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Papanicolaou (PAP) Smear Up-Take amongst Alcohol and other Drug using Mothers in Western Australia

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Abstract

Background: Papanicolaou (Pap) smear screening has helped to reduce cervical cancer rates significantly through the detection of premalignant cells. Uptake amongst women who use alcohol and other drugs (AOD) is known to be low and therefore are at increased risk of being under-represented in the adequately screened population. Alcohol and other drug using women experience disproportionately increased morbidity and mortality from cervical dysplasia and cancer. Pregnancy may provide the midwife an opportunity to offer this vital screening test.

Objective: The objective for conducting the research was to investigate the Pap smear uptake and results amongst AOD using pregnant women.

Setting: Pregnant women cared for by an obstetric AOD service based in a tertiary hospital in Perth, Western Australia were eligible for inclusion in the study.

Conclusion: This research project emphasises the importance of Pap smears being offered and followed up amongst the population of AOD using pregnant mothers. Encouraging early booking once pregnancy is confirmed, and access to early ante natal care with midwives who are proficient in Pap smear collection is essential in order to provide optimal care.

Key words: Pap smear, substance use, pregnancy, midwives.

Introduction

Alcohol and other drug ('AOD') addiction is understood as a complex disease, with pre disposing causes including social, environmental, legal, psychological, neurobiological, economic, and genetic perspectives (Peregud, Panchenko, & Gulyaeva, 2008; Redish, Jensen, & Johnson, 2008; Yücel, Lubman, Solowij, & Brewer, 2007). Approximately one third of people with AOD dependence are women of child-bearing age (Niccols, Dell, & Clarke, 2010). Poole (2007) found that many women identify substance use as a way to cope with gender-based abuse and trauma.

Many authors (see for example Barnard & McKeganey, 2004; Economidoy, Klimi, & Vivilaki, 2012; Heil et al., 2011; Poole, 2009; Wright, Schuetter, Fombonne, Stephenson, & Haning, 2012) have associated AOD with increased risk of health and social problems such as liver disease, blood born viruses, high blood pressure, anaemia, malnutrition, poverty, mental health disorders, arrests, incarceration and unplanned pregnancy. Alcohol and other drug using women are also particularly susceptible to sexually transmitted infection including Human Papilloma Virus (HPV), which is now well known to be present in 99.7% of cervical cancers (Sikström, Hellberg, & Nilsson, 1995). The majority of HPV infections are transient (Posner, Boyle, Purdie, Dunne, & Najman, 2006) however a small proportion become chronic and some of those will develop into cervical cancer (NHMRC, 2012).

The national cancer statistics available for Australia are for 2009, when cervical cancer represented the third most commonly diagnosed gynaecological cancer in the country and accounted for 1.5% (771) of all new cancer diagnoses in women that year (Australian Institute of Health and Welfare & Australasian Association of Cancer Registries, 2012). Cervical cancer is also the most frequently diagnosed cancer in pregnancy (Loomis, Pastore, Rejman, Gutierrez, & Bethea, 2009) and is the fourth leading cause of death in women (Jemal, Bray, Center, Ferlay, Ward & Forman, 2011). The risk of mortality is greatly reduced, however, if cell changes are detected early (Bray et al., 2005).

The Papanicolaou (Pap) smear test is a readily available investigation used to screen for cervical changes indicating risk for developing cervical cancer (Saslow, Solomon, Lawson et al, 2012). Despite this, Pap smear uptake amongst women is known to be poor (Bharel, Casey & Wittenberg, 2009; Akyuz & Yenen, 2013) and amongst AOD addicted women it is even lower (Chau, Chin, Chang, Luecha, Cheng & Schlesinger, 2002). As a consequence, women

with a history of AOD addiction experience disproportionately increased morbidity and mortality from cervical dysplasia and cancer (Nogara, Manfroni & Consolaro, 2013).

Numerous barriers to preventive health care exist for AOD using women, (Burns et al., 2011; Milligan et al., 2002; Niccols et al., 2010; Roberts & Pies, 2011; Rots-de Vries, van de Goor, Stronks, & Garretsen, 2011); these include difficulties accessing services, poverty, coexisting mental illness, guilt, denial or embarrassment regarding their AOD addiction, fear of discomfort or indignity (Chen, Hung, Duffy, Yen & Chen, 2011) and a history of sexual trauma (Taylor, 2011). Pregnancy is known to be a time when women who would otherwise not have access to or make contact with health services do engage with care providers (Higgins, Clough, Frank & Wallerstedt, 1995); antenatal care interactions with AOD addicted women are therefore an ideal time to offer women the Pap smear test, however often, the offer of a Pap smear is missed because of a lack of health practitioners' knowledge or skills (Bayer, Nussbaum, Cabrera, & Paz-Soldan, 2011; Guvenc, Akyuz & Yenen, 2013). The frequency of midwife-conducted antenatal Pap smear sample collection, therefore, is unclear. There is also a paucity of information about the uptake of midwife-provided Pap smear testing among AOD-using women in pregnancy, however what is clear is that women such as those who are AOD addicted who have avoided regular check-ups in the past with doctors feel more comfortable with a midwife collecting the cervical cell sample (Conway, 1996).

The Women's and Newborns' Drug and Alcohol Service ('WANDAS')

King Edward Memorial Hospital (KEMH) is Western Australia's tertiary (referral) maternity service that provides care to women with physiologically, psychological and emotionally complex pregnancies through dedicated general and specialist antenatal clinics; on average, 6,500 births occur at KEMH per year. The Women's and Newborns' Drug and Alcohol Service (WANDAS) at KEMH is a service for women dealing with AOD addiction and related issues. It is the largest Drug and Alcohol obstetric service in Australia. WANDAS women represent some of the most disadvantaged and traumatised women in society, often having complex medical and social issues. Many identify their AOD addiction as a way to cope with former or current abuse and trauma, and are women who find situations such as having a Pap smear extremely difficult.

WANDAS care is provided within a philosophy of harm reduction, risk minimisation and addiction stabilisation where clinicians focus is on pragmatic rather than moralistic intervention. WANDAS' aim is to encourage AOD addicted women to attend for pregnancy care in order to address their health and social issues, and the service's overall purpose is to pursue reduction or cessation of AOD use and improve birth outcomes.

Criteria for referral to the WANDAS are simply that women are pregnant and are dependent on alcohol and/or other drugs. The majority of women within WANDAS report poly substance use. Nearly 90% of the women attending the service smoke cigarettes, half of the women reported using alcohol whilst pregnant, 44% of the women used over a gram of cannabis daily 44%, of women use opiates (either illicitly or via an opiate replacement program) and a third of the women use amphetamines whilst they are pregnant. Women are referred to WANDAS from a variety of services including GPs, community drug and alcohol services, the Department of Child Protection and other obstetric and Midwifery services; women can also refer themselves. After referral, women receive an appointment for a booking visit to the service as early in the pregnancy as possible. Engagement with the WANDAS, however, is not compulsory, thus it is not known what percentage of the eligible group agrees to referral to or attends the service.

The WANDAS operates within the wider hospital's guidelines, included in which is a recommendation all pregnant women are offered a Pap smear before 24 weeks gestation if they had i) never had one or ii) have had normal results from previous Pap smears with an interval of more than two years at the time of their maternity care booking visit (KEMH, 2009).

Methods

This audit was conducted using criterion-based review of the case notes of women cared for by the WANDAS during January 2011 to January 2012. Criterion-base case note review, or audit, involves the prior agreement by clinicians of a list of concise criteria for good quality care. Reviewers can then screen the case notes of patients and record whether care has met the agreed criteria (Wagaarachchi, Asare, Ashley et al, 2001). This approach was selected for its superior capacity for inter-reviewer agreement compared to the holistic case note review method (Hutchinson, Coster, Cooper et al, 2010).

Participants and Setting

Pregnant women who met the criteria for care by the WANDAS team (that is, pregnant with a history AOD addiction) were eligible for inclusion in the audit. Examples of AOD addiction that is considered to be health-significant in pregnancy include the use of one gram or more of cannabis per day, ongoing use of amphetamines, the illicit use of opiates including the non-medical use of analgesics (both prescription and over-the-counter) such as hydrocodone, oxycodone, morphine and codeine, being on an opiate replacement programme, misusing prescription medicines, or drinking alcohol at levels that are known to be harmful in pregnancy.

Data collection

For this audit three index criteria, reflective of the host service's clinical guidelines, were sought out in the selected case notes; these were i) whether women attending the WANDAS clinic had been offered a Pap smear in the antenatal period, ii) whether they had accepted it, and iii) whether, if it had been offered and accepted, a midwife had performed the procedure. Additional information about pre-booking Pap smear status (if known) and the results of the most recent investigation was also collected.

Data analysis

Simple descriptive statistical analysis (frequency counts, mean, median and mode calculations, and cross tabulations) was applied to the data.

Ethical considerations

Ethical approval was granted by from the hospital's Gynaecology and Obstetrics Ethics Committee and permission to publish results was granted. All records were de-identified at source and therefore no consent was sought from the women whose case notes were reviewed.

Results

In a snapshot 12 months across 2011-2012, the WANDAS supported 333 childbearing aged women from a range of ancestral backgrounds. Results of the audit are presented by index criteria below and are summarised in tables 1 and 2.

Evidence of Pap smear status recorded at booking (including those performed during the WANDAS booking visit)

One third of the sample (142/333; 43%) was recorded at their WANDAS booking appointment to have had a Pap smear in the previous three years. A further 80 women who had apparently not had a Pap smear in the previous three years 80/333 (24%) chose to accept the offer of one at their WANDAS booking visit. Altogether therefore, there was evidence that 222/333 women had a 'current' Pap smear recorded in their antenatal booking notes.

Offer of Pap smear testing to those without a current result

Unfortunately, of the 111 women who didn't have a current Pap smear recorded at booking, 70 were ineligible for the test because they first attended the WANDAS after 24 weeks gestation, which is deemed too late for a Pap smear test in pregnancy (KEMH, 2009). Sixteen of these 111 women are recorded to have been offered the test but declined for reasons unknown, 12/111 were recorded to have not been offered the test because the WANDAS booking midwife was not proficient in the Pap smear procedure, 10/111 women were recorded as booked originally to a different clinic but not offered the test because the booking midwife was not proficient in the Pap smear procedure.

The records of the remaining 3/111 made no mention of whether or not a Pap smear was offered to those women who were noted to need one.

Pap smear recorded as performed by midwife

All of the 80 Pap smears accepted by women booking with the WANDAS who had not had the test in the previous three years were performed by WANDAS midwives.

Record of most recent Pap smear test result

Of the 222 Pap smears recorded in women's notes at their WANDAS booking visit, 208 were normal and 14 showed some grade of abnormality. Five of the 'abnormal' smears were found in the notes of the 142 women who had their Pap smear prior to their WANDAS booking appointment, and the remaining nine were diagnosed from the 80 conducted in this sample during women's WANDAS booking visits.

Index criteria	n/133	%
Evidence of Pap smear status recorded at booking (including those performed during the WANDAS booking visit)	222	66%
<ul style="list-style-type: none"> • Current Pap smear test result prior to booking • Pap smear test performed at booking 	142 80	
No current Pap smear at booking	111	33%
<ul style="list-style-type: none"> • Ineligible – booked at >24 weeks pregnant • Offer of Pap smear testing declined • Not offered as booking midwife not proficient in Pap smear procedure • Pap smear not offered – no record of why 	70 16 22 3	

Table 1: Summary of results of audit by index criteria

Pap smear recorded as performed by midwife	80	
Record of most recent Pap smear test result		
<ul style="list-style-type: none"> • Normal • Abnormal • None recorded 	208 14 111	

Table 2: Summary of recent Pap smear results

Discussion

Four key findings emerged from this audit. The first two were that even when offered the test within the relative physical and emotional safety of a one-to-one consultation with a (female) midwife some women declined, and that some women who had presented for Pap smear in the three years prior to their antenatal booking visit had failed to act on an abnormal result. Our audit did not investigate why women declined pap smear testing however other work in this area suggests a history of sexual abuse or sexual assault, as experienced by a large proportion of the women cared for by the WANDAS, is likely to be a key factor (Taylor, 2011; Ullman, Najdowski, & Filipas, 2009; Maniglio, 2011). Neglecting to follow up an abnormal test result is known to occur as a consequence of a chaotic life, as those who are addicted to AOD often have (Tilley, Hristov, Templeton, Sharp, & O' Connor, 2012).

Third, we found that a concerning number of women were not able to have a Pap smear because they didn't book into our maternity service until after 24 completed weeks of pregnancy. Again, we did not explore the reasons for this but evidence suggests that mothers-to-be who are AOD addicted delay engaging with maternity services care because of feeling ashamed (Livingston, Milne, Fang & Amari, 2011) or fearful about the possible repercussions, specifically that their baby will be removed from them after birth (Dakil, Sakai, Lin & Flores, 2011).

Fourth, we identified from the case notes we reviewed that some women in this particularly vulnerable group were not offered a Pap smear because of midwives' incapacity to perform the procedure. The results suggest a targeted intervention designed to improve midwives competency in performing Pap smears would be an effective way to improve antenatal Pap smear screening (Watkins & Moran, 2004).

When providing a Pap smear service, midwives and nurses must try to minimise the barriers that are put in place by the system. This is currently also being addressed in the metropolitan area of Western Australia, by the formation of a Community Group Midwifery Practice, where the midwives are given the resources to follow up the clients in their communities. This model of community care assists in building up a therapeutic relationship (Gardner, 2010), and when there is better access to midwifery care, hopefully more trust can be elicited from the high risk client base. As a service, the team who conducted this audit hopes to build such a model of care; and the information collected will be used in the formation of a new model of care. The results of this research will also be disseminated to the newly formed

Aboriginal Group Midwifery Practice and Group Midwifery Practices' in the metropolitan area of Western Australia.

Conclusion

The findings of this audit are limited in that they only provide information about opportunities to improve care provision relative to one maternity service. Nonetheless, our aims were fulfilled and the results do provide an insight into the challenges of one aspect of caring for this group of women from which we offer some suggestions for education, practice and future research.

Providing services that are perceived by AOD addicted women as safe and trustworthy is clearly essential if timely access to antenatal care and continuing engagement throughout the childbearing episode is to be fostered. A community-informed approach to designing services such as these, possibly using a participatory action research approach, is one way of ensuring they reflect the needs of the target clientele.

Ensuring that midwives charged with caring for women whose life stories commonly include significant disempowerment in the form of past and/or current physical, sexual or emotional abuse are proficient in Pap smear sample collection is essential for the provision of optimal care to such women.

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