

Caring for Women with Epilepsy in your Pharmacy

Dr Nicola Maher has a special interest in medical conditions in pregnancy and in particular epilepsy. Together with Sinead Murphy Advanced Nurse Practitioner in Epilepsy they run a dedicated antenatal service for women with epilepsy. Patients are seen throughout their pregnancy and preconceptual counselling is also provided. Dr Maher also is a member of the Irish Medicines in Pregnancy Service (IMPS), a multidisciplinary service based at the Rotunda Hospital which provides information and expertise to support safe and effective use of medicines before, during and after pregnancy.

In Ireland approximately 25% (10000) of all people diagnosed with epilepsy are women of childbearing potential. Pharmacists are among the most trusted professions by society and are ideally placed to support and advise women who maybe planning a pregnancy or indeed are pregnant. Whether at the point of collecting prescribed regular anti-seizure medication or indeed at initiation or ceasing of contraception, opportunities exist for pharmacists to discuss pregnancy in women with epilepsy.

Fortunately most women with epilepsy remain well during their pregnancy. However, up to 30% of women with epilepsy will notice a worsening of seizure control in pregnancy which can place mothers and their unborn babies at risk during the pregnancy. Some of the most commonly prescribed anti-seizure medications enjoy excellent safety profiles. None the less pregnant women often have significant anxiety around taking medication. The legacy of Valproate and the general cautions and warnings that surround medication use in pregnancy have led to many women choosing to stop medications without advice from their doctor or pharmacist.

Poorly controlled epilepsy is not without serious risk to pregnant women. While these are rare, many are often preventable. Maternal mortality reports across the UK and Ireland frequently refer to maternal deaths where patients had stopped their medication due to pregnancy. Ensuring patients are fully informed of the often reassuring safety profile of their medication and providing them with accurate, up to date information are key to caring for women with epilepsy. Patients with epilepsy should be advised not to stop taking their anti-seizure medication without first speaking to their doctor.

Pre Pregnancy

All women planning a pregnancy should be offered preconceptual counselling with their neurology service and an obstetrician. This affords the opportunity to review medications and assess seizure history as well as perform serum drug levels if needed. Women with epilepsy of childbearing potential should be prescribed

Folic Acid 5mg daily to reduce the incidence of neural tube defects which can be higher with some anti-seizure medications.

Contraception choice in women with epilepsy depends on their anti-seizure medication. Carbamazepine for example a cytochrome enzyme inducer can lead to reduced efficacy of the combined oral contraception. Lamotrigine levels can be affected by the combined oral contraceptive pill and can lead to toxicity side effects on the pill free interval. The FSRH have excellent guidance on contraceptive use for women taking anti-seizure medication.

Nausea and Vomiting in Pregnant Women with Epilepsy

Many women experience infrequent nausea and vomiting in pregnancy and this can place women at epilepsy at risk of seizures due to lost medication doses. As a general rule, if a woman vomits within one hour of taking her anti-seizure medications a second dose can be taken. If persistent vomiting is a problem, women should see their GP or visit their obstetric caregiver. Effective antiemetics are essential in managing hyperemesis in pregnancy which can affect up to 3% of all pregnant women.

Anti-Seizure Medications Safety Profiles

LAMOTRIGINE AND LEVETIRACETAM are amongst the most commonly prescribed anti-seizure medications in use today and pose no additional risks to the fetus in pregnancy. The background rate of all congenital anomalies (babies born with structural birth defects) in pregnancy is approximately 2% and neither of these drugs affect this rate. Patients taking these medications should be reassured that they are safe to take in pregnancy and that they should be encouraged to continue to take their medications to reduce seizure risks. Studies in relation to risk of developmental delay are also reassuring.

CARBAMAZEPINE, TOPIRAMATE and PHENYTOIN

Carbamazepine is a very effective anti-seizure medication. Many women who take carbamazepine have very well controlled epilepsy for years. Carbamazepine confers a small additional risk to the fetus

in pregnancy. The congenital anomaly rate associated with Carbamazepine use in pregnancy is 4-5%. Similarly Topiramate which is less commonly prescribed for epilepsy confers a risk of approximately 6% of congenital abnormality. Women being prescribed these medications would especially benefit from preconceptual consultations with their neurologist and obstetrician. Individualised risk benefit discussions can be made to discuss medication best suited to the woman to optimise seizure control, while minimising risks of congenital anomaly. Phenytoin, less commonly prescribed is associated with a 6% risk of congenital anomaly. Studies in relation to developmental delay with these medication are contradictory and a risk cannot be excluded.

SODIUM VALPROATE. A pregnancy prevention programme is in existence in Ireland since 2018 for Valproate containing medications. Children exposed in utero have up to 40% risk of serious developmental disorders in addition to 10% risk of congenital abnormality. It is important that any woman prescribed Valproate does not stop taking it without consulting their doctor. Should a woman who is taking valproate become pregnant an urgent review with a neurologist should be arranged.

Lacosamide, Brivaracetam, eslicarbamazepine, clozapam, zonisamide, gabapentin and pregabalin.

There is not enough data to confirm or rule out any additional risks in pregnancy in women taking the above medication. These are second line agents often used where other treatments have been unsuccessful in controlling seizures. Studies are ongoing to evaluate their safety profile in pregnancy. The absence of this data does not equate to known harm for the fetus and again women should be advised not to stop their medication without consulting with their doctor.

Serum Drug Levels - what role do they play?

Physiologic and pharmacokinetics changes in pregnancy (e.g. increased volume of distribution, changes to renal elimination, altered hepatic enzymes) may alter serum plasma levels of anti-



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seizure medication in pregnancy. Lamotrigine and Levetiracetam are particularly susceptible to variation in serum plasma level, especially in the third trimester and regularly require increased dosages in latter stages of pregnancy.

Ideally a pre-pregnancy serum level at a time of good seizure control or an early pregnancy level is taken in order to have a target pregnancy level. Levels are then repeated each trimester to maintain target levels. Often patients will remain on a higher dose for the initial two weeks postpartum due to the increased fatigue related seizure risk at this time. Any postpartum dose changes should be made following consultation with their neurology team. It should be noted that the use of drug levels varies in clinical practice and some studies do not support routine use. Should a pregnant woman experience a seizure a drug level is always taken and doses often increased prior to the result being available.

Thankfully pregnancy for most women with epilepsy remains uncomplicated and they are not at increased risk of any obstetric complications of pregnancy. Maintaining seizure control while providing up to date information on medication safety profiles are key to the care of women with epilepsy in pregnancy.