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The impact of domestic violence upon default from colposcopy services

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3 Results

3.1 Recruitment results

Of 581 women approached to participate in the trial, consent was obtained from 574 women (99%). One woman subsequently withdrew whilst completing the questionnaire. In six cases a partner came into the room during the process of completing the questionnaire and in this scenario the researcher had been advised to stop and change to another activity as issues of female safety were paramount. In these cases ascertainment of IPV was not able to be determined. One other woman gave ambiguous responses to domestic violence questions and her data were also excluded. Thus final outcome data were available on 566 women.

3.2 Demographics of the study cohort

The demographics of the study cohort are summarised in table 3.2. The average age of the study population was 33.7 years and the majority were Caucasian. A quarter had never been pregnant and one third were nulliparous. Half were current or ex smokers. A majority of women reported having a current sexual partner. One third of women had presented with pap smears demonstrating a high grade abnormality.

Table 3.2 Demographics of the study cohort

| Variable | N (%) N=566 |
|--|---|
| Age in years mean (std deviation) | 33.7 (10.5) |
| Race <ul style="list-style-type: none"> • Caucasian • Aboriginal or Torres Strait Islander • Asian • Other | <ul style="list-style-type: none"> • 479 (84.5%) • 4 (0.7%) • 48 (8.6%) • 35 (6.2%) |
| Gravidity <ul style="list-style-type: none"> • 0 • 1 • 2 • 3 or more | <ul style="list-style-type: none"> • 129 (22.7%) • 99 (17.7%) • 131 (23.0%) • 207 (36.6%) |
| Parity <ul style="list-style-type: none"> • 0 • 1 • 2 • 3 or more | <ul style="list-style-type: none"> • 199 (35.0%) • 90 (16.1%) • 160 (28.4%) • 117 (20.5%) |
| Smoking status <ul style="list-style-type: none"> • I have never smoked cigarettes • I used to smoke cigarettes but stopped over a year ago • I used to smoke cigarettes but stopped in the past year • I still smoke cigarettes | <ul style="list-style-type: none"> • 266 (47.1%) • 44 (7.7%) • 15 (2.7%) • 241 (42.5%) |
| Symptoms at time of screening <ul style="list-style-type: none"> • Yes • No | <ul style="list-style-type: none"> • 189 (33.6%) • 377 (66.4%) |
| Current partner <ul style="list-style-type: none"> • Yes • No | <ul style="list-style-type: none"> • 436 (77.0%) • 130 (23.0%) |
| Presenting Pap smear report <ul style="list-style-type: none"> • Low grade abnormality • High grade abnormality • Other | <ul style="list-style-type: none"> • 306 (54.2%) • 173 (30.5%) • 87 (15.3%) |

3.3 Prevalence of IPV

Table 3.3 summarises the prevalence of IPV in the study cohort. Overall 33% of the study cohort reported intimate partner violence within 12 months of the survey. Whilst in 14.5% of the cohort the female reported being the sole recipient of violence, in a further 16.6% of the cohort, the women reported that they had both received and were the perpetrator of the violence. In these cases, the majority of women reported that they had responded to verbal, emotional or physical intimidation with violence. In only 1.9% of the cohort did the woman report being the sole perpetrator of violence.

Table 3.3 Prevalence of intimate partner violence in the previous 12 months by subtype in study cohort

| Variable | N (%) |
|---|------------|
| No IPV | 379 (67%) |
| IPV where female subject was the perpetrator | 11 (1.9%) |
| IPV where female subject was the recipient of violence | 82 (14.5%) |
| IPV where female subject was both perpetrator and recipient of violence | 94 (16.6%) |
| Total | 566 (100%) |

3.4 Association of IPV

Table 3.4 summarises demographic differences between women who reported domestic violence compared to those who did not. Women who reported violence were 3 years younger ($p=0.01$). They were more likely to be current smokers (51.3% compared to 38.2%) and to report greater housing instability (32.2% compared to 12.2%) and have a positive Yale screen based on symptoms in the past week of their life (50.0% compared to 24.6%).

Overall 36.9% of women reported having another symptom at the time of screening. There were no differences in the proportion of women with current partners, nor were there significant racial, gravidity or parity differences between the two groups of women.

In multivariate analysis, the variables that were significantly associated with IPV were smoking status, housing instability and a positive Yale screen (all $p<0.01$).

Table 3.4 Demographic differences in women exposed to IPV and those who were not.

| Variable | Domestic violence N=187 | No domestic violence N=379 | P-value |
|---|----------------------------|----------------------------------|---------|
| Age mean (sd) in years | 32 (9.7) | 35 (11.0) | 0.01 |
| Gravidity | | | 0.09 |
| 0 | 33 (17.6%) | 96 (25.3%) | |
| 1 | 30 (16.0%) | 69 (18.2%) | |
| 2 | 44 (23.5%) | 87 (23.0%) | |
| 3 or more | 80 (42.8%) | 127 (33.5%) | |
| Parity | | | 0.56 |
| 0 | 59 (31.6%) | 140 (36.9%) | |
| 1 | 34 (18.2%) | 56 (14.8%) | |
| 2 | 54 (28.9%) | 106 (28.0%) | |
| 3 or more | 40 (21.4%) | 77 (20.3%) | |
| Race | | | 0.35 |
| Caucasian | 162 (86.6%) | 317 (83.6%) | |
| Other | 25 (13.4%) | 62 (16.4%) | |
| Have a current partner | | | 0.09 |
| Yes | 136 (72.7%) | 300 (79.2%) | |
| No | 51 (27.3%) | 79 (20.8%) | |
| Other current gynaecological symptoms | | | 0.21 |
| Yes | 69 (36.9%) | 120 (31.7%) | |
| No | 118 (63.1%) | 259 (68.3%) | |
| Smoker | | | 0.0004 |
| Never smoked | 66 (35.3%) | 200 (52.8%) | |
| Ex-smoker | 25 (13.4%) | 34 (9.0%) | |
| Current smoker | 96 (51.3%) | 145 (38.2%) | |
| Housing stability (current) | | | <0.0001 |
| Very stable | 73 (42.0%) | 239 (64.8%) | |
| Semi stable | 45 (25.8%) | 85 (23.0%) | |
| Unstable | 51 (32.2%) | 45 (12.2%) | |
| Did not answer | 18 | 10 | |
| Yale Depression Inventory positive screen | | | <0.0001 |
| Yes | 88 (50.0%) | 96 (24.6%) | |
| No | 88 (50.0%) | 294 (75.4%) | |
| Did not complete | 11 | 11 | |

3.5 Default and loss to follow up at colposcopy clinics

Table 3.5.1 summarises the impact of IPV on default. Compared to women not exposed to IPV, women exposed to violence were more likely to default from colposcopy once (26.2% vs 7.4%; $p<0.0001$), twice (11.2% vs 3.2%, $p=0.0001$), or thrice (10.7% vs 2.4%, $p<0.0001$). They were more likely to be lost to follow up (8.0% vs 1.1%, $P<0.0001$) compared to women who were not exposed to IPV.

Table 3.5.2 summarises the multivariate analysis of factors associated with default from colposcopy. Variables associated with default on two or more occasions at colposcopy services were IPV, housing instability and a positive Yale screen (all $p<0.01$).

Table 3.5.1 Default rates from colposcopy clinics.

| Variable | Domestic violence N=187 | No domestic violence N=379 | P-value |
|--|----------------------------|----------------------------------|------------------------------------|
| Single episode of default Yes No | 49 (26.2%) 138 (73.8%) | 28 (7.4%) 351 (92.6%) | P<0.0001 RR 2.25 (1.81-2.81) |
| Two episodes of default Yes No | 21 (11.2%) 166 (88.8%) | 12 (3.2%) 367 (96.8%) | P=0.0001 RR 2.04 (1.53-2.72) |
| Three or more episodes of default Yes No | 20 (10.7%) 167 (89.3%) | 9 (2.4%) 370 (97.6%) | P<0.0001 RR 2.22 (1.68-2.92) |
| Lost to follow up care Yes No | 15 (8.0%) 172 (92.0%) | 4 (1.1%) 375 (98.9%) | P<0.0001 RR 2.51 (1.93-3.27) |
| Appointments rebooked by hospital Yes No | 9 (4.8%) 178 (95.2%) | 21 (5.5%) 358 (94.5%) | P=0.716 RR 0.90 (0.52-1.58) |
| Appointments rebooked by patient Yes No | 19 (10.2%) 168 (89.8%) | 25 (6.6%) 354 (93.4%) | P=0.136 RR 1.34 (0.94-1.93) |

Table 3.5.2 SUMMARY OUTPUT Multivariate analysis of default from colonoscopy on two or more occasions.

| <i>Regression statistics</i> | |
|------------------------------|-------|
| Multiple R | 65535 |
| R Square | 0.063 |
| Adjusted R Square | 0.102 |
| Standard Error | 0.488 |
| Observations | 566 |

ANOVA

| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
|------------|-----------|-----------|-----------|----------|-----------------------|
| Regression | 6 | 2.739 | 0.391 | -1.645 | |
| Residual | 562 | 45.894 | 0.238 | | |
| Total | 566 | 43.155 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-----------------------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Housing Instability | 0.020 | 0.006 | 3.433 | <7.3E-04 | 0.009 | 0.032 |
| IPV | 0.248 | 0.047 | 5.232 | <4.3E-07 | 0.155 | 0.342 |
| Positive Yale | 0.108 | 0.032 | 3.367 | <9.2E-04 | 0.045 | 0.172 |
| Age | 0.004 | 0.021 | 0.197 | 0.844 | 0.038 | 0.046 |
| Smoking | 0.002 | 0.080 | 0.023 | 0.982 | -0.159 | 0.155 |
| Symptoms at Screening | 0.078 | 0.031 | 2.515 | 0.053 | 0.139 | 0.017 |

3.6 Default and loss to follow up at women's health clinics

Table 3.6.1 summarises default rates at women's health clinics other than colposcopy clinic during the 36 months of follow up. Of the 187 women who reported IPV at screening, 94 (50.3%) required referral to women's health clinics other than colposcopy during the follow up period. In contrast, only 32.2% of the women who screened negative to domestic violence required referral to women's health service other than colposcopy clinic in the follow up period ($p < 0.0001$).

Women exposed to IPV were more likely to default from attendance at other women's health care clinics once (14.9% vs 3.3%, $p = 0.005$), twice (11.7% vs 0.8%, $p = 0.001$) or thrice (9.6% vs 0%, $p = 0.0004$). Compared to women not exposed to IPV, they were also more likely to be lost to follow up (9.6% vs 0%, $p = 0.0004$), as well as more likely to rebook appointments (13.8% vs 4.9%, $p = 0.02$) but there was no significant difference in reappointment rates made by the hospital.

Table 3.6.2 summarises the multivariate analysis. In multivariate analysis, variables associated with default on two or more occasions at women's health clinic services were IPV ($p = 0.0009$) and housing instability ($p = 0.015$).

**Table 3.6.1 Attendance and default from other women’s health clinics
(excludes colposcopy clinics).**

| Variable | Domestic violence N=187 | No domestic violence N=379 | P-value |
|--|----------------------------|----------------------------------|------------------------------------|
| Did the patient require an appointment at another women’s health clinic in the 36 month follow up period? Yes No | 94 (50.3%) 93 (49.7%) | 122 (32.2%) 257 (67.8%) | P<0.0001 RR 1.64 (1.30-2.06) |
| If Yes, did she default on one occasion? Yes No | 14 (14.9%) 80 (85.1%) | 4 (3.3%) 118 (96.7%) | P=0.005 RR 1.92 (1.43-2.60) |
| If yes, did she default on two occasions? Yes No | 11 (11.7%) 83 (88.3%) | 1 (0.8%) 121 (99.2%) | P=0.001 RR 2.25 (1.78-2.86) |
| If yes, three or more episodes of default Yes No | 9 (9.6%) 85 (90.4%) | 0 (0%) 122 (100%) | P=0.0004 RR 2.44 (2.07-2.87) |
| If yes, was she lost to follow up? Yes No | 9 (9.6%) 85 (90.4%) | 0 (0%) 122 (100%) | P=0.0004 RR 2.44 (2.07-2.87) |
| Appointments rebooked by hospital Yes No | 5 (5.3%) 89 (94.7%) | 8 (6.6%) 114 (93.4%) | P=0.70 RR 0.88 (0.43-1.78) |
| Appointments rebooked by patient Yes No | 13 (13.8%) 81 (86.2%) | 6 (4.9%) 116 (95.1%) | P=0.02 RR 1.66 (1.17-2.36) |

Table 3.6.2 Multivariate analysis default from women's health clinics

SUMMARY OUTPUT

| <i>Regression Statistics</i> | |
|------------------------------|----------|
| Multiple R | 65535 |
| R Square | -0.236 |
| Adjusted R Square | -0.26002 |
| Standard Error | 0.789951 |
| Observations | 566 |

| ANOVA | | | | |
|------------|-----------|-----------|-----------|-----------|
| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> |
| Regression | 4 | -23.35335 | -5.838338 | -9.355978 |
| Residual | 562 | 122.3084 | 0.624022 | |
| Total | 566 | 98.955 | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> |
|-------------|---------------------|-----------------------|---------------|----------------|------------------|------------------|
| Depression | 0.02542 | 0.014814 | 1.716001 | 0.087742 | -0.003794 | 0.054635 |
| Housing | | | | | | |
| Instability | 0.29964 | 0.144085 | 2.079606 | 0.038863 | 0.015484 | 0.583796 |
| IPV | 0.575483 | 0.170604 | 3.373212 | 0.039028 | 0.239028 | 0.911937 |
| Smoking | 0.127964 | 0.164466 | 0.778058 | 0.437473 | -0.196385 | 0.452313 |