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Original research article

Contraception post severe maternal morbidity: a retrospective audit

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Abstract

Introduction: Rapid repeat pregnancy is associated with maternal and neonatal morbidity. Effective postpartum contraception should be offered to all women, including those who experience severe acute maternal morbidity (SAMM), but little is known about contraceptive initiation in this group. Severe preexisting comorbidities with high pregnancy-related mortality risks are an important subset. This study examines contraceptive advice and prescription for SAMM cases with or without severe preexisting comorbidity.
Materials and method: A retrospective audit of 98 SAMM cases was conducted to identify contraceptive advice and prescription preconception (for women with severe preexisting comorbidities), antenatally and/or postnatally. This is a secondary analysis of SAMM cases audited for preventability of SAMM in four District Health Board areas (covering a third of annual births in New Zealand) during a 17-month period. Case notes and preventability audit were manually searched.
Results: Of 98 SAMM cases reviewed, 84 (85.7%) left hospital without a contraception prescription. Of 14 with contraception documented on discharge from hospital, 4 (4.1%) had peripartum hysterectomy, 3 (3.1%) had tubal ligation at cesarean section, 1 partner had a vasectomy booked, 1 (1%) had a Jadelle© contraceptive implant inserted and 5 (5.1%) had condom prescriptions. Of 7 women with severe preexisting comorbidity, 4 had preconception advice against conceiving. All 7 left hospital postpartum without contraceptive prescription.
Discussion: These results indicate substandard contraceptive care for women experiencing SAMM. All those with severe preexisting comorbidities left hospital postpartum without receiving contraception. Improvement in immediate postpartum contraceptive care for these women is advocated to avoid future morbidity and mortality.

Keywords: Postpartum contraception; Severe maternal morbidity; Maternal comorbidity; Long acting reversible contraception

1. Introduction

Postpartum contraceptive advice is an accepted standard component of postpartum care [1]. Rapid repeat pregnancy is associated with maternal and neonatal morbidity; therefore, improved access to effective postpartum contraception makes economic sense as well as conferring individual and public health benefits [2,3]. However, little is known about contraceptive advice given to women recovering from severe acute maternal morbidity (SAMM). SAMM is defined as "a very ill pregnant or recently delivered woman who would have died had it not been luck or good care was on her side" [4]. SAMM affects more than 1% of pregnant or recently delivered women [5]. Women who have a SAMM event are generally hospitalized for longer periods than normal deliveries and may suffer lasting morbidity and increased perinatal mortality [5]. This group may have a greater need for immediate effective contraception as they recover from severe pregnancy-related morbidity than the general healthy postpartum population [6,7]. Avoidance of rapid repeat pregnancy is especially relevant for these women [7] as short interpregnancy intervals are known to be associated with increased rates of fetal abnormalities, preterm delivery and low birth weight [8] and poorer outcomes for mothers [9], particularly for women having had cesarean section and those with preexisting complex comorbidities. As part of an audit assessing potential preventability of SAMM [10], one of the recurring themes of substandard care identified by the multidisciplinary expert panels was lack of contraceptive advice (antenatal or postnatal) or prescription by the time a

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woman who had suffered a SAMM event was discharged from hospital.

In New Zealand, maternity care is government funded and the majority of care is undertaken by Lead Maternity Carers (LMCs) who can be midwives, general practitioners (GPs) or specialist obstetricians, although the majority of care providers (80%) are self-employed midwives. The remaining women who are not registered with an LMC are cared for by public hospital midwives and obstetricians. However, women suffering a SAMM event are invariably transferred to obstetric team care in a hospital setting.

This study examines the contraceptive advice and prescription for SAMM cases with or without severe preexisting comorbidity.

2. Materials and method

This is a retrospective audit of SAMM cases notes to identify contraceptive advice preconception (for women with severe preexisting comorbidities), antenatally or postnatally, and, if prescribed, the type used. This is a secondary analysis of SAMM cases that were part of an audit assessing preventability of SAMM in four New Zealand hospitals over a 17-month period [10]. These four District Health Boards are responsible for 21,000 deliveries per annum — approximately one third of all annual deliveries in New Zealand. Women were included in the analysis if they were pregnant or within 42 days of delivery and were admitted to an intensive care unit or high dependency unit. The method of case identification and process for review by multidisciplinary panels has been previously described [10]. In brief, deidentified cases were assessed for preventability using a validated international model [11–13]. Sociodemographic and clinical characteristics were collected on each woman and clinical data collection included antenatal care history, gestation at admission, previous pregnancies and outcomes, known pregnancy-related illness, preexisting medical conditions, and complications and outcome of delivery. Ethnicity and socioeconomic deprivation index were collected for each case from the Ministry of Health Information Services using the National Health Index number — a unique identifier that links to centrally held ethnicity and deprivation index information (NZDep index) [14]. The NZDep index is based on New Zealand census data of population and dwellings and gives a range of socioeconomic status ranging from decile 1 (least deprived) to decile 10 (most deprived). The index is constructed from variables reflecting types of possible deprivation such as income, owned home, employment, qualifications, access to car and living space [15]. National ethical approval was obtained from the Multiregional Ethics Committee (MEC/11/EXP/035) and local ethical approval was obtained from each District Health Board.

For this present study, SAMM clinical case notes were searched by the study team for documentation of contraceptive advice and prescription. Additionally, the preventability review results were assessed for comment on contraception. The contraceptive outcome for all cases was identified and, to examine contraceptive advice given, cases were further categorized into two groups — group 1: women who had preexisting severe comorbidities and group 2: previously well women who developed pregnancy-related morbidity.

3. Results

Ninety-eight SAMM cases were reviewed (Table 1). Sixty-seven percent of women were between the ages of 20 and 34 years. Approximately one third of the sample was of NZ Maori ethnicity (32.7%, 32/98) and one fifth, Pacific Island ethnicity (21.4%, 21/98). Over half the cases (55.1%, 54/98) were from the most socioeconomically deprived groups. Nulliparous women accounted for 36.7% (36/98) of the sample. Of those with recorded body mass index (BMI), 36% (26/72) of women had a BMI greater than 30.

Flowchart 1 shows the contraceptive outcome at discharge from hospital for the total of 98 cases. Four women had a peripartum hysterectomy related to their severe morbidity. Of the remaining 94 women, 3 women (3.2%) had tubal ligation at cesarean section, 5 were given a prescription for condoms, 1 woman had a Jadelle© contraceptive implant inserted before discharge from

Table 1
Demographic characteristics

Characteristic	*n*	%
Age band		
14–19	11	11.1
20–24	20	20.2
25–29	27	27.3
30–34	19	19.2
35–39	13	13.1
40–44	8	8.1
Ethnicity of mother		
NZ European	28	28.6
NZ Maori	32	32.7
Pacific people	21	21.4
Asian	14	14.2
Other	3	3.1
Parity		
Nulliparous	36	36.7
Multiparous	62	63.3
BMI		
<30	46	46.9
30–34	13	13.3
35–39	7	7.1
>39	6	6.1
Not recorded	26	26.5
Deprivation Index (1–10) Quintiles		
1 (1–2)	9	9.3
2 (3–4)	10	10.3
3 (5–6)	10	10.3
4 (7–8)	15	15.5
5 (9–10) (most deprived)	53	54.1
Not recorded	1	