Psychotropic drug abuse and the unwanted pregnancy state

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The study was undertaken to determine the psychosomatic symptoms in unwanted pregnancy patients and the pattern of psychotropic drug abuse. It was designed as a single-centre, randomized, prospective study in which pregnant women between 16 and 35 years participated in the clinical and structured interviews. Clinical interviews were used to diagnose the unwanted pregnancy state in 540 patients compared to a similar group of control patients; and to know the pattern of their self-medication with psychotropic drugs. Structured interviews were used to score the Hamilton’s ratings and Geriatric Depression Scales deployed to screen for anxiety and depression respectively. The mean Hamilton Anxiety Rating Scale (HARS) and Geriatric Depression Scale (GDS) scores were significantly greater in test patients with presentation of unwanted pregnancy at first trimester compared to controls (P < 0.05). At the first trimester, 84% (163 patients) of the patients with positive HARS scores had self-medication with diazepam and 25% abused cannabis. The patients that screened positively for depression also self-medicated with diazepam and alcohol. The results are suggestive of an association between the unwanted pregnancy state, psychosomatic symptoms and self-medication.

Keywords: Unwanted pregnancy, depression, anxiety, drug abuse.

INTRODUCTION

Unwanted pregnancy may be defined as a pregnancy that is not desired by one or both biologic parents and may therefore be carried to term with resentment and or anger (Pohlman, 1968). In Nigeria, the incidence has been determined by investigators to lie between 26% and 28% of all pregnancies (Sedgh et al., 2006; Oye-Adeniran et al., 2004). Although the unwanted pregnancy state is known to be associated with psychosomatic disorders and drug abuse, the subject has not been well researched, at least, in developing countries (Gipson et al., 2008).

The causes of unwanted pregnancy include unwanted sexual intercourse especially in teenagers, rape, low socio-economic status (Geelhoed et al., 2002), low educational status and violence. Women who experience physical violence from their husbands are significantly less likely to adopt contraception and more likely to experience unwanted pregnancy (Stephenson et al., 2008).

Psychosomatic disorders and unwanted pregnancy

There are substantial phenomenological differences between a ‘chosen’ and an unwanted pregnancy (Lundquist, 2008). For example, unwanted pregnancies pose negative health consequences which include depression and anxiety (Goicolea and Sebastian, 2010; Klima, 1998). The conscious and unconscious anger and upset leads to more psychosomatic problems (Pohlman, 1968).

Pregnancy-Induced Alterations in Pharmacokinetics and Pharmacodynamics

Pregnancy causes major pharmacokinetic and pharmacodynamic changes in the body (Little, 1999). These include delayed gastric emptying, decreased gastrointestinal motility, increased volume of distribution, decreased drug binding capacity, decreased albumin levels and enhanced hepatic metabolism with induced...
liver metabolic pathways (Stowe and Nemeroff, 1998). There is also greater renal clearance and glomerular filtration rate increases. Plasma volume increases by 30-40%. The foetus has lower plasma protein binding, lower hepatic functioning, relatively increased cardiac output and greater permeability in the blood-brain-barrier in comparison with adults. These changes all point to the importance during pregnancy of cautious prescribing, the need for lower doses of medication and monotherapy, and regular follow-up for any possible side-effects, in order to protect both mother and foetus (Kohen, 2004).

Psychotropic drugs and pregnancy

The American Pediatric Academy’s Committee On Drugs is of the principle that no medication should be prescribed for a pregnant or lactating woman unless it is necessary for her health or that of her child. And that when practical and consistent with the essentiality of controlling the woman’s symptoms, a woman should be withdrawn from psychotropic medication prior to conception. Traditionally, psychotropic medications were withheld during pregnancy because of fear of teratogenic and other effects. Evidence is emerging that the tricyclic antidepressants and selective serotonin reuptake inhibitors appear to be free of teratogenic effects (Ward and Zamorski, 2002). Medications can potentially affect the foetus by causing structural teratogenesis (birth defects), behavioural teratogenesis and perinatal syndromes. For example, the benzodiazepines are increasingly being associated with oro-facial birth defects, syndromes when given proximate to delivery (Ward and Zamorski, 2002; Kohen, 2004). The guidelines for psychotropic drug use in pregnancy recommends that non-pharmacologic therapies should be tried first. It also recommends that the selective serotonin reuptake inhibitors be the agents of first choice in the treatment of depressive and anxiety disorders and that collaboration and consultation with mental health professionals should be an important aspect of treatment planning (Ward and Zamorski, 2002).

Aim of the study

The objective of the study was to investigate the extent of psychosomatic symptoms in unwanted pregnancy patients and the extent to which the symptoms fuel drug abuse.

METHODS

This randomized, prospective, single-centre study was carried out between 2000 and 2012 at Oseghale Oriafo Medical Centre, Ekpoma that has Ishan Senatorial District as its catchment area. 540 patients aged 16-35 years with unwanted pregnancies, to whom the purpose of study was explained and from whom consent was obtained, were counseled throughout their pregnancy duration which was to term. Clinical interviews were used to determine the unwanted pregnancy state and the pattern of psychotropic drug use. There was a control group of 600 patients of same age bracket with wanted pregnancies.

Screening for anxiety and depression: Structured face-to-face interviews were used to screen for anxiety and depression using the 14-itemed Hamilton Anxiety Rating Scale (HARS) (Hamilton, 1959) and the 30-itemed Geriatric Depression Scale (GDS) (Mancuso et al, 2000) respectively. Both are valid, easily-administered tests suitable even for not-so-well educated groups. The screening tests were administered at the first, second and third trimesters of pregnancy.

The table 1 shows that 600 patients enrolled as test patients with unwanted pregnancies and 600 patients enrolled as control patients with wanted pregnancies but 540 patients with the unwanted pregnancy state agreed to continue with counseling.

No. on self-medication: 194 patient (36%) of the 540 patients were on self-medication. 163 (84%) out of the 194 patients were on self-medication with diazepam. 49 patients (25%) were on self-medication with cannabis and 23 patients (12%) were using alcohol. In the second and third trimesters, no patient was on self-medication due to the success of the counseling. Out of the control patients with wanted pregnancies, none was on self-medication.

Average HARS Score: With the HARS scores, 16-20 represents mild anxiety, 20-25 represents moderate anxiety and 25-30 represents severe anxiety. From the Table, the average HARS score for the test patients at the first trimester was 24.0 ± 8.0 SD and this reduced to 15.0 ± 9.0 SD at the third trimester.

Average GDS Score: With the GDS scores, 0-9 represents no depression, 10-20 represents mild depression and 21-30 represents severe depression. In this study, the average GDS score at the first trimester for the test group was 12.0 ± 6.0 SD and decreased to 9.0 ± 7.0 SD at the third trimester.

Positive screening for anxiety: 194 patients (36%) of the test group had positive screening for anxiety at the first trimester, with HARS scores ranging from 22-28 but at the third trimester, only 11 patients (2%) had positive screening for anxiety.

Positive screening for depression: 21 patients (4%) of the test group had positive screening for depression, with GDS scores in the range 11-13. At the second and third trimesters, no patient had positive screening for depression.

It is of interest that the average HARS scores for the control patients with wanted pregnancies increased from
Table 1. Anxiety and Depression rating Scores in normal pregnancies and in the unwanted pregnancy state. Average HARS scores and GDS scores were significantly different at first trimester between test and control groups (P < 0.01). HARS scores less than 16 reveal no anxiety and GDS scores less than 9 reveal no depression.

<table>
<thead>
<tr>
<th>Test Patients</th>
<th>Control Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 540</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>First Trimester</td>
</tr>
<tr>
<td>No. On Self Medication</td>
<td>194</td>
</tr>
<tr>
<td>No. On Diazepam</td>
<td>163</td>
</tr>
<tr>
<td>No. On Cannabis</td>
<td>49</td>
</tr>
<tr>
<td>No. On Alcohol</td>
<td>23</td>
</tr>
<tr>
<td>Average HARS Score</td>
<td>24.0 ± 8.0 SD</td>
</tr>
<tr>
<td>Average GDS Score</td>
<td>12.0 ± 6.0 SD</td>
</tr>
<tr>
<td>No. with positive Screening for anxiety (HARS Range)</td>
<td>194</td>
</tr>
<tr>
<td>(22 – 28)</td>
<td>(20 -22)</td>
</tr>
<tr>
<td>No. with positive Screening for depression (GDS Range)</td>
<td>21</td>
</tr>
<tr>
<td>(11 – 13)</td>
<td></td>
</tr>
</tbody>
</table>

14.0 ± 9.0 SD at the first trimester to 15.0 ± 7.0 SD at the third trimester and the average GDS scores decreased from 8.5 ± 5.0 SD at the first trimester to 7.5 ± 7.0 SD at the third trimester.

**DISCUSSION**

Inspite of the consensus that pregnancy should be undertaken only with clear intent (Brown and Eisenberg, 1995), the problem of the unwanted pregnancy state is still of immense proportion in Nigeria though the mind-set can be significantly influenced and changed with proper counseling as this series indicate. Counseling was able to change 540 cases of unwanted pregnancies from being unwanted to "wanted" over a 10-year period.

Present results suggest that the unwanted pregnancy state is associated with greater psychosomatic symptoms compared to control patients and this is in consonance with previous observations that found increase of psychosomatic symptoms in the unwanted pregnancy state (Pohlman, 1968; Klima, 1998; Gipson et al., 2008).

With counseling, the depressive symptoms abated completely at the second and third trimesters. Also the anxiety symptoms significantly reduced from 36% at first trimester to 2% at third trimester. This may be important because non-pharmacologic methods of treatment are advocated in pregnancy (Ward and Zamorski, 2002).

The study also suggests a significant risk of self-medication in the unwanted pregnancy state. This may not appear surprising since previous studies have found psychosomatic symptoms to be a cause of psychotropic drug abuse (Lawrence et al, 2004; Weiss et al, 1992; Brady, 2001; Kendler et al, 1996) and anxiety disorders and substance use disorders commonly co-occur (Brady, 2001).

Diazepam is probably self-medicated because it can cause sedation; it is cheap, easily available and may have antidepressant effects (Tiller et al., 1996). Cannabis is also probably self-medicated because it has been reported to possess mood-elevating properties (El-Alfy et al., 2010) and a similarity between the chronobiologic effects of alcohol and antidepressants has been reported. In clinical practice, the selective serotonin re-uptake inhibitors (SSRIs) antidepressants are currently preferred to the benzodiazepines and the tricyclic antidepressants (TCAs) for treatment of psychosomatic symptoms because of the undesirable effects of the benzodiazepines (Ward and Zamorski, 2002) and the TCAs (Simon et al., 2002). Diazepam rapidly crosses the placental barrier because of its marked lipid solubility (Hauser, 1985) and its metabolite, N-demethyl-diazepam is pharmacologically active with a long half-life. Its use in the first trimester is associated
with 0.6% increase of oral clefts and congenital malformations of the central nervous system and urinary tract (Altshuler et al., 1996) while Wisner and Perel in 1988 demonstrated that the benzodiazepines can produce withdrawal symptoms, respiratory depression and muscular hypotonia in infants.

Alcohol exposure during gestation can lead to structural teratogenesis, behavioural teratogenesis and perinatal syndromes exhibited by growth deficiency, dysmorphic facial features and central nervous system dysfunction termed fetal-alcohol syndrome or the lesser known alcohol-related neurodevelopmental defect (Famy et al., 1998). Alcohol exposure during gestation has been called the most common known cause of mental retardation. Ethanol increases the absorption of cannabinoids (Luka and Orozco, 2001) and there is evidence for an embryotoxic role of marihuana in rabbits (Rosenkrantz et al., 1986).

CONCLUSION

Present evidence points to an association between the unwanted pregnancy state, psychosomatic symptoms and psychotropic drug abuse which often-at times lead to self-medication with the potentially foeto-toxic agents diazepam, cannabis and alcohol.

REFERENCES


Luka SE, Orozco S (2001). Ethanol increases plasma delta 9-tetrahydrocannabinol (THC) levels and subjective effects after marihuana smoking in human volunteers. Drug and alcohol dependence. 64(2): 143-149


