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Investigation into the Reasons for Maternal Default from HIV Care Postpartum. A 3-Year Retrospective Review

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Dear Editor,

Over 100 HIV-positive women currently deliver annually in Ireland.¹ Many attend a dedicated antenatal clinic at the Rotunda Hospital in Dublin, and are referred for follow-up at the Mater Hospital in Dublin, for their own care postpartum. In Ireland, special provision is made for the protection of the right to life of the unborn (Charter of Fundamental Rights and Articles 40-44 of Bunreacht na hÉireann: the Irish Constitution). Arising from this, both mother and State owe a duty of care to the unborn child and therefore care in pregnancy is promoted. However, many mothers will not follow up for their own postpartum care. This study investigated the proportion of HIV-positive women who default from their own postpartum care at the Mater Hospital and explored reasons for and impact of default.

Medical records of all HIV-positive women delivering over a 3-year period (2007 to 2009) were reviewed to ascertain how many defaulted from their own care postpartum. Defaulting was defined as not attending appointments straight after delivery or during the next 6 months for a period of at least 6 months. This cut-off value has been widely used in other studies to evaluate retention in HIV treatment.² Reasons for defaulting from care were noted. Women who attended were compared to women who defaulted to identify contributing factors to maternal default. Medical outcomes for these two groups were assessed.

Data collected included age, HIV viral load, CD4 cell count, dates of connection to care, Emergency Department attendance, socioeconomic level, reasons for default, reasons for re-attendance, and child's HIV status. Normally distributed data were analyzed using *t*-test or ANOVA; non-normally distributed data were analyzed using the appropriate nonparametric equivalent (Mann-Whitney U or Kruskal-Wallis tests). Univariate associations between categorical variables were explored using the χ^2 or Fisher's exact test for variables. Multivariate analysis was performed using logistic regression. Tests were two-tailed and $p < 0.05$ was considered significant. Statistical analyses were performed using SPSS version 18.

Between January 1, 2007 and December 31, 2009, 71 HIV-positive women delivered at the Rotunda Hospital and were referred to the Mater ID clinic postnatally. Of these, 27 (38%) did not follow up postpartum and 16 (59% of defaulters) started defaulting straight after delivery. Reported reasons for defaulting are listed (Table 1). In 11 cases (40% of defaulters), reasons were not recorded as all attempts to contact the woman had been unsuccessful. Avoidance was recorded when patients were happy to present in other hospital departments but not in the Infectious Diseases clinic or when they actively mentioned a reluctance to come in or issues with secrecy, fear of recognition, or stigma before defaulting. Univariate analysis of patient characteristics (Table 2) showed higher default rates when:

- Younger
- European
- Presenting in the third trimester³
- HIV diagnosed prior to pregnancy
- Living within walking distance of the hospital
- ART (Anti Retroviral Therapy) was ceased postpartum
- Not awarded income assessed medical cards. Mothers entitled to income assessed universal free healthcare were much more likely to attend the HIV clinic for their own care. (Table 2).

Reported reasons for re-connecting to care were medical complications ($n=2$), concerns for the child's HIV status ($n=1$), need for medication ($n=1$), and a new pregnancy ($n=1$). All children were HIV negative. Results of multivariate analysis showed a statistically significant association remained between attendance and whether the woman continued ART postpartum ($p=0.013$). Although statistical difference was not reached, differences were noted for age, distance to the hospital, and whether the patient held a medical card.

The main reported reason for defaulting was avoidance. This pattern of behavior is associated with stigma, secrecy, and fear of recognition, and also seen in the greater default rate for those who live close to the hospital. It is well documented that disclosure may be associated with risks due to

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TABLE 1.

<i>Reported reasons for non attendance</i>	<i>No.</i>	<i>%</i>
Avoidance	6	22
History of injecting drug use (IDU)	4	15
Childcare	2	7
Denial	1	4
Transport	1	4
Money	1	4
Mobility	1	4
Unknown*	11	40
Total	27	100

*For this population, median age was 28 (slightly younger women). 8 came from African countries (3 from South Africa, 2 from Nigeria, 1 from Congo, 1 from Cameroon, 1 from Zimbabwe); 2 were Irish and 1 was from Latvia. For the total study population, 82% of the women were from an African country of origin. For the women could not be contacted at all, 72% were from an African country of origin. (p value=0.41).

the stigma attached to HIV infection.^{3,4} Indeed, stigma was identified as one of the major barriers to retention in HIV care by Smith et al. in their application of a situated Information, Motivation, Behavioural Skills model of Care Initiation and Maintenance. Despite significant differences in their cohort (60% male, median age 49 years, HIV care initiated 24+ months prior to the study), similar themes emerged as obstacles to accessing care including stigma, denial, personal beliefs, and competing priorities.⁵

Pregnant HIV-infected women with a history of past or current substance abuse often find themselves in challenging social circumstances with multiple stressors, which negatively impact on their attendance for hospital appointments and adherence with ART as widely referenced.^{6,7} While alcohol and tobacco use were not included in our analysis, a recent Latin American study concluded tobacco use during pregnancy and alcohol use postpartum were independent predictors of suboptimal adherence to ART.⁸ Their influence on hospital attendance remains to be established.

TABLE 2.

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	<i>All patients</i>	<i>Attended for care (attendance rate)</i>	<i>Defaulted from care (default rate)</i>	<i>P value</i>
Number of patients	71	44 (62%)	27 (38%)	—
Median age (range)	30 (18–40)	31 (21–40)	28 (18–37)	0.011
Country of origin				
Europe	13 (18%)	6 (14%)	6 (22%)	0.51
Africa	58 (82%)	38 (86%)	21 (78%)	
Age group				
<30	32	15 (47%)	17 (53%)	0.018
(30)	39	29 (74%)	10 (26%)	
Presenting in				
1 st Trimester	15 (21%)	12 (80%)	3 (20%)	0.115
2 nd Trimester	40 (56%)	25 (62%)	15 (37%)	
3 rd Trimester	16 (22%)	7 (43%)	9 (56%)	
Period of diagnosis				
During pregnancy	21 (30%)	14 (67%)	7 (33%)	0.597
Prior to pregnancy	50 (70%)	30 (60%)	20 (40%)	
Median distance to hospital (range)	6.9 (0.5–89)	9.2 (0.5–89)	5.2 (0.6–72.7)	0.718
Travel distance to hospital				
<2km	13 (18%)	6 (46%)	7 (54%)	0.326
2 to 20 km	44 (62%)	30 (68%)	14 (32%)	
>20 km	14 (20%)	8 (57%)	6 (43%)	
ART				
Continued post-partum	29 (41%)	23 (80%)	6 (20%)	0.013
Ceased post-partum	40 (56%)	20 (50%)	20 (50%)	
Not recorded	2 (3%)			
Medical card holder				
Yes	38 (54%)	28 (74%)	10 (26%)	0.041
No	32 (45%)	16 (50%)	16 (50%)	
Not recorded	1 (1%)			
Baseline				
Median viral load (range)	9786 (<50–221492)	11846 (<50–221492)	6147 (<50–26934)	0.597
Median CD4 count (range)	424 (18–1386)	427 (132–1386)	419 (18–1015)	0.709
Median CD4% (range)	26 (4–45)	29 (11–45)	22 (4–40)	0.020
Delivery				
Median viral load (range)	4154 (<50–148126)	3517 (<50–148126)	5015 (<50–112872)	0.786
Median CD4 count (range)	525 (0–1177)	495 (0–1177)	532 (23–1197)	0.278
Median CD4% (range)	28 (4–49)	31 (20–49)	23 (4–33)	0.006

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Denial should not be underestimated as few patients who are truly in denial would actually come to clinic and engage in a discussion about it.

Lower socio-economic levels predicted a greater chance of attendance. While HIV medical care is free to all in Ireland, 46% of women included in this study were not granted income assessed medical cards because their incomes were too high and these women were twice as likely to default postpartum for their own HIV care. This reflects the findings of a review of GP visits in Ireland where those without medical cards visited the GP's half as many times as holders of a medical cards.⁹

Women are assessed for need for continuance of ART postpartum. This decision is generally based upon their CD4 count and viral load on presentation of pregnancy. When women were advised to cease ART postpartum they were significantly more likely to default from their own HIV care ($p=0.013$). 80% of women who were advised to continue taking ART connected to care. This compares to only 50% if they are advised to cease ART after delivery. Moreover, a US study shows that, despite having characteristics associated with worse prognosis, women who continue ART postpartum have lower hazard ratio point estimates for ADEs (AIDS-Defining Event) or death and non-ADEs or death than women who discontinue ART. Although HIV-positive women are strongly advised to avoid breastfeeding, a recent Irish report suggests 3/10 mother-to-child transmission cases were related to breastfeeding.^{10,11} Hence, retaining mothers on ART for 3 to 6 months postpartum may have benefits to both mother and infant.

Retaining women in HIV care postpartum is a complex undertaking and requires a holistic approach covering patient motivation, understanding, and social characteristics. Stigma remains the main reason for defaulting from care. Promotion strategies could be used to help educate about HIV, living with HIV, and risk for vertical and horizontal transmission. Women advised to continue ART postpartum are significantly more likely to follow through on their on HIV care. Research into the benefits of keeping mothers on ART for another 3 to 6 months postpartum could establish its impact on care and retention in care.

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