International Organization of
Physical Therapists in Women's Health

A sub-group of WCPT

PRESIDENT'S MESSAGE

Dear Friends and Colleagues,

I am honored to address you as the second President of the International Organization of Physical Therapists in Women's Health. All of our gratitude goes to Dr. Jill Boissonnault for her pioneering vision and creation of the IOPTWH in 1998 and all her work toward the official vote of the WCPT in 1999 as an official subgroup of the World Confederation of Physical Therapy. At that time we were one of four subgroups which have now grown to six. Kudos to Jill for her leadership for the last nine years. We will miss her but she will remain close to us and will serve as an advisor to me.

Vancouver was a wonderful gathering place for the 16th Congress of WCPT. Nestled among the mountains and the ocean there were many opportunities for touring, side trips and exploring the northwestern part of Canada. Thank you to all of the WCPT planning committees and to IOPTWH for such a successful meeting.

I am proud to welcome three new countries to our membership: Sri Lanka, Brazil, and Germany. That brings us to 18 member countries that have joined the IOPTWH. Many others have expressed interest in joining and the Executive Committee will be working with them to help them become members.

(Continued on page 2)

WHAT'S INSIDE…

(Continued from page 1)

The IOPTWH pre-conference course **Osteoporosis: Fracture and Treatment,** was presented by an international faculty: Dr. Meena Sran from Canada and Dr. Kathy Shipp from the United States. The information was evidence based, current and immediately relevant to clinical practice. Thank you to Gill Brook for her help in organizing the conference.

Other presenters were Ruth Broom who sensitively presented the Female Genital Mutilation Paper that was approved at the WCPT General Business Meeting as well as in a platform presentation. Ruth Broom and I will be taking the next steps to present this paper to the World Health Organization. Jill Boissonnault presented a platform on the IOPTWH Strategic Plan, and Dr. Kari Bø presented the latest research in pelvic floor dysfunctions and provided us with an exercise class.

Join me in welcoming the new Executive Committee (EC) of IOPTWH that along with me were elected by the membership at the General Business Meeting on June 4: Vice-president Meena Sran (Canada), Secretary Gill Brook (UK), Treasurer Ros Thomas (UK) and Member at Large Darija Šćepanović (Slovenia). Please feel free to contact any of us and all our emails are available on line at the IOPTWH website. www.ioptwh.org

Please help us with your volunteer efforts for the IOPTWH committees. There are vacancies on the Program, Communication/Publication, Research/ Education, and Practice Committees. Through our work together we can foster communication, help establish women's health practices where PT services are minimal and set standards for education and research. Please look at the committees listed in this newsletter and volunteer.

The EC has chosen Portugal for the site of our next two day conference in 2009. The Education Committee under the direction of Gill Brook is at the planning stages of a conference that will certainly be of interest. Two years after that in 2011, we will gather once again for the World Congress which will be held in Amsterdam. It is not too early to make plans.

Please feel free to contact me directly or any of the executive officers to give us your input, ask questions, or to volunteer.

With Warm Regards,

Rebecca Stephenson

IOPTWH GENERAL BUSINESS MEETING MINUTES

JUNE 4, 2007
3:30-16:30
Fairmont Waterfront Hotel Mackenzie II Room
Vancouver, British Columbia, Canada

President Jill Boissonnault called the meeting to order at 1:40 PM (13.40).
Fourteen countries were represented: Australia, Brazil, Canada, Germany, Israel, Netherlands, New Zealand, Norway, Portugal, Republic of Ireland, Slovenia, Sweden, United Kingdom, USA.

I. Delegates and Executive Committee introduced themselves.

II. Acceptance of Agenda

Motion #1 **PASSED** Stephenson
That the agenda be accepted as amended. A brief explanation of an orderly meeting with adoption of "Roberts Rules of Order" was given, a review of the ground rules, and a reminder that each member country has one vote.

III. Officer, Committee Chairs and Committee Members Reports

A. Treasurer's Report

Motion #2 **PASSED** Brook
The Treasurer's report be accepted as presented.
See report in addendum as submitted by Gill Brook, Treasurer.

B. Practice: Ruth Broom
Ruth Broom reported on the Female Genital Mutilation Paper that was presented and approved at the WCPT General Business Meeting, and given as a platform presented at Congress. There will be further communication with WCPT and, ultimately, WHO.
Action: Rebecca Stephenson & Ruth Broom

C. Publications: Gill Brook led the discussion on updating the web and restricting access to the listservs for the benefit of members of IOPTWH only.

Motion #3 **PASSED** Brook
Move that listservs access be open only to physiotherapists who are members of their nationally recognized women's health association within member countries and friend countries, of IOPTWH, as a benefit of membership.
Action: Gill Brook, Ros Thomas, Simone Gruenig

D. Education/Research: Lena Nilsson-Wikmar

E. Program Committee: Yvonne van Lijf / Rebecca Stephenson presented that IOPTWH has organized three successful education conferences: Barcelona on Pre and Postpartum Physical Therapy, Slovenia - Update on Current Research on

(Continued on page 4)

(Continued from page 3)

Pelvic Floor and in Vancouver, Osteoporosis. The Executive Committee will pick a site for the next conference, which will be held in two years. Portugal and Norway have submitted requests for hosting the next conference.
Action: Rebecca Stephenson

OLD BUSINESS

IV. Membership

Governance Manual

Motion #4 **PASSED** Stephenson
That the minutes of June 2003 of the general business meeting in Barcelona, Spain be approved as submitted.

Motion #5 **PASSED** Stephenson
That Sri Lanka be accepted as a full member of the IOPTWH.

Motion #6 **PASSED** Stephenson
That Germany be accepted as a full member of IOPTWH.

Motion #7 **PASSED** Stephenson
That Brazil be accepted as a full member of IOPTWH.

NEW BUSINESS

V. Constitutional Amendments Brook

A. Constitution Section 9.6 Executive Committee Meetings to add to the last sentence as follows:

Motion #8 **PASSED** Stephenson

That the immediate past president may attend any executive committee meeting at the invitation of the newly elected president.

B. Constitutions Section 11.5
That the IOPTWH constitution be amended by changing the language from:

"A financial report will be represented by the Treasurer annually to the Members. A financial report for the period between General Meetings will be presented by the Treasurer for approval at the General Meeting and audited by at least two Members elected from the General Meeting. Expenses for activities and financial obligations incurred by the Organization shall be the responsibility of the Members" to:

Motion #9 **PASSED** Brook
"A financial summary will be presented by the Treasurer bi-annually to the Members in the Organization's newsletter. A financial report for the period between General Meetings will be presented by the Treasurer for approval at the General Meeting, having been audited independently before the meeting by person or persons appointed by the Treasurer and agreed by the Executive

(Continued on page 5)

(Continued from page 4)

Committee. Expenses for activities and financial obligations incurred by the Organization shall be the responsibility of the Members".

C. Section 11.7
That the IOPTWH constitution be amended by changing the language from:

"The General Meeting will decide the budget for the next/following financial years.
11.7.1 All travel hotel and other expenses relating to attendance at General Meeting will be borne by each member Association.
11.7.2 Travel expenses, hotel expenses, and phone expenses for Executive Committee meetings will be borne by the Organization when finances permit to:

Motion #10 **PASSED** Brook
"All travel, hotel and other expenses relating to a delegate's attendance at General Business Meetings will normally be borne by each member Association. Travel expenses, hotel expenses, and phone expenses for executive Committee meetings, and for Executive Committee attendance at General Business meetings will be borne by the Organization when finances permit."

D. Mission and Objectives
That the IOPTWH constitution reflect the following change in objectives of the organization by deleting the current objectives and replacing them with:

Motion #11 **PASSED** Stephenson

1. To advance practice by communication, exchange of information, and collaboration between physical therapists practicing in women's health throughout the world.

2. To encourage improved standards of practice in women's health physical therapy.

3. To be an advocate and resource for the practice of women's health physical therapy.

4. To encourage and publicize high-quality research in women's health physical therapy.

5. To foster the development of women's health physical throughout the world.

VI. Strategic Plan Presented Boissonnault

Issues brought out in open discussion of strategic plan:
A. Web Site Link

B. Patient Referral: do delegates believe IOPTWH needs to assist? (Reimbursement issues, MD [doctor] issues, marketing?)

C. Women's Health Content in Entry Level curricula; what is the status in member countries and do delegates wish IOPTWH to take a role?

(Continued on page 6)

(Continued from page 5)

Motion #12 **PASSED** Boissonnault
Move that the IOPTWH develops a position statement on curriculum content for women's health in physical therapy, at entry level professional education.
Action: Meena Sran

D. Post-Graduate Education in women's health - Gill Brook to post gathered information on the web site after it has been circulated to chief delegates for updating. An idea brought forward was that if listed on the web site that there could be a fee to IOPTWH.
Action: Gill Brook & Simone Gruenig

E. Outreach - efforts through the WCPT website; and individual contacts e.g.

- Following an approach by the UK Chartered Society of Physiotherapy, Gill Brook has had an 18 month relationship by email with an Iraqi (Kurdistani) PT.
- Jill wrote an article in the Italian Journal that was translated into Italian
- Jill presented to the Brazilian Women's Health Group.
- Gill Brook has presented at the Polish PT Congress
- Gabriela Gaber has participated in a conference in Beirut.
- Pat Shields of the US reported that the delegation from Poland was interested in our scope of practice paper.

VII. Scope of Practice Paper Final Version Ruth Broom
The final version was submitted.

VIII. Acknowledgements
Outgoing officers, Committee Chairs and Newsletter Editor.
All officers, committee chairs and the Newsletter Editor were acknowledged for their years of service to the organization. The officers and newsletter editor were presented with certificates.

IX. Announcements
Reception
Symposium
List of IOPTWH Members speaking
List of IOPTWH Members presenting posters
Sign up for booth here at Congress
Other

X. Elections
PASSED - all officers were elected unanimously.
President- Rebecca Stephenson
Vice- President- Meena Sran
Secretary- Gill Brook
Treasurer- Ros Thomas
Member at Large- Darija Šćepanović

(Continued on page 7)

(Continued from page 6)

XI. Call for new Committee Chairs

There is a call for each country to participate in the committees of IOPTWH and a chair is needed for each of the following committees:

1. **Program**
   Chair: vacant
   Members: Fatima Sancho, Gabrijela Gaber
1. **Communications/Publications**
   Chair: vacant
   Members: Norwegian member (to be decided), Wendy Featherstone, Simone Gruenig
1. **Research/ Education**
   Chair: vacant
   Members: Marijke Slieker-ten Hove, Netta Beyar, Lena Nilsson-Wikmar, Clarice Tanaka
1. **Practice**
   Chair: Ruth Broom
   Members: Louise de Nijs-Renken, Pat Lieblich, Ros Thomas

XII. Adjourn by President Boissonnault at 4:25 PM (16.25)

Respectfully submitted
Rebecca G. Stephenson
IOPTWH Secretary, retiring

ADDENDUM

IOPTWH treasurer's report to the General Business Meeting 2007

The report covered the following:

- Expenditure and income for the previous four years (2003-05)
- Ongoing expenditure
- Regular income

A copy of the accounts was available for each delegate present (further copies are available on request from gill.brook@lineone.net)

Expenditure (2003-05)
Expenditure over the four years has predominantly been on conferences (2003 in Barcelona, Spain and 2005 in Ljubljana, Slovenia); executive expenses (for attendance at the general business meeting in 2003, and executive committee meetings in 2003 and 2005); administrative secretary salary; website management; newsletter production.

Income (2003095)
Income has come from member country annual dues, conference sponsorship, T-shirt sales, and bank interest.

Ongoing expenditure
Regular anticipated outgoings include administrative support, newsletter production, website maintenance and development, and executive expenses (e.g. for attendance at the biennial executive committee meeting)

(Continued on page 8)

(Continued from page 7)

Regular income

This can be expected from member dues payments and bank interest.

Summary

- Over the past four years, the balance within the IOPTWH account has continued to rise year on year.
- The two conferences have been largely self-financing (delegate fees and sponsorship).
- Thank you to the chief delegates for arranging prompt payment of annual dues
- Opportunities will be sought, to invest some of the Organization's funds in a high interest earning account

Gill Brook
IOPTWH Treasurer
June 2007

IOPTWH EXECUTIVE BUSINESS MEETING

Pan Pacific Hotel, Vancouver, June 5th 2007

The new IOPTWH Executive committee - Rebecca Stephenson (chairman), Gill Brook, Ros Thomas, Meena Sran and Darija Šćepanović - met for the first time on June 5th, following the previous day's General Business Meeting. Former President, Jill Boissonnault, was in attendance for the first part of the meeting.

The main business was an update on activity since the committee had last met in Slovenia in 2005, and discussion and agreement on what new actions should be added following the meeting with delegates the day before.

A summary of these (excluding those which have previously been described in the business meeting minutes) are:

- Development of a logo policy, to be displayed along with the Organization's advertising policy, on the website
- Production of the governance manual in electronic form, and circulation to all chief delegates
- Following feedback from the delegates at the General Business Meeting, a commitment to make future ones as relaxed and welcoming as possible, while retaining an appropriate level of formality
- Minor amendments to, and circulation of, the Organization's strategic plan
- Development (including increased membership) of the sub-committees
- Investigation of sponsorship opportunities e.g. research, website
- Formulation of focused symposia submissions for WCPT Congress, 2011
- Continued development of the newsletter, and as wide a circulation as possible within member countries
- Investment of some IOPTWH funds

Gill Brook
IOPTWH Secretary

IOPTWH TREASURER'S REPORT
FALL 2007

As anticipated, it has been a busy time since I reported in the spring newsletter, with the build up to, and aftermath of, our study day and meetings in Vancouver in June. It was a pleasure to meet so many IOPTWH members in Canada at what was my last general business meeting as treasurer. I was delighted to hand over the role to Ros Thomas, though we agreed that I would continue to handle transactions until WCPT business has been completed, and Ros and I have the opportunity to meet up in October.

The majority of 2007 dues have now been paid and I anticipate one final payment within the next month. Thank you to all the chief delegates and colleagues within the national associations who arrange this.

Outgoings since I last reported have largely been on expenses around the study day and meetings in Vancouver, as well as our regular expenditure on the website, newsletter, and administration. Income has been from study day sponsorship (totalling almost £1,000), dues, and bank interest.

Income and expenditure since 8th February 2007 are as follows:

Income:	£5,128.83
Expenditure:	£4,705.47

Funds at 8th August 2007: £12,845.09

Gill Brook
IOPTWH Retiring Treasurer

RETIRING EDITOR'S REPORT

It is with great pleasure that I introduce Simone Gruenig as the new editor for the IOPTWH newsletter. She has willingly accepted the challenge of moving the newsletter forward in presenting informative and interesting articles from a variety of sources including recruiting submissions of original work from the membership on an international basis. Simone has previous editorial experience which will help her reformat the appearance and readability of the newsletter.

Simone has also accepted the sometimes onerous task of website coordinator. Again, her past experience will be a strong asset in this position and will allow it to take on the format of a 'living' document so check in often to witness the exciting evolution of the website.

I would like to take this final opportunity to thank everyone who generously gave of their time and academic writing for past submissions in the newsletter. It has been an amazing opportunity to liaise with physiotherapists around the world who have such expertise and interest in the area of women's health. The leadership and dedication that has been demonstrated by Jill, Gill, Kari, Rebecca, Meena, and Beth (previous publications chair) has shown me that the biggest tasks can be achieved with grace and excellence. I would also like to take this chance to thank the ever-wonderful Barb Savi, administrative assistant, for the support, friendship and humor that she shared. I will always treasure the friends I have made and things I have learned during my term as editor and look forward to many future contacts with members of the IOPTWH.

Good luck Simone and to the new roles taken on by the new Executive Committee.

Shannon Michels
IOPTWH Retiring Newsletter Editor

THE WCPT INTERNATIONAL CONGRESS

WCPT welcomed more than 3,500 physical therapists from around the world to its 15th International Congress, held in Vancouver, Canada from 2-6 June 2007. The WCPT was a great success and below is just one of the many abstracts presented in the realm of women's health.

DOES GROUP TRAINING DURING PREGNANCY PREVENT LUMBOPELVIC PAIN? Mørkved S[1,2,5], Salvesen K[3,5], Schei B[2,3], Lydersen S[4], Bø K[6]; [1]Clinical Service, St.Olavs Hospital, Trondheim, Norway. [2]Department of Community Medicine and General Practice, Norwegian University of Science and Technology, Trondheim, Norway. [3]Department of Obstetrics and Gynaecology, Norwegian University of Science and Technology, Trondheim, Norway. [4]Unit for Applied Clinical Research, Department and Cancer Research and Molecular Medicine, Norwegian University of Science and Technology, Trondheim, Norway. [5]National Center for Fetal Medicine, St.Olavs Hospital, Trondheim, Norway. [6]Department of Sports Medicine, Norwegian School of Sport Sciences, Oslo, Norway
PURPOSE: Prevention of lumbopelvic pain in pregnancy has been sparsely studied. One aim of this study was to assess if a 12 week training program during pregnancy can prevent and/or treat lumbopelvic pain. **RELEVANCE:** A high percentage of women suffer from low back and pelvic girdle pain (lumbopelvic pain) during pregnancy and after delivery. The average prevalence from different studies of lumbopelvic pain in pregnancy is 45%, and of all women postpartum 25%. The condition may influence daily activities, cause withdrawal from social situations and physical activities and lead to reduced quality of life. Lumbopelvic pain is the most common reason for sick leave during pregnancy in the Scandinavian countries. **PARTICIPANTS:** 301 healthy nulliparous women were included at 20 weeks of pregnancy, and randomly allocated to a training group (148) or a control group (153). Exclusion criteria were pregnancy complications,or diseases that could interfere with participation. **METHODS:** A randomised controlled trial was conducted at Trondheim University Hospital and three outpatient physiotherapy clinics. The outcome measures were self reported symptoms of lumbopelvic pain (once per week or more), sick leave and functional status (Disability Rating Index). Pain drawing was used to document the painful area of the body. The intervention included daily pelvic floor muscle training at home, and weekly group training in 12 weeks including aerobic exercises, pelvic floor muscle and additional exercises, and information related to pregnancy. **ANALYSIS:** The main analysis was by intention to treat. Risk differences were analysed by Pearson's chi squared test, and by computing 95% confidence intervals. Possible influences of covariates (age, BMI, leisure time physical activity and pelvic floor muscle strength) on risk differences was explored using logistic regression. Students t-test was used to compare distributions between groups. In an exploratory analysis of a possible association between pelvic floor muscle strength and lumbopelvic pain, we grouped women according to self reports of pain instead of the randomised groups. Two-sided P-values <0.05 were considered significant. **RESULTS:** At 36 weeks of gestation women in the training group were significantly less likely to report lumbopelvic pain: 65/148 (44%) versus 86/153 (56%) (p□=□0.03). Three months after delivery the difference was 39/148 (26%) in the training group versus 56/153 (37%) in the control group (p□=□0.06). There was no difference in sick leave during pregnancy, but women in the training group had significantly (p□=□0.01) higher score on functional status. Analyses of Numbers Needed to Treat (NNT) demonstrated that this specific training program prevented lumbopelvic pain in about one in 8.1 women during pregnancy, and one in 9.8 women after delivery. There was no association between mean pelvic floor muscle strength at 36 weeks of pregnancy and 3 months after delivery, or changes in strength, and lumbopelvic pain **CONCLUSIONS:** A 12 week specially designed training program during pregnancy was effective in preventing lumbopelvic pain in pregnancy. **IMPLICATIONS:** Physiotherapists should engage in pre- and postnatal care. However, it is essential that future service for women during pregnancy is organised – as far as possible – according to results from controlled clinical trials. **KEYWORDS:** Lumbopelvic pain, pregnancy, prevention. FUNDING **ACKNOWLEDGEMENTS:** The Norwegian Fund for Postgraduate Training in Physiotherapy and Norwegian Women's Public Health Association. CONTACT: siv.morkved@ntnu.no
ETHICS COMMITTEE: The Regional Committee for Research Ethics in Sør-Trøndelag,Norway

WCPT PHOTO GALLERY

Retiring Executive (from left to right): Gill Brook (Treasurer), Meena Sran (Member at Large), Jill Boissonnault (President), Kari Bø (Vice President), Rebecca Stephenson (Secretary)

Current Executive (from left to right): Ros Thomas (Treasurer), Darija Šćepanović (Member at Large), Meena Sran (Vice President), Rebecca Stephenson (President), Gill Brook (Secretary)

Delegates from two of the new IOPTWH member countries (from left to right): Louise de Nijs-Renken (Germany), Nadia Fernanda Marconi (Brazil) and Clarice Tanaka (Brazil)

IOPTWH International Organization of Physical Therapists in Women's Health
sub-group of WCPT

FEATURE ARTICLE

Preventing HPV infection by a vaccine against a sexually transmitted infection and many gynecological cancers

Eliane Duarte-Franco[1,2] MD, MPH; Marc Steben[1], MD; Marie-Claire Thomassin[3]
[2] Department of Family Medicine, McGill University, Montréal, Canada
[3] 3rd year medical student, McGill University, Montréal, Canada

ABSTRACT
Unlike other infections caused by a single micro-organism, human papillomaviruses (HPV) are a large group of virus types (>120 types), 40 of which are associated with a constellation of anal and genital skin and mucosal diseases from warts or flat benign lesions to more severe conditions and cancer. Most people will be infected at least once in their lifetimes and most will clear the infection without treatment. However, given certain conditions in a small proportion of individuals, persistent HPV infection, faulty immune system and concomitant presence of enabling factors (such as cigarette smoking, other sexually transmitted infections such as Chlamydia, HIV and herpes) more severe abnormalities ensue which, if left untreated, will result in cancer. Recently approved vaccines that prevent specific types of HPV infection have the potential for significantly reducing morbidity and mortality from HPV-related diseases. This article provides a summary of the epidemiology of HPV and HPV-related diseases and provides a glimpse into the potential usefulness of HPV vaccines.

INTRODUCTION
During the past three decades medical scientists have documented that human papillomaviruses (HPV) are involved in the etiology of cancer of the uterine cervix and other anogenital cancers, such as vulva, vagina, penis, and anus and of the oral cavity (1). In fact, infection with HPV has been shown to be necessary for the development of cervical cancer and its precursor lesions, but most women infected will not have cancer (2). Most of the disease caused by HPV is benign in nature and transient (3). Nonetheless, despite being medically benign, conditions such as genital warts can be the source of considerable psychological distress due to being classified as a sexually transmissible infection (STI). Of importance is also the ubiquitous character of HPV; virtually everyone will be exposed to HPV in their lifetimes, and it is estimated that 80% will be infected by one or more HPV types. Even though most of such infections will be controlled or cleared by the host's immune system, there is no effective treatment for genital warts and it is still unpredictable, at the individual level, to identify who will fail clearance and will see their lesions progress to more severe states. This article provides a summary of the epidemiology of HPV and HPV-related diseases and provides a glimpse into the potential usefulness of HPV vaccines and the role of screening for cervical cancer after implementation of vaccination programs.

WHAT IS HPV?
HPV is deemed a necessary cause of cervical cancer because virtually all such cancers harbor HPV DNA and because the carcinogenic potential of certain HPV types has been well demonstrated (2). A different group of HPV viruses are associated with 90% of genital warts (4). HPV belongs to the taxonomic family Papillomaviridae and is a DNA virus wrapped into a protein shell. These viruses have been around for many thousands of years, it is highly infective and have cleverly adapted to their natural host tissue, and are able to evade the host's immune system quite efficiently. They do this by infecting the basal layer of the epithelium through small cracks which may be caused, for instance, by inflammation of the tissue or micro trauma during intercourse. Once there, the disease may take one of 3 courses: (1) the host's immune system will identify and effectively clear the infection (most people's infection follow this course, they present no symptoms); (2) the viruses maintain replication at a low level which may retain the infection for a very long period of time, in many cases, for months or years and (3) the longer the infection is kept, DNA instability increases and under certain conditions, the viral oncogenes win over the host's immune system and precancer and cancer arises (5).

(Continued on page 15)

(Continued from page 14)

More than 100 HPV types have been phylogenetically described; about 40 types are capable of infecting the anogenital tract and are sexually transmitted. Some 15 types have been associated with a high oncogenic potential and the most widely used HPV DNA test can distinguish these (most notably HPVs 16 and 18, as well as 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68, 73 and 82 which are rare) from the others, said to be of low oncogenic risk (most prominently HPV 6 and 11 that cause warts) (5).

EPIDEMIOLOGY

Epidemiological and laboratory studies have demonstrated that HPV infection is necessary for the development of virtually all cervical cancers (2). Around 20–70% of the vulvar, vaginal, and anal cancers test positive for oncogenic types of HPV which are believed to be directly involved in tumor development (5). All of these tumors, however, are of low incidence in Canada, where less than 1500 women a year will be diagnosed with any of these cancers in a given year and less than 400 will die from it annually; the vast majority being cases of cervical disease (1). Worldwide, the highest incidence and mortality of cervical cancer are found in the developing countries, almost 500,000 new cases and over 250,000 deaths occur yearly, 80% of these in women from underserved regions. The striking differences in the occurrence of cervical cancer worldwide are mostly due to the success of cytology screening (6).

The HPV types most often encountered in specimens of anogenital cancers include the high risk types 16 and 18; these are present in over 70% of cervical cancers, in 50% of cervical cancer precursors, called high grade squamous intraepithelial lesions (HSIL), in 25% of the low grade lesions (LSIL) and in most of the anal cancers. HPV 16 is also found on average in 10% of women with a normal Pap test. Also, it presents a much higher risk of HSIL than any other high risk HPV type. Any woman who has had at least 5 sexual partners has been, most likely, exposed to HPV 16 (5).

Over 90% of genital warts are caused by low risk HPV, most often, types 6 and 11. These HPV types are also positive in specimens of precancerous cervical lesions. While there are no long-term physical consequences to having these genital warts they may become an aesthetic problem and the treatment consisting of destroying them, and even if not so visually disturbing, many patients suffer with stigmatization and other psychological burden of having an identifiable sexually transmitted infection (STI). Moreover, genital infection with HPV is extremely common and it is, in fact, the most common sexually transmitted infection, although, information about the virus and its manifestations are not as widespread as that of other STIs. In the US alone, it is estimated that almost 20 million Americans are currently infected with HPV (7,8).

More than 80% people of both sexes will be exposed at least once in their lifetimes to HPV; women younger than 25 present the highest prevalence of HPV infection in North America and like most everywhere, this prevalence decreases with age. In a recent review of studies of Canadian women published by the Canada Communicable Disease Report (CCDR), it was found that the overall prevalence of HPV (including all types) ranged from 11-29% (1). Furthermore the prevalence varies with place of residency and ethnicity; rates of HPV seen in the Inuit living in Nunavut are higher than those seen in other Canadian studies and are comparable to the rates seen in the highest risk areas (86%) (1).

NATURAL HISTORY

Any manner of genital contact may transmit HPV infection of any type. Results of studies looking at use of condoms as a means of protection against transmission has been controversial; more recent data seem to suggest that condoms can reduce transmission but do not prevent infection (9).

There are several risk factors associated with the acquisition of HPV infection in women. The incidence of HPV infection has been associated with an increasing number of sexual partners, both lifetime and within the previous year (10). Unprotected sexual contact can be a predictive factor as condom use seems to provide some, but not absolute protection (11). Other factors associated are previous infections with STIs, specifically *Chlamydia trachomatis* and the herpes simplex virus type-2 (HSV-2), history of sexual abuse and early age of first sexual intercourse. Finally, being immunosuppressed increases the likelihood of acquiring this infection (12-14).

(Continued on page 16)

(Continued from page 15)

Once infection occurs, it can remain subclinical and therefore unidentifiable for many years. Most infections are asymptomatic, infected individuals are unaware of its presence and simply do not know they have it. Other times, HPV can cause lesions that look like flat swellings or raised skin, warts or cauliflowers; these can be single or multiple and can grow anywhere in the anogenital area; these lesions can appear weeks or months after a sexual encounter with an infected person (3).

Even though most HPV infections will clear spontaneously, usually within 4-20 months, re-infection rates are rather high and range within the year from 10-60% (10). Three to ten percent of women fail to clear the infection and usually are positive for a high risk HPV type.

Although most women will acquire HPV in their lifetimes, only a very small minority will suffer through the progression from infection to cancer. The risk factors for progression of the disease are very closely linked to those related to the risk of acquisition of HPV infection and again, persistent infection with a high risk HPV type is present in most, if not all cervical cancers. In addition, failure to have a Pap test is the single most common factor, both for women who do not have limited access to health care as well as those who do. Other significant risk factors for cervical cancer include cigarette smoking, use of hormonal contraception, high number of pregnancies and co-infection with other STIs such as HSV-2, *Chlamydia trachomatis*, and HIV infection. Another important determinant of progression relates to the virus itself, as infection with a high oncogenic risk type, co-infection of other HPV types, and other viral properties play a role in maintaining persistence of infection and triggering progression of disease. The host's nutritional and immunological status are also key in keeping the infection under control but these may also be influenced by the genetic profile of the women and also on endogenous hormones (12-14).

Once a productive infection is established in the cervix, lesions may develop and be detected by cytology or the so-called Pap test. For every 1000 women tested over the age of 30, 2% will have an indeterminate result that will need repeating for clarification; around 3 women will present with a LSIL, 1 with a HSIL and less than 1 in 10,000 will be diagnosed with cervical cancer on a Pap test in North America (15).

SCREENING AND MANAGEMENT OF LESIONS

There is no "cure" for HPV infection, although in most women the infection goes away on its own. There are however, treatments that can be offered for those who develop lesions associated with the infection (16, 17). Screening for cervical epithelial changes indicative of a malignant process via pap smears, has decreased the rates of cervical cancer in the developed countries by 80% it has come at a high cost. In the U.S. this cost is at over $6 billion dollars a year. Furthermore, false-negative pap smears from women with precancerous lesions are among the most frequent reasons for medical malpractice litigation (18).

The success of screening using the Pap test comes at a high cost because to compensate for the test's low sensitivity, it has to be repeated many times. Usually a Pap test is repeated 2 or 3 times for a new comer to the screening program, irrespective of age. After 2 or 3 negative annual tests the women are then recommended to repeat the test every 2-3 or even every 5 years. Practically speaking what currently happens in Canada is annual testing since none of the provinces have an organized program where women are automatically recalled.

MANAGEMENT

There are no lab tests to diagnose warts but only physical examination. Because many lesions will regress and disappear on their own, patients may choose to watch and see. They can be removed by means of surgery or by the use of topical medicaments (16, 17).

Management of LSIL is variable because most will disappear whereas, for HSIL and cancer, management is aggressive and may include fulguration, ablative, or surgical excision procedures, and radiotherapy. More than 80% of these lesions occur in women less than 40 years of age (19).

CURRENT ALTERNATIVE FOR PREVENTING HPV INFECTION

Safe sexual practice:

Transmission of HPV takes place by sexual contact even for people who are unaware they have it. Preventing the transmission of STI's can be enhanced by practicing protective sexual behaviors. Abstinence, monogamy, and limiting an individual's number of sexual partners are all techniques which may decrease the risk of acquiring HPV. As mentioned,

(Continued on page 17)

(Continued from page 16)

barrier methods of contraception (i.e. the condom), may have some protective effect on HPV acquisition. But in the HPV vaccine trial where women were eligible if they had had no more than 5 partners, the mean number of lifetime partners was 2 and yet, 27% of them were already infected by one or more HPV (11, 20).

Prophylactic vaccines against HPV infection:

Traditionally vaccinations have been the most effective way to combat infectious diseases: for example, it is thanks to vaccination that we have achieved eradication of small pox since the 70s; another almost as successful story is that of poliomyelitis. Vaccination against all high risk HPV types, cross-protection and taking over of ecological niches are issues that need to be better understood and studied before one could consider mentioning eradication of cervical cancer. To target the other anogenital malignancies is even more complex. Nonetheless, there is great theoretical potential for the positive impact of HPV vaccination on the occurrence of cervical and other anogenital cancers (21, 22).

How do vaccines work?

The vaccination created for HPV is to be used as a prophylactic or preventive vaccination; as such it should prevent healthy individuals from acquiring HPV infection of the types included in the vaccine (21). The vaccine consists of non-infectious, recombinant 'virus-like-particles' (VLPs) which were created to contain a type specific protein found within a particular HPV strain. This protein is called L1, and this protein cannot be, on its own, responsible for the adverse effects of the HPV virus but it does induce production of antibodies against that HPV type. The currently available vaccine contains proteins from the two most frequently found high risk HPV types (cancer-causing types 16 and 18) and the two most frequently found low risk types (wart-associated types 6 and 11): when an individual's immune system is exposed to the VLP it produces an immune reaction, i.e., antibodies are made which are sensitive to the L1s included in the vaccine. If a later exposure occurs to a naturally occurring HPV which contains the L1 protein, the body's immune response will be of a much stronger immune reaction than the one occurring after exposure in the absence of vaccination. All short and intermediate follow-up studies after vaccination has shown that vaccination provided 100% protection from the natural acquisition of persistent HPV16 infection over a period of almost 5 years (20, 23).

Are Pap smears a thing of the past?

Before any change can be introduced to existing screening programs using the Pap test a vaccination program should be implemented, ideally of universal coverage (24). Even if such a program is instituted, Pap cytology tests cannot be abandoned as previously mentioned, current vaccines do not provide protection against all 13-18 high risk HPV types which cause some 30% of cervical cancers. Although there is a real possibility that a vaccine against some types may provide cross protection against other types, we also need to understand better the ecological distribution of HPV types after possible elimination of a few. Therefore Pap test screening should never become a thing of the past. A more beneficial alternative would be switch to screening with the HPV test and then triage the HPV positive specimens for Pap cytology. Also, the use of an HPV test as the primary screening method may allow for the intervals between Pap tests to be increased from once every 2-3 years after the age of 25 to once every 5 or even 10 years. Currently, the recommendations for cervical cancer screening have not changed for those who have received the vaccine (1).

Are HPV generated genital warts a thing of the past?

Because the HPV vaccine includes types 6 and 11, there is potential for greatly reducing the incidence of genital warts, although not completely eradicating them (22).

Who should get this vaccine and what are the side effects?

The currently available vaccine is approved to be used for the prevention of genital warts and cervical cancer (1). There is no evidence that it functions to decrease the risk of other less common HPV associated diseases. This vaccine is approved for women aged 9 to 26 years old. Studies have shown that many women become infected within several months of initiation of sexual activity (7). Therefore vaccination at an age of 12-14 years, just before initiation of sexual contact, seems like an obvious strategy. The vaccine should be delivered through a series of 3 intra-muscular injections. It can be given to lactating and immuno-compromised females but is not indicated in pregnant women or women who have had an adverse reaction to a vaccine component. Initial concerns that delivering a quadrivalent vaccine (against 4 different types of HPV) would have less effect than a vaccine with a single type have been cleared in a re-

(Continued on page 18)

(Continued from page 17)

cent study (25).
Side effects of vaccination are rare and minimal: only 0.1% of test subjects ceased receiving their vaccination due to adverse reactions in one study. These reactions include pain, swelling, erythema, pruritus at the site of injection and systemic symptoms including fever, nausea, and dizziness (26).

How long will protection last?

Unfortunately, it is unclear how long vaccination will confer protection against those HPV viruses included within it. Long-term studies have not been completed as of yet. However, in one intermediate length study it was shown that at 4.5 years of follow-up 94% of test subjects were still protected against persistent HPV infection of the strains for which they were vaccinated. Furthermore, when testing the individual's blood- they found that the antibody levels against the L1 proteins were low but measurable, suggesting the possibility of long-term protection (27). While this is encouraging, evidence from more long term studies may indicate in the future a need for a booster dose some 5 to 10 years or more after primary vaccination.

Should men be vaccinated?

Men are evidently not at risk for cervical cancer. They could however, benefit from protection against the low risk strains of HPV responsible for genital warts and those associated with penile, anal and oropharyngeal cancers. Studies on the cost/benefit ratio of such a vaccination program have simply not been completed as of yet. It may be beneficial to vaccinate men to simply provide more rapid and effective protection of women through 'herd immunity'. The few studies that have been completed thus far, however, have found only a modest effect on cervical cancer incidence rates of this strategy in comparison to a broader vaccination of women (28).

Why should physiotherapists be concerned?

Physiotherapists will be concerned by HPV in many ways. While doing their physical exams and treatments, physiotherapists can see warty or abnormal lesions (thick, bizarre colours or surface, ulceration) that should be referred to experienced colleagues for proper evaluation. Most HPV related lesions cause no problem to women until they develop into cancer or transmit the infection to their partners or babies. Also, destructive treatment of warts, precancerous lesions and cancers will frequently be accompanied by painful scarred tissue leading to vaginismus and coital pain. These patients will present to physiotherapists with a heavy emotional burden because of HPV per se and the consequences of the treatment.

Physiotherapists can also be a source of preventive information to their patients (29). They can promote the use of HPV vaccine to their female patients with or without prior HPV infection since rarely women will have been exposed to the 4 genotypes of the vaccine.

CONCLUSION

HPV vaccine represents one of the most important breakthroughs in terms of preventive care for women. This may lead to eradication of many anogenital diseases in this century. Physiotherapist because of their interaction with female population should promote the use of HPV vaccine.

REFERENCES

1. Statement on human papillomavirus vaccine. Canada Communicable Disease Report. Available at: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/07vol33/acs-02/index_e. html. Accessed April10, 2007.
2. Wallboomers J, et al. Human papillomavirus is a necessary cause of invasive cervical cancer worldwide. J Pathol 1999;189;12-19.
3. Koutsky L. Epidemiology of genital human papillomavirus infection. Am J Med 1997;102(5A):3-8.
4. Munoz N, Bosch FX, de Sanjose S, Herrero R, Castellsague X, Shah KV et al. Epidemiologic classification of human papillomavirus types associated with cervical cancer. N Engl J Med 2003;348(6):518-27.
5. Snijders PJ, Steenbergen RD, Heideman DA, Meijer CJ. HPV-mediated cervical carcinogenesis: concepts and clinical implications. J Pathol 2006;208(2):152-64.
6. Parkin DM. The global health burden of infection-associated cancers in the year 2002. Int J Cancer 2006;118:3030-3044.
7. Dunne EF, Unger ER, Sternberg M, McQuillan G, Swan DC, Patel SS et al. Prevalence of HPV infection among females in the United States. J Am Med Assoc 2007;297 (8):813-9.
8. Weinstock H, Berman S, Cates Jr W. Sexually Transmitted Diseases Among American Youth: Incidence and Prevalence Estimates, 2000. Perspectives on Sexual and Reproductive Health 2004;36(1):6–10.
9. Shew ML, Fortenberry JD, Tu W, Juliar BE, Batteiger BE, Qadadri B, et al. Association of condom use, sexual behaviors, and sexually transmitted infections with the duration of genital human papillomavirus infection among adolescent women. Arch Pediatr Adolesc Med 2006;160(2):151–6.

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10. Winer RL, Kiviat NB, Hughes JP, Adam DE, Lee SK, Kuypers JM, et al. Development and duration of human papillomavirus lesions, after initial infection. J Infect Dis 2005;191(5):731–8.
11. Hogewoning CJ, Bleeker MC, van den Brule AJ, Voorhorst FJ, Snijders PJ, Berkhof J, et al. Condom use promotes regression of cervical intraepithelial neoplasia and clearance of human papillomavirus: a randomized clinical trial. Int J Cancer 2003;107(5):
811–6.
12. McIntyre-Seltman K, Castle PE, Guido R, Schiffman M, Wheeler CM. Smoking is a risk factor for cervical intraepithelial neoplasia grade 3 among oncogenic human papillomavirus DNA-positive women with equivocal or mildly abnormal cytology. Cancer Epidemiol Biomarkers Prev 2005;14(5):1165–70.
13. Tolstrup J, Munk C, Thomsen BL, Svare E, van den Brule AJC, Grønbæk M, et al. The role of smoking and alcohol intake in the development of HSIL among high-risk HPV positive women, Acta Scand Obstet Gyn 2006, in press.
14. Silins I, Ryd W, Strand A, Wadell G, Tornberg S, Hansson BG, et al. Chlamydia trachomatis infection and persistence of human papillomavirus. Int J Cancer 2005;116(1):110–5.
15. Mayrand M, Duarte-Franco E, Coutlée F, Rodrigues I, Walter SD, Ratnam S, Franco E, for The CCCaST Study Group. Randomized study of human papillomavirus testing versus Pap cytology in the primary screening for cervical cancer precursors: Design, methods and preliminary accrual results of the Canadian Cervical Cancer Screening Trial (CCCaST). International Journal of Cancer 119(3): 615-623, 2006
16. Public Health Agency of Canada. Canadian Guidelines on Sexually Transmitted Infections(STIs) 2006 Edition, 6th ed. www.publichealth.gc.ca/sti.
17. Kropp RY, Latham-Carmanico C, Steben M, Wong T, Duarte-Franco E. The Canadian Guidelines on sexually transmitted infections, 2006 Edition: what's new in management of STIs? Can Fam Physician (*in press*).
18. Roden R, Wu T. How will HPV vaccines affect cervical cancer? Nature Rev 2006;6;753-763.
19. Schiffman M, Castle PE. Human papillomavirus: epidemiology and public health. Arch. Pathol. Lab. Med. 2003 Aug;127(8): 930-4.
20. The FUTURE II Study Group. Quadrivalent vaccine against human papillomavirus to prevent high-grade cervical lesions. N Engl J Med 2007;356:1915-27
21. Bryan JT. Developing an HPV vaccine to prevent cervical cancer and genital warts. Vaccine 25 (2007) 3001–3006.
22. Garland SM., Hernandez-Avila M, Wheeler CM, Perez G., Harper, DM, Sepp Leodolter S, Tang GW, Ferris, DG, Steben M, Bryan J, Taddeo FJ, Railkar R, Esser MT, Sings HL, Nelson M, Boslego J, Sattler C, Barr E, Koutsky LA for the Females United to Unilaterally Reduce Endo/Ectocervical Disease (FUTURE) I Investigators.Quadrivalent Vaccine against Human Papillomavirus to Prevent Anogenital Diseases. N Engl J Med 2007;356:1928-43.
23. Paavonen J, Jenkins D, Bosch F, Naud P, Salmerón J, Wheeler C, Chow S, Apter D, Kitchener H, Castellsague X. Efficacy of a prophylactic adjuvanted bivalent L1 virus-like-particle vaccine against infection with human papillomavirus types 16 and 18 in young women: an interim analysis of a phase III double-blind, randomised controlled trial.
The Lancet, 2007, 369 (9580): 2161-2170.
24. Adams M, Jasani B, Fiander A. Human papilloma virus (HPV) prophylactic vaccination: Challenges for public health and implications for screening. Vaccine 25 (2007) 3007–3013.
25. Garland SM, Steben M, Hernandez-Avila M, Koutsky LA, Wheeler CM, Perez G, Harper DM, Leodolter S, Tang GW, Ferris DG, Esser MT, Vuocolo SC, Nelson M, Railkar R, Sattler C, Barr E; 012 Study Investigators. Noninferiority of antibody response to human papillomavirus type 16 in subjects vaccinated with monovalent and quadrivalent L1 virus-like particle vaccines. Clin Vaccine Immunol. 2007 Jun;14(6):792-5.
26. GARDASIL®: Quadrivalent Human Papillomavirus (Types 6, 11, 16, 18) Recombinant Vaccine. Merck and Co. Inc. Available at: http://www.merck.com/product/usa/pi_circulars/g/gardasil/gardasil_pi.pdf. Accessed April 10, 2007
27. Koutsky L, et al. A controlled trial of a human papillomavirus type 16 vaccine. New England Journal of Medicine 2002;347; 1645-1651.
28. Taira A, Newukerlmans C, Sanders G. Evaluating human papillomavirus vaccination programs. Emerg Infect Dis 2004;10;1915-1923.
29. Sherris J, Friedman A, Wittet S, Davies P, Steben M, Saraiya M. Chapter 25: Education, training, and communication for HPV vaccines. Vaccine 24S3 (2006) S3/210–S3/218.

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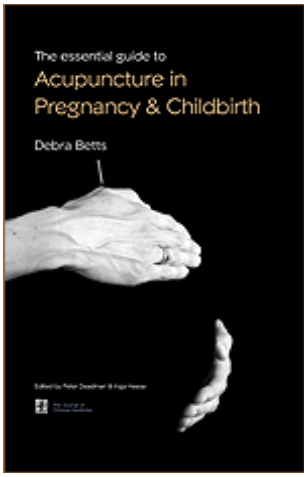
BOOK REVIEW



The Essential Guide to Acupuncture in Pregnancy and Childbirth

By Debra Betts
Journal of Chinese Medicine Ltd, Hove, 2006,
328 pages, hardback, £35.00
ISBN 0951054694

I felt very privileged when asked to review this long-awaited clinical approach to a subject I have particular interest in and I was far from disappointed. Even before opening *The Essential Guide to Acupuncture in Pregnancy and Childbirth*, the cover is so aesthetically pleasing that it makes the book a must for those wanting to find out more. As the title announces, this is an essential clinical guide, crossing professional disciplines, and encompassing proven solutions to the management of the mother and the fetus, whether you are a professional acupuncturist, midwife, physiotherapist or doctor working with acupuncture in the field of gynecology and obstetrics.

Within the realms of physiotherapy, I would fully recommend this text as essential reading matter if practitioners are about to embark on further advanced acupuncture training in women's health, provided they have a fundamental knowledge of Traditional Chinese Medicine (TCM) philosophy.

The Essential Guide to Acupuncture in Pregnancy and Childbirth is divided into sections covering a number of conditions, such as nausea and vomiting, musculoskeletal conditions, insomnia, and anxiety. These are presented at prepartum, during labor and postpartum, with a chapter dedicated to each. Within each chapter, Debra Betts has integrated Western medical diagnosis into a TCM framework. She uses succinct, manageable language, something I find lacking in several other texts on this subject, and something I welcome within our clinical practice.

The book has an added advantage in that treatment protocols are provided within each section. The anatomical positions of relevant points are superbly illustrated by Peter Deadman, Mazin Al-Khafaji and Kevin Baker, and in-depth clinical reasoning for their use is provided. Chapter 26, citing a review of current research with clinical application to acupuncture in pregnancy, is an added bonus.

Each page provides the reader with the author's clinical experience and knowledge of the subject matter. I am grateful for this knowledge and for the easy style in which it has been written, which has the dual benefits of enhancing my clinical reasoning and aiding my patients' recovery. I welcome texts that augment the clinician's patient care and problem-solving skills within an evidence base that is objective, relevant and pertinent to current healthcare. *The Essential Guide to Acupuncture in Pregnancy and Childbirth* provides all these qualities and more.

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