrasonography and imaging in PAG into the basic training of radiologists and gynaecologists according to the accepted practice in different European countries.

Furthermore, given the increasing recognition of PAG as an area with specific training requirements, the General Medical Council in the United Kingdom has approved an Advanced Training Skills Module (ATSM) for PAG which was updated in 2016, as a joint venture between BritSPAG and the Royal College of Obstetricians and Gynaecologists. The ATSM must be undertaken under the supervision of an identified preceptor who is skilled in the management of Paediatric and Adolescent Gynaecology and should be completed within 12–18 months. Attendance at a suitable theoretical course is compulsory and BritSPAG organizes an annual clinical meeting and an annual training day. A level two course for child protection must be attended and a Quality Improvement Initiative must be developed.

General Practitioners and Paediatricians are often the first line of physicians to see premenarcheal girls with gynaecological problems and therefore they need to be trained to perform basic

Table 1
Examples of the Scope of PAG.

Congenital Anomalies	Disorders of sex development	Pre-menarcheal bleeding
Gonadal dysgenesis	Pubertal Development	Precocious & delayed puberty
Imaging in PAG	Pelvic Pain	Endometriosis
Polycystic ovary syndrome	Premature ovarian insufficiency	Fertility preservation
Menstrual disorders	Minimally invasive surgery	Ovarian Cysts
Genital infections	Sex and relationships education	Contraception
Eating disorders	Dermatologic problems	Teenage pregnancy
HPV vaccination	Sexual abuse	Transgender issues

gynaecologic assessments. Counselling skills should be incorporated for effective contraception and prevention of sexually transmitted diseases in adolescents into the basic training of all General Practitioners.

Modern communication options, such as FaceBook, Instagram and Twitter are important tools to improve the reproductive health in new generations. Social media being utilized especially by youngsters, they may play a major role in both sexes by improving knowledge (Table 2).

An appropriate and suitable way to exploit modern communication options is to maintain contact with designers and programmers and develop relevant apps for smart phones attractive to teenagers [9]. Their contents must to be selected by gynaecologists, paediatricians and psychologists dealing in PAG, with the contribution of young experts (students) in computer science, to share the same languages as the target population. A connection with websites and links of adolescent services would also be desirable. Faced with original versions this should then allow for translations into different European languages which could be coordinated by EURAPAG members working with the original authors, and developing a wide network of workers in PAG. In this way, a subsequent improvement in the reproductive education of youngsters can be anticipated along with a reduction in manipulation by others for example linked to sexuality. These new EURAPAG activities require wide support, and should influence the sex education of European adolescents.

Prevention

Prevention in the field of PAG is where public health can be bridged with clinical care. Prevention programs for teenage pregnancies, sexual transmitted diseases and coercion are of extreme importance for teenage patients. School teachers, working in contact with health practitioners, should become comfortable with providing education about issues surrounding sexuality, eating disorders and dating violence specific to this age group [10]. The increasing frequency of early sexual debut with the resulting risk of unintended adolescent pregnancy makes counselling about effective contraception essential [11,12].

Preventive health programs such as vaccination for human papilloma virus (HPV) for young girls across the whole of Europe need to be developed and established. [13] Some national societies need support to start HPV vaccination programmes. PAG societies, supported by EURAPAG, should also foster the development of a national HPV vaccination program in those European countries where it has not yet been established.

Provision of evidence based healthcare

The extent to which a PAG service can provide pathways of care and attend to a wide variety of clinical issues to be addressed in children with gynaecological problems has been exemplified by McGreal & Wood [14]. EURAPAG may need to learn from the experience of well organised PAG associations from other continents, prominent among which is the North American

Society (NASPAG). Sanfilippo and Lara-Torre have highlighted how during adolescent transition through puberty, menstrual disorders become the most common complaint requiring the attention of a gynaecologist [10].

It makes sense that all PAG societies need to develop national standards of care with the content support of EURAPAG and EBCOG.

One important challenge is to ensure that given the rarity and complexity of some clinical conditions seen in the management of complex surgical PAG treatments should be centralized. Established Departments should be validated at a national and continental level and made easily recognizable and accessible both for patients and for clinicians in general, fostering the quality of both care and training, with the development of appropriate treatments, education models and skills. In this way the global quality of PAG will be increased and medical services will be more suitable for children and adolescents requiring gynaecological attention.

Examples where *high level care* is important are in surgical management of ovarian cysts in children and adolescents and in the medical management of polycystic ovarian syndrome.

We know that the outcomes of different surgical treatments of *ovarian masses in PAG* depend on the physicians' education and training. As explained by Stankovic et al, ovarian preservation is more likely to occur in cases of tumours and torsions if paediatric surgeons consult paediatric and adolescent gynaecologists. Collaboration also leads to a lower rate of uncomplicated functional ovarian cysts undergoing surgery [15]. A better balance between ovarian preservation rate and unnecessary surgery can be achieved by using a specific decision system based on characteristics of PAG ovarian masses, created by paediatric gynaecologists [15]. Programmes for fertility preservation for young people undergoing treatments for neoplastic diseases should be improved.

Polycystic ovarian syndrome can develop in early puberty and carry its long term consequences into adulthood. Infertility, diabetes, and hirsutism mark the most important components of the syndrome and require age-appropriate management. The consequences of endometriosis on the future fertility of adolescents have brought early intervention to light. Recognition and prompt treatment are advocated to prevent possible future implications of this disease [16].

Furthermore, the establishment of *clinical networks in PAG* at a national and European level is a core principle for the development of the subspecialty, both in order to train young specialists and to improve the health care accessible to young girls and adolescents by trained clinicians [6]. There is a need for a network of outpatient clinic practitioners, physicians working in the Departments of PAG and National PAG Societies to coordinate and guide practitioners.

Good PAG practice can be promoted through the use of the EURAPAG and national PAG websites. This enshrines the founding principles of EURAPAG. The website could allow registration of qualified colleagues thereby enabling appropriate referral patterns and enable patients and colleagues to access information about local and tertiary PAG services throughout Europe.

Formal recognition of PAG as a subspecialty in Gynaecology based on the unique circumstances and skills required for this specific set of gynaecological conditions which differ from conditions seen in adults is desirable and shall be seen as an important step forward in provision of appropriate gynaecological care to children and adolescents [1,2,4].

Summary

In summary, future PAG healthcare services EURAPAG recommends in Europe:

Table 2

Themes for social media to improve knowledge of youngsters.

Attitudes and skills about sexual development
Body anatomy
Sexual debut
Basic family planning
Risky behaviours
Modern contraception
Prevention of sexually transmitted infection
Sexual abuse

- Preventive reproductive health guidance, counselling and screening
- Age-appropriate management and communication for gynaecologic conditions. This a recommendation of EURAPAG.
- Surgical treatment of ovarian masses, congenital anomalies and other PAG conditions with an emphasis on minimally invasive surgery, providing multidisciplinary care if needed (paediatric urology and surgery) according to national standards is an advice of EURAPAG
- Specialized PAG services for patients with reproductive health concerns in special care, cancer and blood disorders, endocrinology for children with disorders of sexual development (DSD) and for pregnant teenagers.

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Conflicts of interest

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