



## ORIGINAL RESEARCH – QUANTITATIVE

Functional status of women with and without severe maternal morbidity: A prospective cohort study<sup>☆</sup>Mohd Noor Norhayati<sup>a,\*</sup>, Nik Hussain Nik Hazlina<sup>a</sup>, Abd. Aziz Aniza<sup>b</sup><sup>a</sup> Women's Health Development Unit, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, Kota Bharu, Kelantan, Malaysia<sup>b</sup> Faculty of Medicine, Health Campus, Universiti Sultan Zainal Abidin, Kuala Terengganu, Terengganu, Malaysia

## ARTICLE INFO

## Article history:

Received 29 October 2015

Received in revised form 18 February 2016

Accepted 21 February 2016

## Keywords:

Inventory of Functional Status after Childbirth

Functional ability

Severe maternal morbidity

Severe obstetric complications

Prospective cohort

## ABSTRACT

**Background:** Little is known regarding the impact on maternal functional status in women who have survived severe obstetric complications.

**Objective:** To compare the maternal functional status score between women with and without severe morbidity at one month and six months postpartum in Kelantan, Malaysia.

**Methods:** A prospective cohort study design was applied at two tertiary referral hospitals over a six-month period. The study population included all postpartum women who gave birth in 2014. Postpartum women with severe maternal morbidity and without severe maternal morbidity were selected as the exposed and non-exposed group, respectively. Functional ability based on the Inventory of Functional Status after Childbirth was used as the main outcome measure. Repeated measure analysis of variance was performed.

**Results:** A total of 145 and 187 women with and without severe maternal morbidity, respectively, were measured. There were significant differences in Inventory of Functional Status after Childbirth score changes ( $P < 0.001$ ) between women with and without severe maternal morbidity at one month and at six months. Functional ability score of women with severe maternal morbidity was lower at one month postpartum ( $P = 0.001$ ). The most affected domain was infant care ( $P = 0.002$ ).

**Conclusions:** Healthcare providers are recommended to assess the short-term functional ability of severe morbid mother in addition to existing routine physical examination. Provision of physical support from spouse and family of the high risk mothers particularly on infant care during their early postpartum period is crucial to optimise health and minimise the negative health outcomes.

© 2016 The Authors. Published by Elsevier Ltd on behalf of Australian College of Midwives. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Summary of relevance:

**Problem**

The immediate and long-term impact on maternal functional status in women who survived severe maternal complications is understudied.

**What is already known**

The WHO has recently developed a standard definition and internationally accepted identification criteria for severe maternal morbidity.

**What this paper adds**

Evidence that severe morbid conditions predicted impairment of immediate maternal functional ability suggest that assessment of functional ability may be useful in postpartum health care management.

<sup>☆</sup> Institutions where the work was done: Universiti Sains Malaysia Hospital and Raja Perempuan Zainab II Hospital, Kota Bharu, Kelantan, Malaysia.

**Abbreviations:** ANOVA, analysis of variance; IFSAC, Inventory of Functional Status after Childbirth; RM ANOVA, repeated measure analysis of variance; WHO, World Health Organization.

\* Corresponding author at: Women's Health Development Unit, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan, Malaysia. Tel.: +60 139388416.

E-mail address: [hayatik@usm.my](mailto:hayatik@usm.my) (M.N. Norhayati).

<http://dx.doi.org/10.1016/j.wombi.2016.02.002>

1871-5192/© 2016 The Authors. Published by Elsevier Ltd on behalf of Australian College of Midwives. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

**1. Introduction**

Recovery following childbirth has often been viewed in relation to physiological changes that occur within the woman's body; little emphasis has been placed on the functional status of the mother.

Motherhood, one of many roles in a woman's lifetime, is the most significant, time-consuming and demanding. Unlike physiological recovery, return to full status following childbirth takes longer than six weeks, and women who experienced complications during childbirth usually require a longer period to recover. Mothers frequently act as the primary care givers in childcare apart from other household, self-care, professional and social activities.

Functional status is of broad interest to health care providers and the public as it reflects productivity and health.<sup>1</sup> Functional status describes the actual performance of daily living activities,<sup>2</sup> and in the case of postpartum women, an additional domain, infant care, is considered. As such, functional status after childbirth is defined as mother's readiness to assume infant care responsibilities as well as resuming self-care, household, social, community and occupational activities.<sup>3</sup>

A review on functional status after childbirth reported on the influencing factors, such as social support and anxiety, changes in functional status over time and qualitative experience of new mothers. Additionally, number of children in the household, maternal age, race, social support, and physical and mental health may either assist or impede recovery during the first six months following childbirth. In view of the suboptimal return to full functional status following childbirth, reconsideration of the traditional six weeks recovery period was suggested.<sup>4</sup>

Maternal morbidity refers to a continuum that begins with the occurrence of complications occurring during pregnancy, childbirth and puerperium and ends with recovery or death.<sup>5</sup> Severe maternal morbidity is defined as 'potentially life-threatening conditions during pregnancy, childbirth or after termination of pregnancy from which maternal near miss cases would emerge', whereas, maternal near miss is defined as a 'woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days after termination of pregnancy'.<sup>6,7</sup> This study will identify the immediate and long-term impact of women who survived severe maternal complications. Women with severe maternal morbidities may possibly be unprepared to address the complications that could affect their quality of life.

The current body of published work has provided limited information on maternal functional status in developed and developing countries. However, no study has reported the impact of severe maternal morbidity on maternal functional status. Therefore, such a finding would contribute to clarifying some of the gaps in current knowledge. The objective of this study was to compare the maternal functional status score between women with and without severe morbidity at one month and six months postpartum.

## 2. Methods

A prospective cohort study design was applied to two tertiary referral hospitals over a six-month period. The study population included all postpartum women aged 18 and older who delivered in 2014. The exposure factor was the occurrence of severe maternal morbidity. The two cohorts of postpartum women with and without severe maternal morbidity exposure were compared and followed to determine what proportion of each group developed immediate and long-term consequences. The immediate and long-term postpartum periods<sup>8,9</sup> were defined as one month and six months following childbirth. Postpartum women with and without severe maternal morbidity who fulfilled the inclusion and exclusion criteria were selected as the exposed and non-exposed groups, respectively. The study excluded women at less than 22 weeks of gestation, more than 42 days after the termination of pregnancy, with personal or family histories of diagnosed psychiatric disorders. Non-Malaysian citizens were excluded because of its minority group and the possibility of the

presence of cultural variation. Mothers less than 18 years were excluded due to ethical issues related to informed consent. For each woman with severe maternal morbidity identified, one woman without severe maternal morbidity with a similar mode of childbirth (vaginal or caesarean section) was selected in the same facility.

Postpartum women with severe morbidity who fulfilled the inclusion and exclusion criteria were approached. Because of the follow-up nature of this study and the possibility of a high refusal for follow-up, consecutive sampling was applied for the women with severe maternal morbidity group. It is worth noting that significant proportions (26–43.6%) of severe maternal morbidities were observed to deliver via caesarean section in previous studies.<sup>10,11</sup> Therefore, the researchers decided that it was important to have an approximate similar mode of childbirth between women with and without severe maternal morbidity groups for a valid comparison of groups because caesarean section was related to poorer physical functioning.<sup>12</sup> Hence, for each woman with severe maternal morbidity identified, one woman without severe maternal morbidity with a similar mode of childbirth (vaginal or caesarean section) was selected in the same facility.

Sample size calculation was done by comparing two means using the Power and Sample Size Calculation software version 3.0.43 (Microsoft Corp., 2012). Taking the alpha of 0.05, power of 80%, standard deviation of 4.2<sup>13</sup> and detectable difference of 1.5, the minimum required sample size was 124. However, after considering a non-response rate of 30% in telephone-based survey<sup>14,15</sup> and six months follow-up,<sup>16</sup> the calculated sample size was 162 per group. Computer-based simple random sampling from a predefined estimate of daily vaginal and caesarean deliveries was applied for the women without severe maternal morbidity group.

Hospital- and home-based medical records were reviewed to identify the severe maternal morbidity and maternal near miss criteria and to retrieve patients' information. The extracted information included the sociodemographic characteristics (age, race, marital status, place of residence, education level, employment status, household income), current obstetric history (parity, booking, multiple pregnancies, antenatal care, period of gestation, mode of childbirth) and past obstetric history (history of caesarean section, pregnancy complications). The identification of the women with severe maternal morbidity was performed as per WHO criteria for severe maternal morbidity on the four major groups of haemorrhagic disorders, hypertensive disorders, other systemic disorders and severe management indicators (Table 1).<sup>7</sup> At one month and six months following childbirth, study participants were contacted to complete a structured telephone interview that incorporated the Inventory of Functional Status after Childbirth (IFSAC) and the MOS Social Support Survey.

Maternal functional status after childbirth is defined as mother's readiness to assume infant care responsibilities as well as resuming self-care, household, social, community and occupational activities.<sup>3</sup> The most widely used instrument to assess functional status is IFSAC. The original English version of IFSAC consists of 36 items and five subscales (infant care, self-care, household activities, social and community activities, occupational activities) presented on a 4-point scale. The mean IFSAC scores range from 1 to 4<sup>3</sup> and the Cronbach's alpha ranged from 0.79 to 0.81.<sup>4</sup> Not all respondents will engage in all activities; therefore, a mean score for each individual participant is calculated for each scale based on the items that are applicable to their individual situations. This system's approach means that scores are not inadvertently low simply because women did not engage in all of the activities. Hence, the mean scores range from 1 to 4 with higher scores indicating better functional status.<sup>3</sup>

In this study, the Malay version of IFSAC questionnaire based on 18 items was used. It was translated from the English version and

Download English Version:

<https://daneshyari.com/en/article/5566085>

Download Persian Version:

<https://daneshyari.com/article/5566085>

[Daneshyari.com](https://daneshyari.com)