



Antenatal and postpartum pelvic floor muscle training in prevention of UI

W33, 16 October 2012 09:00 - 12:00

Start	End	Topic	Speakers
09:00	09:05	Welcome	<ul style="list-style-type: none"> • Siv Mørkved
09:05	09:30	Risk factors of birth injuries to the pelvic floor	<ul style="list-style-type: none"> • Kjell Salvesen
09:30	10:00	Evidence for PFMT during pregnancy and after childbirth	<ul style="list-style-type: none"> • Siv Mørkved
10:00	10:30	Mini pelvic floor muscle training class	<ul style="list-style-type: none"> • Siv Mørkved
10:30	11:00	Break	None
11:00	11:20	Which women exercise during pregnancy and after childbirth	<ul style="list-style-type: none"> • Marijke van Kampen
11:20	11:40	Adherence strategies in promotion of pelvic floor muscle training	<ul style="list-style-type: none"> • Siv Mørkved
11:40	12:00	Challenges in development and implementation of clinical guidelines in clinical practice	<ul style="list-style-type: none"> • Bary Berghmans

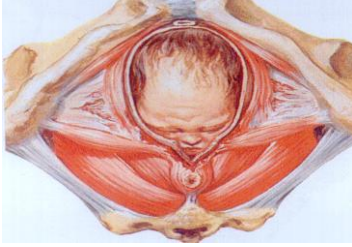
Aims of course/workshop

The aim of the workshop is to give evidence for the use of pelvic floor muscle training in prevention and treatment of urinary incontinence during pregnancy and after childbirth and to discuss possible strategies to improve adherence and implementation of pelvic floor muscle training for women.

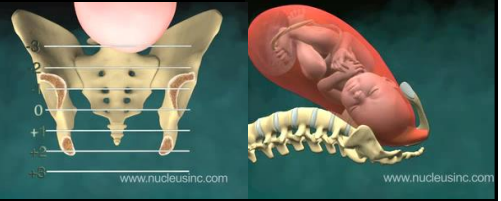
Educational Objectives

We have run this workshop (educational course) several times at the ICS and ICS/IUGA meetings, and have always had very positive evaluations. This is an important topic, as there is evidence from high quality RCTs, systematic reviews and Cochrane reviews that PFMT during pregnancy and postpartum is effective in treatment and prevention of UI. However, PFMT is still not standardized practice in most countries. In this workshop we address causes and risk factors for pelvic floor dysfunction during pregnancy and after childbirth, the evidence for PFMT, adherence to PFMT and important factors for successfully implementing PFMT in the peripartum period. In addition we give a mini PFMT class which has shown to be fun and very successful in making the participants understand what effective PFMT is about.

Risk factors of birth injuries to the pelvic floor



Dynamics of labour



YOU'RE A GOOD MAN,
CHARLIE BROWN
THE BROADWAY MUSICAL



Birth trauma

- ◆ Anal sphincter trauma
 - Anal incontinence
- ◆ Levator ani trauma
 - Female pelvic organ prolapse
- ◆ Nerve trauma
 - Urinary incontinence

Perineal lacerations

- ◆ Grade 1 - Superficial
- ◆ Grade 2 - Deep, but not into EAS
- ◆ Grade 3 – Involvement of EAS
 - 3 a: Rupture of < 50% EAS
 - 3 b: Rupture of > 50% of EAS
 - 3 c: Rupture of EAS and IAS
- ◆ Grade 4 - EAS + IAS + mucosa

Risk factors of anal sphincter trauma

- ◆ Para 0
- ◆ Birth weight > 4000 g
- ◆ Induction of labour
- ◆ Prolonged second stage of labour
- ◆ Operative vaginal delivery
- ◆ Previous grade 3 and 4 laceration
- ◆ Edematous perineum
- ◆ Lack of perineal support
- ◆ Epidural, age and syntocinon??

Consequences of anal sphincter trauma

- ◆ 40 % risk of anal incontinence in later life:

	Risk
Grade 3 a	20%
Grade 3 b	30%
Grade 4	60%

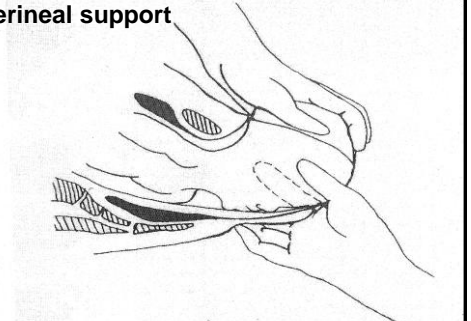
Prevention

- ◆ Avoid prolonged second stage
- ◆ Avoid unnecessary operative vaginal delivery
- ◆ Restrictive use of episiotomy
- ◆ Labour positions with good overview of perineum
- ◆ Active perineal support

Perineal support



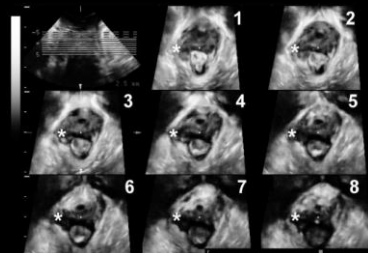
Perineal support



Levator ani trauma

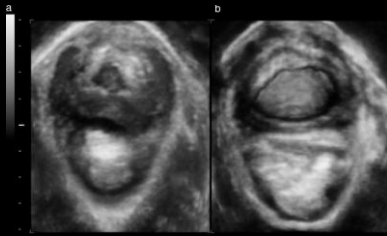
- ◆ Avulsion
 - The puborectalis muscle is traumatically disconnected from its insertion on the inferior ramus and the body of the os pubis
- ◆ Ballooning
 - Irreversible overdistension of the levator hiatus during delivery

Avulsion



From Dietz HP. Ultrasound Obstet Gynecol 2012; 39: 367-71

Ballooning



From Dietz HP. Ultrasound Obstet Gynecol 2012; 39: 367-71

Risk factors of levator ani trauma

- ◆ Maternal age
- ◆ Prolonged second stage of labour
- ◆ Forceps delivery, but not vacuum
- ◆ Fetal head circumference

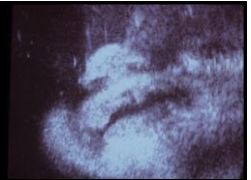
Protective effect

- ◆ Epidural
- ◆ High BMI

Consequences of levator ani trauma

- ◆ The life time risk of surgery for female pelvic organ prolapse is 10-20%
- ◆ First mention in literature of levator trauma in 1943, but first case diagnosed immediately after birth was in 2007
- ◆ Postnatal pelvic floor imaging is less than 10 years old
- ◆ Further research is needed

Further reading



Dietz HP. Clinical consequences of levator trauma. Opinion. Ultrasound Obstet Gynecol 2012; 39: 367-71.

Schwertner-Tiepelmann N et al. Obstetric levator ani muscle injuries: current status. Ultrasound Obstet Gynecol 2012; 39: 372-83.

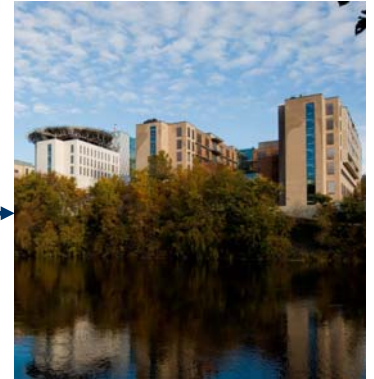
Evidence for PFMT during pregnancy and after childbirth

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The Norwegian University of Science and Technology

Trondheim
Norway



Kart levert av NGU

Aims of the presentation

- Literature review
 - Evidence behind the use of
 - pelvic floor muscle exercise during pregnancy and after delivery in prevention and treatment of urinary incontinence
 - Prevalence of urinary incontinence during pregnancy and after delivery
- Example of an evidence based training protocol
 - Results

Prevalence of UI in relation to pregnancy and delivery

- During pregnancy:
7% (Højberg et al 1999) - 67% (Francis 1960)
- 2-3 months after delivery:
3% (Viktrup et al 1992) - 38% (Mørkved et al 1999)
- Overall numbers: 30-40% (Mørkved 2003)

- There is evidence that child-bearing results in higher risk of incontinence.

How to prevent dysfunction of the PFM?

- Elective Caesarean section ?
- Obstetric management ?



Need for strategies to treat and rehabilitate pelvic floor damage



- Pelvic floor muscle training

Can pelvic floor muscle exercise during pregnancy and after delivery prevent or treat urinary incontinence?

Effect of PFM exercise during pregnancy to prevent UI – women with and without UI at inclusion

- Sampselle et al 1998 ⇒ Exercise → ↓ UI – strength
- Hughes et al 2001 ⇒ Exercise → – UI
- Reilly et al 2002 ⇒ Exercise → ↓ UI – strength
- Mørkved et al 2003 ⇒ Exercise → ↓ UI ↑ strength
- Gorbea et al 2004 ⇒ Exercise → ↓ UI
- Mason et al 2010 ⇒ Exercise → – UI
- Ko et al 2011 ⇒ Exercise → ↓ UI
- Haakstad & Bø 2011 ⇒ Exercise → – UI
- Stafne et al 2011 ⇒ Exercise → ↓ UI

Effect of PFM exercise during pregnancy to prevent UI in women with UI at inclusion

- Woldringh et al 2006 ⇒ exercise → – UI
- Dinc et al 2009 ⇒ exercise → ↓ UI
↑ strength

Effect of PFM exercise after delivery to prevent UI in women with and without UI at inclusion

- Sleep & Grant -87 ⇒ exercise → – UI
- Mørkved & Bø -97, -2000* ⇒ exercise → ↓ UI / ↓ UI
↑ strength
- Meyer et al -01* ⇒ exercise → ↓ UI
– strength
- Chiarelli & Cockburn -02, -04 ⇒ exercise → ↓ UI / – UI
- Ewings et al -05 ⇒ exercise → – UI

Effect of PFM exercise after delivery to prevent UI in women with UI at inclusion

- Wilson & Herbison -98 ⇒ exercise → ↓ UI
– strength
- Glazener et al -01, 05 ⇒ exercise → ↓ UI / – UI
- Dumoulin et al -04 ⇒ exercise → ↓ UI
– strength

Prevention

- primary
- secondary
- tertiary

Cochrane review

(Hay-Smith, Mørkved, Fairbrother, Herbison 2008)

- Is PFMT better than usual antenatal or postnatal care for the prevention and treatment of urinary incontinence?
 - Primary or secondary prevention
 - Treatment
 - The population approach (mixed prevention and treatment approach)

Is PFMT better than usual antenatal or postnatal care for the prevention of UI?

Hay-Smith et al.2008

Gorbea et al 2004; Mørkved et al 2003; Reilly et al 2002, Sampselle et al 1998

Women without UI who began PFMT from 20 weeks gestation were less likely to report UI:

- 56% in late pregnancy
- 50% up to 12 weeks postpartum
- 30% between three and six months postpartum

Is PFMT better than usual antenatal or postnatal care for the treatment of UI?

Hay-Smith et al.2008

Dumoulin et al 2004; Glazener et al 2001; Wilson et al 1998, Woldringh et al 2007

PFMT women were 21% less likely to report UI six to 12 months following delivery

Is PFMT better than usual antenatal or postnatal care for the prevention and treatment of UI?

Hay-Smith et al. 2008

Population approach (Mørkved et al 2003; Sampselle et al 1998):

- **Reduced risk of UI in late pregnancy**
- **Only the study with a strength training protocol had persistent effect at three months postpartum and six years postpartum**

Discussion

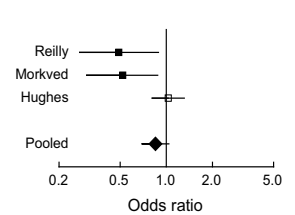
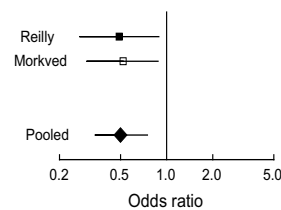
- Intervention
 - contrast between training and control group
 - **training frequency and intensity**
 - follow up - adherence

Authors	INTERVENTIONS – contrasts..... Control group – Training group
Gorbea et al 2004 2 arm RCT n=75 Nulliparous 20th week	<p>1.Control group: No PFMT</p> <p>2.Training group: Individual PFMT with physiotherapist once weekly in 8 weeks, telephone calls. Exercises 3 sets of 10 contractions (each held for 8 seconds + 3 fast contractions) for up to 20 weeks. Biofeedback.</p>
Mørkved et al 2003 2 arm RCT n=289 Nulliparous 20th week	<p>1.Control group: Customary information from general practitioner / midwife. Correct PFM contraction instructed and checked at enrolment. Not discouraged from doing PFMT.</p> <p>2.Training group: 12 weeks of intensive PFMT: Group training led by physiotherapist once per week + additional daily home exercises 3 sets of 10 contractions (each held for 6-8 sec + 3 fast) between 20-36 weeks of pregnancy.</p>

Author	Training protocol: frequency/intensity + adherence
Sleep & Grant 1987 2 arm RCT N=1800	1.Control: Usual antenatal and postnatal care. Recommended to do PFMT as often as remembered and mid stream urine stop. 4 wk health diary. 2.Intervention: As above plus one individual session daily while in hospital with midwifery co-ordinator. 4 wk health diary including section recommending a specific PFMT task each week.
Mørkved & Bø 1997, 2000. Matched controlled N=198	1.Control: Customary written postpartum instructions from the hospital. Not discouraged from performing PFMT on their own. Correct PFMC checked at enrolment. 2.Intervention: Eight weeks PFMT (in a group) led by physiotherapist with additional home exercises between 8 and 16 weeks postpartum. Correct PFMC checked.
Dumoulin et al 2004 3 arm RCT N=64 (with SUI)	1.Control: 8 weekly sessions of massage 2.Intervention - PFM rehabilitation: a) Weekly sessions supervised by physiotherapist for 8 weeks: 15-minutes electrical stimulation + 25 minutes PFMT with biofeedback + home training 5 days per week. b) PFM rehabilitation as group 2 + 30 minutes of deep abdominal muscle training

Antenatal PFMT: yes or no?

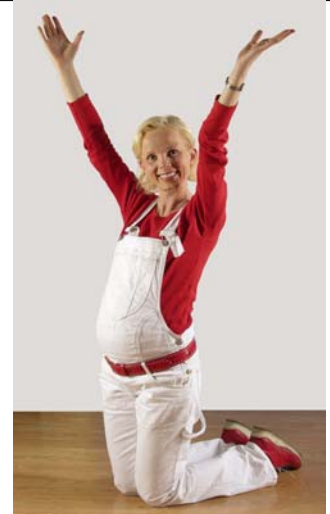
Herbert & Bø, BMJ 2005



Success???

- Intervention
 - training frequency and intensity
 - follow up - adherence
- THE MORE INTENSIVE THE PROGRAMME THE GREATER THE TREATMENT EFFECT (Cochrane Review: Hay-Smith et al 2008; Mørkved & Bø, European Urology Review 2009)

An example of a training protocol



Important !!

Intervention based on knowledge about:

- Training principles
- Functional anatomy
- Motor learning principles
- Motivation theory (adherence strategy)

Motor learning principles

Instructions

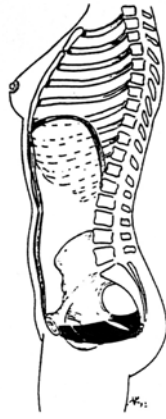
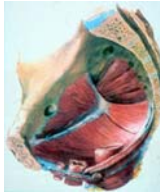
in correct
PFM contraction



Functional anatomy

The pelvic floor muscles - continence mechanism

- Pelvic support
- Strong and fast contraction
- "Squeeze and lift"



Training principles



General recommendation:

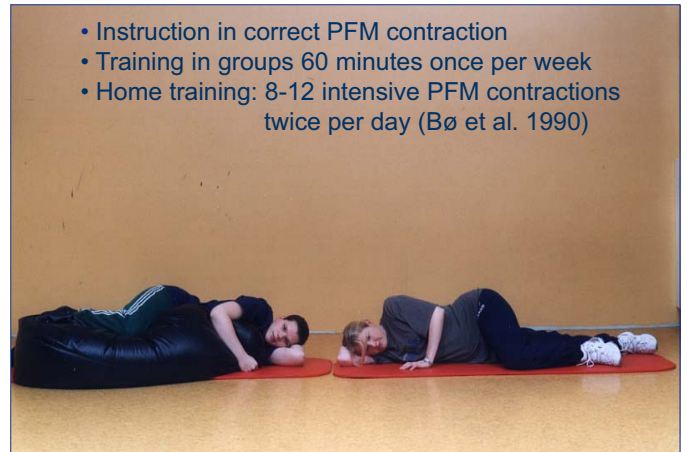
- 3 sets of 10 high resistant contractions three times per week
- Rehabilitation situations – overload not possible – more frequent training sessions

Motivation (adherence strategies)



Intervention (12 weeks)

- Instruction in correct PFM contraction
- Training in groups 60 minutes once per week
- Home training: 8-12 intensive PFM contractions twice per day (Bø et al. 1990)

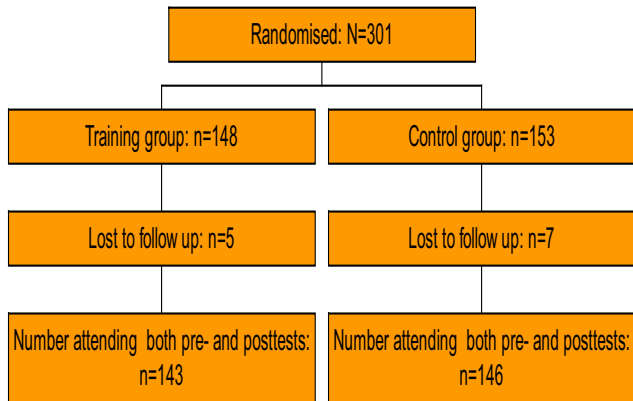


Pelvic floor muscle training in different positions





Effect of PFMT in pregnancy (Mørkved et al 2003)



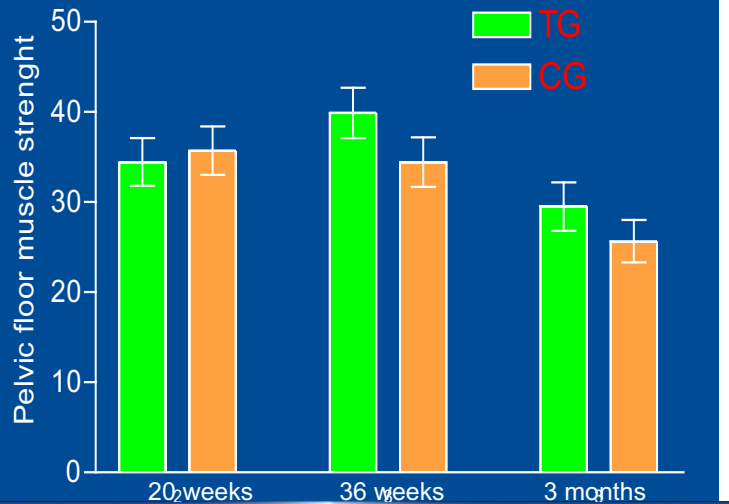
Primary aim:

To study the effect in the prevention and treatment of urinary incontinence

Primary outcome measure: Urinary incontinence once per week or more (Mørkved et al. Obstet Gynecol 2003;101:313-9)

	Training group		Control group		P*
	N=148 n	%	N=153 n	%	
36 weeks of pregnancy	48	32	74	48	0.005
3 months after delivery	29	20	49	32	0.014

* χ -square test



Conclusion

A specially designed PFM exercise course during pregnancy is effective in the prevention and treatment of urinary incontinence during pregnancy and after delivery



Secondary aim:

To study any effect of pelvic floor muscle training during pregnancy on labour

(Salvesen & Mørkved
BMJ 2004;329:378-80)

Results [Median (range)]

(Salvesen & Mørkved. *BMJ* 2004;329:378-80)

	Training group (n=111)	Control group (n=113)	p-value
Duration of 1.stage (minutes)	260 (30-750)	260 (10-950)	0.57
Duration of 2.stage (minutes)	35 (4-115)	45 (6-105)	0.30
No(%) deliveries with prolonged 2.stage (≥60 minutes)	22 (21)	37 (34)	0.03
No(%) vaginal operative delivery for prolonged 2.stage	15 (15)	19 (17)	0.57
No(%) acute caesarean section	5 (5)	3 (3)	0.46
No(%) episiotomy	56 (51)	72 (64)	0.05
No(%) third or fourth degree tears	7 (6)	9 (8)	0.64
No(%) epidural analgesia	47 (42)	49 (43)	0.88
No(%) oxytocin augmentation	69 (63)	74 (66)	0.67
Amount of bleeding (ml)	300 (100-1500)	300 (100-1500)	0.26

The myth that pelvic floor muscle training during pregnancy will cause prolonged labour was not confirmed in this trial

Salvesen & Mørkved. *BMJ* 2004
Bø et al. *Obstet Gynecol* 2009



Secondary aim:

To study the effect in the prevention and treatment of lumbopelvic pain during pregnancy and after childbirth

(Mørkved et al. *Acta Obstet Gynecol* 2007)

Bekkenløsning

Lumbopelvic pain (once per week or more)

Mørkved et al. *Acta Obstet Gynecol* 2007

	Training group N=148		Control group N=153		P*
	n	%	n	%	
36 weeks of pregnancy	65	44	86	56	0.038
3 months after delivery	39	26	56	37	0.063

* χ -square test



How many women need to train to prevent one from:

NNT

Urinary incontinence in pregnancy	6
Urinary incontinence 3 months p.p.	8
Low back/pelvic girdle pain in pregnancy	8
Prolonged 2. stage of labour (60 min)	8
Episiotomy during delivery	7
Operative delivery (prolonged 2. st.)	28

Challenges in development and implementation of clinical guidelines in clinical practice

Nowadays physiotherapy still is facing quality problems in relation to communication and cooperation. Urologists, gynaecologists and surgeons are uncertain about appropriate indications and referrals to physiotherapists. One of the reasons for this is lack of communication and integrated care. Often an appropriate infrastructure for broad implementation and necessary innovation is lacking. Because of lack of knowledge and insight information surgeons demonstrate lack of urgency to change their clinical practice.

One challenging strategy for improving the quality of physiotherapy is to minimize undesirable variability in clinical practice by developing and implementing evidence-based clinical practice guidelines (CPGs).

A useful working definition of CPGs is derived from the Institute of Medicine of the United States Agency for Health Care Policy and Research (AHCPR). CPGs are defined as 'systematically, on the basis of (best) evidence and consensus developed recommendations, drafted by experts, field-tested, and directed at performing diagnostic and therapeutic interventions in persons with definitive, suspected or health-threatening conditions, or directed at areas which have to do with good management and administration of the profession(al)' (Field & Lohr 1992). CPGs are systematically developed statements which assist clinicians and patients in making decisions about appropriate treatment for specific conditions. The idea is that CPGs should be followed unless the individual physiotherapist has a valid and responsible basis for not following the guideline.

The purpose of CPGs on the level of the individual physiotherapist is to assist this professional in making daily decisions and to self evaluate these decisions. The guidelines need to be applicable in daily clinical practice. On the level of the physiotherapy profession the purpose of CPGs is to increase effectiveness and to explicit and to uniform care. Next to effectiveness efficiency is important, i.e., 'Value for Money'. Development and implementation of physiotherapeutic CPGs need to be clear and transparent also for other related health care professionals and should ultimately be imbedded in multidisciplinary (international) guidelines.

Even well-established CPGs will not contribute to improving quality unless they are imbedded in effective implementation programs (Hendriks et al. 2000). This presentation will outline current knowledge about implementation of CPGs, and translates this knowledge to the field of pelvic floor muscle training during pregnancy and after childbirth. It deals with guideline effectiveness and with the strategies required for implementing CPGs. In general, the provision of explicit CPGs supported by reinforcement strategies will improve physiotherapist's performance and, in certain situations, also patients' health outcomes. Multiple implementation strategies are more likely to be effective than single strategies, and interactive workshops and audit and feedback seem to be the most effective interventions. Interactive strategies serve also to change the individual physiotherapist's behaviour in the constantly altering environment of evidence-based practice. As implementation is expected to occur as a result of interaction between innovators and professionals working in the field, the professional needs to be involved in the process of guidelines development

and implementation. Key components of the development of a strategy for implementing CPGs in physiotherapy are the active involvement of physiotherapists in both the development and implementation of guidelines, the use of multiple strategies including interactive strategies and the investigation and reduction of barriers for implementation.

Investigating perceived barriers, and linking these to implementation interventions that have been shown to be effective, is a useful way to obtain insight into the most appropriate implementation strategies.

Lack of knowledge about the potentials of physiotherapeutic preventive intervention of and collaboration with referring gynaecologists, obstetricians, general practitioners and midwives and the expectations of post partum women are important barriers of the implementation of post partum prevention guidelines. Good collaboration is vital to ensure consistency across professions and to provide optimal quality of care. Changing the expectations of post partum women ('my baby is important, not me!!') may take some time, physiotherapist's effort, information and education, because up to now most post partum women may have received traditional (lack of) care. It is the responsibility of the physiotherapist, as a professional, to provide good quality information, education and intervention, like Morkved's group training program (Morkved 2003), but in order to do so it may be necessary to try to change the expectations of the post partum women. Because physiotherapists have difficulties changing post partum women's expectations, learning how to deal with expectations that are not consistent with the guidelines is an important part of the implementation strategy (Berghmans et al, 2007).

References

Field MJ & Lohr KN (eds) 1992. Guidelines for Clinical Practice: From development to use, IOM, National Academy Press, Washington DC

Hendriks H J, Bekkering G E, van Ettehoven H et al 2000. Development and implementation of national practice guidelines: A prospect for continuous quality improvement in physiotherapy. *Physiotherapy* 86(10): 535-547

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Berghmans LCM, Hendriks HJM, Bernards ATM, de Bie RA. The development of clinical practice guidelines in physiotherapy. In: Evidence-based physical therapy for the pelvic floor. Eds. Kari Bo, Bary Berghmans, Siv Morkved, Marijke Van Kampen. Churchill Livingstone Elsevier, London, UK, 2007

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ICS BEIJING 2012

WORKSHOP 33

Antenatal and postpartum PFMT in prevention of UI

WHICH WOMEN NEED PHYSIOTHERAPY?

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CONTENT

- Introduction
- Symptoms

- Pre- & postnatal physiotherapy
 - Prevention
 - Treatment

- Risk factors
- Conclusion

Introduction

- Variation in prescription behavior of physiotherapy by physicians and gynaecologists

- Pre- and postpartum physiotherapy
 - To prevent and reduce symptoms during pregnancy and delivery, after childbirth and in later life
 - Near incontinence other symptoms

Introduction

- Do all pregnant women need perinatal physiotherapy?
- Or only those with specific symptoms
- Or is there no evidence for prenatal or postnatal physiotherapy?

REVIEW

- More than 200 RCT: efficacy of physiotherapy
 - RCT:Studies
 - A systematic literature review
 - Workshop: selection of RCT's with Pedroscore >5

Symptoms

- Pelvic girdle pain and low back pain
- Incontinence,
- Weight retention
- Perineal pain and dyspareunia
- Postnatal depression & fatigue
- Fear of childbirth
- Hypertension
- Leg cramps, oedema and heavy legs,
- Diabetes mellitus

- No RCT about morning-sickness, stretch marks, mood disorders, painful breasts postpartum and painful contractions postpartum, dyspareunia

Low back pain and pelvic girdle pain

- Most RCT's about this symptom

- Prevention: good results
- Treatment: discrepancy
 - stabilizing or an acupuncture program
 - Water-gymnastics

○ Elden 05, Elden 08, Nilsson-Wikmar 05, Haugland 06, Stuge 04, Stuge 04 follow-up, Depledge 05, Garshabi 05, Kihlstrand 99, Suputtitada 02, Morkved 07, Mens 00, Bastiaenen 06, Kalus 07, Gutke 10, Bastiaenen 08, Kashanian 09, Stafne 12

Incontinence

- How many women follow pre/postnatal PFMT: ¼

- RCT's and reviews: positive results on PFMT
- Other studies proved efficacy
 - Ultrasound
 - Measure vaginal hiatus

Weight retention

- Active exercises->reduce weight gain
- Most difficult group: women with BMI>26

Dewey 94, McCrory 99, Polley 02, Santos 05, Asbee 09, Cavalcante 09, Ostbye 09, Huang 09, Jeffries 09, Lombard 09, Phelan 2011, Nascimento 2011, Haakstad 2011, Hui 2012

Perineal pain, dyspareunia

- Prevention during pregnancy: antenatal perineal massage among women without previous vaginal birth
- Postpartum: only among women with previous vaginal birth.
- General massage during labour by the partner significantly reduced pain and anxiety
- Perineal massage and relaxation during labour - >not for dyspareunia

Kimber 07, Chang 02, Stamp 01, Labrecque 99, Labrecque 00, Shipman 97, Ramler 85, Moore 89, Steen 00, Zimmerman-Tansella 79, Bergström 09, Chang 05

Postnatal depression

- Prevention during pregnancy
 - 1 study 12 weeks exercises-> cannot prevent postnatal depression
- Treatment : active exercises, PFMT and baby massage -> positive results

Songoygard 12, Armstrong 03, Armstrong 04, Norman 2010, Daley 08, da Costa 09, Dritsa 08, Dritsa 09, Sleep 87, O'Higgins 08, Imura

Fear

- Intensive supervised therapy program
- a relaxation program
 - Zimmermann-Tansella 79, Saisto 01, Chang 02, Bastani 05, Bergström 09, Montoya Arizabaleta 10

Gestational hypertensive disorders, preeclampsia

- Exercise program: a safe and effective intervention for women at risk of gestational hypertensive disorders and/or preeclampsia

Avery 97, Yeo 00, 06, 08, 09

Varicose veins, leg oedema and deep venous thrombosis (DVT)

- Compression stockings,
- foot massage
- water aerobics
- static immersion
 - > significantly improve leg symptoms related to varicose veins

○ Kent 99, Thaler 01, Ratiu 09, Coban 10

Gestational diabetes

- Prevention GDM: 12 weeks intensive exercise program
 - no
- Treatment:
a moderate intensive aerobic exercise program
-> maintenance of normoglycemia and less insulin need

○ Avery 97, Brankston 04, de Barros 2010, Stafne

Proposal for guidelines

- A pre- and postnatal physiotherapy program: all pregnant and delivered women
- The program: PFMT, regular moderate aerobic physical activity, stabilization training, water aerobics, relaxation therapy, compression stockings, static immersion, hydrotherapy, (perineal) massage and infant massage
- Start training: 18 and 20 weeks of gestation.
- Intensive training sessions:
 - 12 weeks prenatal and 12 to 20 weeks postnatal
 - supervised -> more effective.
 - group training and individual training lead both to good results.

Women at risk

- bladder neck mobility
- forceps and ventouse delivery
- babies of more than 4 kilo
- inactivity before pregnancy
- Women with BMI > 26

Conclusion

- ALL PREGNANT WOMEN-> ADVICE PHYSIOTHERAPY
- RCT's, on perinatal physiotherapy >200
 - Mostly 1 symptom
 - No review all symptoms
- Program: supervised, intensive
- Risk factors: bladder neck mobility, forceps and ventouse delivery, babies of more than 4 kilo, inactivity before pregnancy, women with BMI > 26
- Future studies: long-term

Adherence strategies in promotion of pelvic floor muscle training

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Research director /
professor

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Trondheim, Norway



Aims of the presentation

- What is adherence?
- Why discuss adherence?
- Theoretical issues
- Adherence strategies
- How can adherence strategies be used to promote pelvic floor muscle training?

Adherence – definition (Haynes et al 2002)

- ..the extent to which patients follow the instructions they are given for prescribed treatments...
- ..a non-judgmental term – a statement of fact rather than of blame of the patient, prescriber, or treatment
- ..not a matter of all or nothing..

Why discuss adherence related to PFM training to prevent/treat UI?

- Do not all women / patients follow our recommendations?
- Knowing about a problem is insufficient to motivate change
- Knowledge relating to health risks is not sufficient to encourage people to adopt health behaviours
- Information is interpreted through the filters of our past experiences, backgrounds, beliefs, values and attitudes

Theories – changes in health behaviour

- Health is mediated by some behaviour and health behaviours have the potential to change
- Theories have emerged from the behavioural and social sciences
- Theories can be used to provide a framework or model that might be used to underpin the planning, adoption and evaluation of health behaviours

Theoretical models of behaviour change

(Chiarelli 2007. In: Bø, Bergmans, Mørkved and Van Kampen 2007)

- Health Belief Model (HBM) (Becker 1974)
- Theory of Reasoned Action and Planned Behaviour (Ajzen & Fishbein 1980)
- Trans-theoretical Model (stages of change) (Prochaska & DiClemente 1984)
- The Self-regulation Theory (SRT)
- Social Cognitive Theory (Bandura 1977, 1982)

Main points emphasized by the theories

- Knowledge and beliefs about health
- A patient's belief in their own ability to do what is asked
- The importance of what is perceived as "normal" by a patient in relation to the influences and values of their social group

Forts.

- Patients move forward and back along a continuum of change or readiness to change
- Awareness of the impact of socioeconomic and environmental factors on a patient's ability to adopt specific behaviours
- The importance of changing a patient's environment or perceptions of the environment when it impacts on their progress

How to encourage lifestyle changes in clinical practice *(Rollnick & Heather 1992; Rollnick et al 1997, 1999; Dunn et al 2001)*

• Patient-centered interview / motivational interview based on:

- Stages of Change Model
- Health Beliefs Model
- Theory of planned behaviour
- Self-efficacy

Need for interviewing skills, active listening and open questions

Rationale for adherence to and effectiveness of PFMT?

- Adherence was a significant predictor of effects, both short- and long term
 - Bø & Thalsest 1996
 - Chen et al 1999
 - Lagro-Janssen & Van Weel 1998

The effectiveness of PFMT supplemented with a theory driven health education programme to promote long-term adherence to PFMT *Alewijnse (2002)*

Intervention

- Standard care + 3 different health education interventions based on:
 - The transtheoretical model (TTM)
 - The self-regulation theory (SRT)
 - The social cognitive theory (SCT)

Results 1 year:

- 75% of the women were cured or improved, however no significant difference between groups
- Adherence behaviour was very high (exercising 4-5 days per week)

Determinants of adherence to pelvic floor muscle training *(Alewijnse et al 2002)*

- The promotion of adherence behaviour is considered to be an integral part of patient education in PFMT
- Difference between short-term supervised adherence and long-term non-supervised adherence
- Short- and long-term adherence were partly related to different determinants *(Johnson et al 2000, Knibbe & Wams 1994, Sluijs 1993, Sluijs & Knibbe 1991, Kok & Bouter 1990)*
- Targeting health education *(Kreuter et al 2000, Sluijs & Knibbe 1991)*

Short- and long term determinants of adherence to PFMT (Alewijnse et al 2001, 2002)

- theoretical framework ASE (De Vries et al 1988)

Short-term determinants

- Barriers
 - Forgetting to exercise
 - Difficulty with integrating exercise advice in daily life
 - Lack of time
 - Lack of motivation
- Feelings of competence
- Self-efficacy expectations
- Attitude towards adherence behaviour
- Feedback
- Perception of symptoms

Forts.

Long-term determinants

- Social norms
- Motivation to comply as a result of perceived social norms
- Self efficacy expectations
- Attitude towards outcome expectations
- Patient's representation of illness and concurrent emotions and self-care strategies (i.e. drinking less, frequent voiding)

Adherence = carrying out a recommended behavioural modification or change

- Self-efficacy (Bandura 1997)
 - Motivation is cognitively generated – enhanced by self efficacy
 - Self efficacy is belief about one's ability to make or pursue a specific action or change
 - Regulatory SE - inquiring about the ability to fit the regimen into daily life
 - Task SE - inquiring about the ability to perform the recommended PFMT correctly
 - Knowledge SE – having knowledge to prevent UI

Self-Efficacy as a Predictor to PFMT Adherence in a Prevention of Urinary incontinence Clinical trial (Messer et al. Health Education and Behaviour 2007;34:942-52)

- 12 months follow-up showed that a behaviour program including PFMT was efficacious for preventing onset of UI
- 70% reported adherence (PFMT regimen 2-3 times per week or more)

Results

- Modest decline in self-efficacy scores over time
- Regulatory SE summary scores and Task SE confidence are good predictors of long term practice:
Believe that the intervention will work and also that the behaviour is something that can be performed
- Ongoing assessment and promotion of self-efficacy will support adherence to PFMT practice for prevention of UI
- Attention to self-efficacy may also guide intervention selection

Adherence to a Behavioural Program to Prevent Incontinence (Hines et al 2007)

- Women incorporated PFMT into their lives using either a routine or ad hoc approach
 - Those using a routine approach was significantly more likely to adhere at high level at 3 and 2 months
 - Adherence associated with practice of PFMT

Is there evidence for the use of behavioural models within continence promotion in pregnancy and after delivery?

- *Mørkved & Bø 1997,2000*: Framework for postpartum group training based on motivational theories; e.g. Social Cognitive Theory
- *Chiarelli & Cockburn 1999*: Used the Health Beliefs Model and social marketing strategies as a framework to underpin the development of a postnatal continence programme

Chiarelli & Cockburn 1999:

INTERVENTION

- Tailored the exercise program to each woman's ability to contract the pelvic floor muscles
- Discussed the barriers to exercise
- Negotiated with the women about the most convenient times for her to exercise
- Provided reminders (stickers, calendars, diaries)

RESULTS

- 3 months: Sign. difference in favour of the intervention group both concerning UI and adherence to PFMT
- 12 months: No diff. in UI and PFMT between groups.
 - The odds of being continent was highest for those practicing PFMT on a daily basis

Use of adherence strategies to enhance pelvic floor muscle training - examples from own practice and clinical trials

Short- and long term adherence

Mørkved & Bø 1997, 2000 (PFMT 3 days per week or more)

	Training group	Control group
Post treatment	100%	65%
One year follow up	53%	30%



Notes

Record your notes from the workshop here