

# NMAHP RESEARCH UNIT NEWSLETTER

AUTUMN 2007

## UPDATE FROM THE DIRECTOR

### INSIDE THIS ISSUE:

The Early Labour Study in Scotland	2
Can Physiotherapists measure pelvic organ prolapse with the POP-Q?	3
Scottish NMAHP Research into Practice Conference 2007	4

This issue of our newsletter highlights the results of two studies that have recently been completed. The Early Labour Study was the largest midwifery led trial to be carried out in Scotland. It is the culmination of a series of studies which established the nature and extent of the problem of the admission of women not yet in active labour to UK labour wards; developed an algorithm designed to support midwives in their decision making around the 'diagnosis' of active labour; and tested the feasibility of conducting a trial of the algorithm's use. The Early Labour Study was a randomised cluster trial involving 14 sites in Scotland with the research at each of these sites being led by a senior midwife (acting as site specific Principal Investigator) and data collection being carried out by a clinical midwife seconded to the project for that purpose. In addition two midwives were employed to work centrally on the project under the direction of Helen Cheyne (Chief Investigator). This innovative approach to conducting a multi centre NMAHP trial was designed to increase practitioner involvement in high quality research, thereby maximising recruitment and implementation. A collaborators conference has been organised to feed back to all involved, the detailed results of the trial and discuss the lessons learned.

The POP-Q study was led by Diane Stark, a clinical physiotherapist who has been associated with the Unit since it was first established. This is the first time Diane has acted as lead grant applicant and Principal Investigator. POP-Q was funded by the Physiotherapists Research Foundation, which supports new physiotherapist researchers. The study is related to the POPPY study, a multi-centre

randomised controlled trial designed to test a pelvic floor muscle training intervention for women with pelvic organ prolapse which will involve 17 UK sites and sites in Australia and New Zealand. The POP-Q will be used as an outcome measure in that trial.

Other work ongoing in the Unit at present includes the development of interventions for patients with Stroke, and systematic reviews on therapies for patients with aphasia, on catheter use and in shared decision making in mental health. These systematic reviews will inform us of gaps in the evidence base, leading to the development of new and relevant trials of NMAHP interventions. Ongoing work in the area of decision making includes studies of the decisions made in relation to the transfer of women in labour from hospitals in Remote and Rural areas; to the transfer of forensic mental health patients from highly secure settings; and (conversely) to the paramedic treatment of patients at home rather than their transfer to hospital.

The Unit's research agenda continues to be supported as one of CSO's core funded research units. In July the CSO committee concluded that 'The Unit's performance has been very strong during the period 2002-2006' and was unanimous in its appreciation of its impact on practice and capacity building. As the Unit's Director, I would echo their conclusions and would like to take this opportunity to say an enormous and heartfelt thank-you to all my staff; to their collaborators; to our supporters in the NHS, in academe and in the government. Without you, that achievement would not have been possible.

**Kate Niven**

## Researchers

H Cheyne, Dr V Hundley, Dr D Dowding, Prof C Niven, Prof I Greer, Prof J M Bland, Dr L Aucott, Dr P McNamee, M Styles, C Barnett

## Background

Up to 30% of women in UK labour wards are admitted in the latent phase of labour (the period before labour becomes established). Women admitted in this phase, are more likely to have medical interventions in their labour.

## Aims

The study aimed:

- To determine if use of an algorithm (a step-by-step method of solving a problem) to assist midwives diagnose established labour would result in fewer interventions.
- To identify costs associated with using the algorithm, both to the NHS and to women.
- To explore women's experience of admission in labour.

## Method

A Cluster Randomised Trial was conducted - Maternity units in Scotland with more than 800 births per year (clusters) were randomly allocated to two groups: **Intervention group** midwives used the algorithm to diagnose labour; **control group** continued with normal care (no algorithm). Baseline data were collected for 200 women who gave birth before, and 200 after the start of the study, in each unit. Only women giving birth for the first time were included. **Primary outcome:** use of oxytocin (to augment labour). **Secondary outcomes:** labour interventions e.g. electronic fetal monitoring, pain relief; maternal and neonatal complications; management of women "not in labour." Cost to NHS and travel costs for women. Women's preference for different care options. Women's experience of labour admission. The study used clinical data collected from case records, postnatal questionnaires and individual interviews with women.

"Exploration of women's experiences suggested that many women in their first pregnancy feel unprepared for early labour and experience pain, anxiety and uncertainty."

## Key Results

There was no difference between intervention and control groups for oxytocin use, labour interventions, maternal or neonatal complications or NHS costs. Women in the intervention group were significantly more likely than those in the control group to be discharged home fol-

lowing their first labour ward assessment and this was associated with increased travel costs to women. Women expressed preferences for different care options (e.g. length of time in labour), however, use of the algorithm did not increase the likelihood of their receiving these options. Exploration of women's experiences suggested that many women in their first pregnancy feel unprepared for early labour and experience pain, anxiety and uncertainty.

## Conclusions

Use of the algorithm did not result in a reduction in oxytocin use nor in reduced labour intervention. More women in the intervention group were discharged home in the latent phase, but this was associated with increased travel costs. Management of women in the latent phase of labour may be more problematic than the initial diagnosis of labour.

"Admission of women to labour wards in the latent phase is a considerable problem within the NHS. Use of the algorithm has the potential to reduce these admissions."

## What does this study add to the field?

This is the first large study of diagnosis of labour and the first to use an algorithm for diagnosis of labour. The findings suggest that an algorithm should not be used in isolation but could be incorporated in a package of interventions which may effect changes in outcome. The study also provides valuable data on women's experience of labour admission.

## Implications for Practice or Policy

Admission of women to labour wards in the latent phase is a considerable problem within the NHS. Use of the algorithm has the potential to reduce these admissions. It should not be used in isolation, however, it could be implemented as part of a care pathway which includes improved pain management and psychosocial care for women in the latent phase.

## Where to next?

Members of the research team are currently developing a research study which will explore the influence of early labour pain, fear and anxiety in women's decisions to seek admission to hospital.

## Further details from:

Helen Cheyne  
Programme Leader  
NMAHP Research Unit  
Iris Murdoch Building  
University of Stirling  
FK9 4LA

## Researchers

D Stark, P Dall, Dr S Hagen, M Abdel-Fattah

## Background

Physiotherapists routinely use pelvic floor muscle training to treat women with pelvic organ prolapse (POP), however, no common outcome measure is used to assess the effect of this intervention. Use of the POP-Q system by physiotherapists treating POP would allow the effect of physiotherapy to be clearly demonstrated in clinical practice and research.

## Aims

This study aimed to determine the feasibility, inter and intra-rater reliability of physiotherapists using the POP-Q.

“Participants predominantly rated the levels of discomfort as none or mild, with few differences between the rating given to gynaecologists and to physiotherapists.”

## Method

Six physiotherapists and two consultant gynaecologists took part in the study, and participated in a standardised training programme including taught and practical training. Women were recruited from gynaecology and urogynaecology clinics. Two POP-Q examinations were performed by study staff at the first clinic visit (one by the gynaecologist and one by a physiotherapist). Women attended clinic one week later where two further POP-Q examinations were performed, one by the same physiotherapist as the week before and one by a second study physiotherapist. Examination order at each clinic was randomised. The chaperone nurse timed each examination and women were asked to complete a short questionnaire regarding their experience of each examination.

Primary outcome measures were the agreement between examiners in POP-Q stage, comparison of the duration of examination by different examiners and the questionnaire responses of the women. Agreement of POP-Q stage was assessed between pairs of examiners using the weighted kappa statistic.

## Key Results

Forty five women were recruited (median age 59, range 32 to 87 years). Presenting complaint was POP (n=22), urinary incontinence (n=15), other (n=7) or not reported (n=1).

Agreement of POP-Q stage between the gynaecologist and physiotherapist was substantial, with a weighted kappa statistic of 0.63. Weighted kappa was 0.67 for inter-rater agreement between two different physio-

therapists; and 0.71 for intra-rater reliability for repeated examinations by a single physiotherapist.

The duration of examination was significantly shorter [difference 53±73s (mean±standard deviation) p<0.01; paired t-test] for gynaecologists [171±51s] compared with physiotherapists for those same examinations [224±52s].

All participants who expressed an opinion reported both that the examination itself and the time taken to conduct the examination were acceptable. Participants predominantly rated the levels of discomfort as none or mild, with few differences between the rating given to gynaecologists and to physiotherapists. Two participants experienced severe pain during one of their examinations, in one instance this was caused by a cyst.

## Conclusions

The feasibility of physiotherapists using the POP-Q in a clinical situation was confirmed. The kappa statistics indicated a substantial agreement between the raters, demonstrating reliability of physiotherapists using the POP-Q.

There was no difference between gynaecologists and physiotherapists in the reported experience of the participants during the examinations. Gynaecologists, on average, conducted the examinations approximately one minute faster than the physiotherapists. This difference was clearly acceptable to the participants.

“Use of the POP-Q system by physiotherapists treating POP would allow the effect of physiotherapy to be clearly demonstrated in clinical practice and research.”

## Implications for practice or Policy

The POP-Q could be used both as a research tool and in clinical practice to assess physiotherapy interventions. This would be a useful development for the profession. Multi professional communication would be improved via the application of a common standardised measurement system.

## Further details from:

Diane Stark  
Superintendent Physiotherapist  
Obstetrics and Gynaecology Unit  
Southern General Hospital  
1345 Govan Road  
Glasgow G51 4TF  
0141 201 2324  
diane.stark@sgh.scot.nhs.uk

Scottish NMAHP  
**Research into Practice Conference**  
the right methods for the right questions 2007

Tuesday 23<sup>rd</sup> October 2007

**Venue:** The Royal College of Physicians, Edinburgh

The aim of this conference is to showcase the research in the fields of Nursing, Midwifery and the Allied Health Professions in Scotland.

**If you are interested in research or evidence for practice this conference is for you.**

There will be three themes: designing and evaluating interventions; systematic reviews for practice and policy; using qualitative methods in Nursing, Midwifery and AHP research. All research will focus on health outcomes.

Registration is open now! To register for only £75 visit the website and download a registration form.

Closing date for registration is Friday 5<sup>th</sup> October 2007

**STUDENT DISCOUNT** – The first 40 students to register will receive a discounted rate of £25

Further information can be obtained from:

Website: [www.researchintopracticeconference2007.co.uk](http://www.researchintopracticeconference2007.co.uk)

Email: [conference2007@qmuc.ac.uk](mailto:conference2007@qmuc.ac.uk)

Tel: 0131 317 3475



**GETTING A COPY OF THE NEWSLETTER**

Please help us by passing your copy of this newsletter to anyone else who might be interested in reading it. If you want to receive your own copy, let us know of a change of address or if you no longer wish to receive the newsletter, please contact Karen Graham at the address below:

Iris Murdoch Building, University of Stirling, Stirling, FK9 4LA  
tel: 01786 466341 fax: 01786 466100 e-mail: [karen.graham@stir.ac.uk](mailto:karen.graham@stir.ac.uk)

More information about NMAHP Research Unit, including the research programme can be found on the web pages at <http://www.nmahpru.gcal.ac.uk>