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# Factors influencing postpartum women's willingness to participate in a preventive pelvic floor muscle training program: a web-based survey



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#### ABSTRACT

*Objective:* Pregnancy and delivery are the most prominent risk factors for the onset of pelvic floor injuries and – later-on – urinary incontinence. Supervised pelvic floor muscle training during and after pregnancy is proven effective for the prevention of urinary incontinence on the short term. However, only a minority of women do participate in preventive pelvic floor muscle training programs. Our aim was to analyze willingness to participate (WTP) in an intensive preventive pelvic floor muscle training (PFMT) program and influencing factors, from the perspective of postpartum women, for participation. *Study design:* We included 169 three-month postpartum women in a web-based survey in the Netherlands. Demographic and clinical characteristics, knowledge and experience with PFMT and preconditions for actual WTP were assessed. Main outcome measures were frequencies and percentages for categorical data. Cross tabulations were used to explore the relationship between WTP and various independent categorical variables. A linear regression analysis was done to analyze which variables are associated with WTP.

*Results:* A response rate of 64% (n = 169) was achieved. 31% of the women was WTP, 41% was hesitating, 12% already participated in PFMT and 15% was not interested (at all). No statistically significant association was found between WTP and risk or prognostic pelvic floor dysfunction factors. Women already having symptoms of pelvic floor dysfunction such as incontinence and pelvic organ prolapse symptoms were more WTP (p = 0.010, p = 0.001, respectively) as were women perceiving better general health (p < 0.001). Preconditions for women to participate were program costs, and travel time not exceeding 15 min.

*Conclusions:* From the perspective of postpartum women, there is room for improvement of preventive pelvic floor management. Further research should focus on strategies to tackle major barriers and to introduce facilitators for postpartum women to participate in PFMT programs.

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#### Introduction

One in three women will be affected by urinary incontinence (UI), often complicated by pelvic organ prolapse (POP). UI causes substantial impact on quality of life and huge socio-economic costs [1,2]. Almost 50% of women experience their first UI during pregnancy. Vaginal delivery furthermore increases the prevalence of UI. One in three women experience postpartum UI [3,4]. Longitudinal studies within the first year postpartum showed only small changes in prevalence of UI over time [5].

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The pelvic floor is important for pelvic organ support and continence. Pregnancy and delivery may lead to stress induced pelvic floor injuries. Pelvic floor injury after delivery seems underdiagnosed and undertreated while no Clinical Practice Guidelines on pre- and postpartum UI prevention are available.

The challenge is finding efficient and acceptable strategies reducing pelvic floor injury risk. One strategy is encouraging women to train their pelvic floor during and after pregnancy. Pelvic floor muscle training (PFMT) is an effective initial treatment for UI and POP [6,7]. Moreover, PFMT during and after pregnancy is effective for short term up to 12 months UI prevention and treatment [1]. Despite evidence, only a minority of women participate in PFMT [8]. Therefore, both from patient and health care provider perspective there is room for quality improvement of preventive UI care. Because interaction between various factors at multiple levels may influence success or failure of an intervention in daily practice, understanding these factors and interactions is crucial [9].

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The main objective of the present study was identification of influencing factors for participation in preventive PFMT from the perspective of three month postpartum women by a web-based survey.

#### Materials and methods

#### Design, setting, participants

A web-based survey among three months postpartum women in four Dutch regions (2010).

At routine six weeks postpartum control and within three months postpartum, women were recruited by their midwife, gynecologist, general practitioner or physiotherapist. Women received individual and written information (available on request) about preventive PFMT, including lifestyle advices, toilet behavior and preventive PFMT, supervised by pelvic physiotherapists<sup>®</sup> (weekly one hour during eight weeks) [10]. After informed consent the women received a sealed envelope with a unique login code to enter the survey. Women of 18 years and older who gave birth after 37 weeks gestation were eligible. Because participation was anonymous reminding included women was impossible. Respondents were not promised any score or feedback, and no incentives were offered.

#### Measurement instruments/outcome measures

The primary outcome of the study was *willingness to participate* (*WTP*) in a PFMT program.

To increase response on the primary outcome the survey was divided in two parts. After the first part (13 items on information, WTP and preconditions like cost and travel time) women could choose to quit. The second part consisted of 183 questions to find factors that might be associated with WTP including – later onset – PFD.

To measure the prevalence of UI, defined as any UI indicating the complaint up to now, during or after pregnancy or delivery [11], the 3 Incontinence Questions was used [12]. In case of any UI ever, women first reported whether this was before, during or after their last pregnancy or during the past three months. UI was classified into stress, urgency, mixed or other types of UI.

The severity of UI was assessed with the International Consultation on Incontinence Questionnaire Short Form (ICIQ-UI SF) [13].

Questions regarding POP and AI were derived from the validated Dutch Standard Urogynaecological Questionnaire, which is based on condition-specific instruments, designed to assess health-related quality of life of UI, POP and anorectal disorders [14]. Complaints regarding symptoms of POP and AI were investigated in association with WTP.

#### Sample size

Based on the primary outcome WTP, we assumed that 150–200 women would be enough to accurately [and representatively] measure the degree of WTP (convenience sample). Since a non-response of 55% of the healthcare professionals and 35% of the women was considered possible, approximately 475–500 login codes were handed out to the professionals.

#### Data analysis

Frequencies and percentages are reported for categorical data. Shapiro–Wilk tests were used to investigate normality of distributions in variables. WTP originally consisted of eight answering options. For analysis, WTP was categorized in three classes, a yes, maybe and no group. Women who already were or were going to participate in PFMT were left out of the analysis. Bivariate analysis was performed in cross tabulations (with  $\chi^2_L$  statistics) to explore the relationship between WTP and various independent categorical variables. A linear regression analysis was performed to analyze which variables had a statistically significant relationship with WTP using list wise deletion of missing cases. Forward selection and backward elimination techniques were used to find the final regression model. Residual analysis was done to test the normality of distribution of the dependent variable in the final regression model. A *p*-value less than 0.05 was considered statistically significant. IBM SPSS 21 (Armonk, NY: IBM Corp.) was used for analysis.

#### Details of ethics approval

Upon consultation, the Medical Ethics Committee of Maastricht (Netherlands), stated ethical approval was not needed given the non-invasive character of the survey. However, participating women gave their informed consent to the professionals that approached them for the survey.

#### Results

During 2010, 264 login codes were handed out (55% response rate) by 25 healthcare professionals. 169 Caucasian women filled in the questionnaire (response 64%).

#### Background characteristics

Table 1 gives an overview of relevant demographic and clinical characteristics. Approximately three quarter of the women were between 25 and 34 years at first delivery, had one or two children, finished tertiary education and reported a good to excellent general health. Most women had vaginal deliveries and 75% had pelvic floor injuries (rupture/episiotomy). Almost half of the women had experienced any UI in their lifetime. Two third reported slight to moderate severe stress UI after the last pregnancy (current UI). One in four women reported POP related complaints and AI.

#### Previous knowledge and experience PFMT

81.7% (n = 138) received information about the importance of PFMT peripartum. One out of four women (n = 41, 24.3%) got PFMT instructions from a health professional. Less than half (n = 70, 41.4%) received PFMT in an antenatal and approximately one in ten in a postnatal pregnancy course (n = 20, 11.8%).

#### Preventive PFMT

Over 95% of women want professional information about the prevention of – future/later onset – PFD. They prefer to be informed during pregnancy (75%), either individually by health professionals (43%) or through a folder or website (43%). Women acknowledge that supervised PFMT during and after pregnancy is very important to prevent future PFD (Table 2). When asked for their WTP in an intensive preventive postpartum PFMT program one out of three women (31%) reported to be WTP, 41% reported to be in doubt, 15% is not interested (at all) and 12% already participated in PFMT.

#### Association between WTP and characteristics of participants

No statistically significant association was found between WTP (n = 147, yes, maybe, no group) and risk and prognostic factors for PFD (p > 0.05: maternal age, parity, duration second stage labor, birth weight, pelvic floor injuries, body mass index, AI, family

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