The prevalence of maternal medication ingestion in the antenatal period

R. I. AVIV, K. CHUBB, S. W. LINDOW

Abstract **The prevalence of ingestion of medication by pregnant women was recorded in 236 patients attending the antenatal clinics at New Somerset and Peninsula Maternity Hospitals. Patients were interviewed over two periods, 23 - 26 July and 2 - 12 December 1991. Of these women, 168 (71,2%) took a total of 283 drugs from 18 different categories. One hundred and forty women (59%) took prescribed and 68 (28,8%) non-prescribed medications. The most commonly used medicines were analgesics, cough and cold medicines, antibiotics, laxatives and antacids. Analgesics that contain aspirin constituted 13,8% of self-administered medicines and 2% of prescribed medicines. The most common sources of non-prescribed medication were pharmacies (60%), followed by supermarkets (32,5%). One hundred and sixty-two women (68,6%) received no advice on medication during their pregnancy. Of those who received advice, formal sources (doctor/nurse/pharmacist/midwife) accounted for 56,8% and informal sources (family/friends/magazines) for 43,3% of advice; 59,7% of women did not know that certain medicines are unsafe during pregnancy.**

Our data indicate that pregnant women in Cape Town take a large number of medicines, often without being aware of the potential adverse effects. This study shows the need for education in this regard, especially at antenatal clinics, pharmacies and supermarkets.

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Knowledge of the effects of medication taken during pregnancy is incomplete since trials are ethically problematic. A clear idea of the amounts and types of drugs taken is necessary for the continuing education of the population and of health care professionals. Many drugs are known to have potentially hazardous effects on the fetus,[1] but a number of studies show that both prescribed and non-prescribed medicines are still widely used during pregnancy.[2,3] Forfar[4] has reported that 82% of pregnant women were prescribed medication and took on average 4 medicines. Kasilo *et al.*[1] state that 24% of queries received by the Centro Regionale di Informazione e Documentazione sul Farmaco (CRIF), a drug information centre, concerned drugs taken during pregnancy. This indicates a high level of concern and uncertainty with regard to drugs and pregnancy. This uncertainty has resulted in doctors and pharmacists being more conservative when giving prescribed medication to pregnant women.

Often the general practitioner is unaware that non-prescribed medication has been taken by the patient. It has been reported that 74 - 77% of medications taken by pregnant women were not brought to the attention of, or elicited by, the practitioner when a medical chart drug history was compiled.[5]

Many drugs known to have potentially adverse effects if taken during pregnancy are still freely available at pharmacies and supermarkets. In the present study we hope to ascertain the prevalence of medication use by pregnant women in a sample population in the western Cape, and thus modify our health advice accordingly.

Faculty of Medicine, University of Cape Town
R. I. AVIV, MEDICAL STUDENT
K. CHUBB, MEDICAL STUDENT
S. W. LINDOW, M.B. CH.B., M.MED. (O. & G.) M.R.C.O.G., F.C.O.G. (S.A.)

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Patients and methods

The study was conducted at New Somerset Hospital and Peninsula Maternity Hospital, Cape Town. Permission to interview the patients was obtained from the relevant heads of department and from each individual patient. Some patients were interviewed during the summer months and others during the winter months to avoid any seasonal bias. Patients selected for interview were beyond 36 weeks' gestation or within 1 day of normal delivery. Interpreters were used where necessary. The patients were questioned with regard to the antenatal use of medication only.

Results

The mean age and parity (± SD) were 27,4 ± 5,84 years and 1,9 ± 1,67 respectively. There were 111 black women and 125 coloured women included in the study. The mean gestational age at booking was 22,07 ± 7,73 weeks, while the mean gestational age at interview was 37,9 ± 1,65 weeks. Of the 236 women in the study 168 (71,2%) were on some form of medication. Of these medications, 59,3% were prescribed and 28,8% non-prescribed (Table I).

TABLE I.
Medication taken by 236 women during pregnancy

Category	No.	%
Prescribed only	100	42,4
Non-prescribed only	28	11,9
Prescribed and non-prescribed	40	16,9
No medication	68	28,8
Some form of medication	168	71,2

Prescribed medication

For the 140 patients taking prescribed medication, 203 medicines were prescribed from a total of 18 different categories. Ninety-three prescriptions (66%) were for a single medicine, 34 (24%) were for 2 medicines, 10 (7%) were for 3 and 3 (2%) were for 4. Conditions for which these medications were given are listed in Table II. Common conditions included headaches (50 prescriptions, 24,6%), coughs and colds (30, 14,7%), and musculoskeletal pain (29, 14,2%).

The most commonly prescribed medicines are shown in Fig. 1 and include analgesics (77 prescriptions, 38%) and cough and cold medications (24, 12%).

TABLE II.
Conditions for which medicines were taken by 236 women

Condition	Non-prescribed No.	Non-prescribed %	Prescribed No.	Prescribed %
Headaches	35	43,8	50	24,6
Heartburn	14	17,5	17	14,8
Constipation	13	16,3	4	2,0
Musculoskeletal	6	7,5	29	14,3
Coughs and colds	5	6,3	30	14,8
Unknown	3	3,8	–	
Nausea and vomiting	1	1,3	8	3,9
Urinary tract infection	1	1,3	15	7,4
Vaginitis	–		15	7,4
Asthma	–		11	5,4
Epilepsy	–		4	2,0
Diarrhoea	–		2	1,0

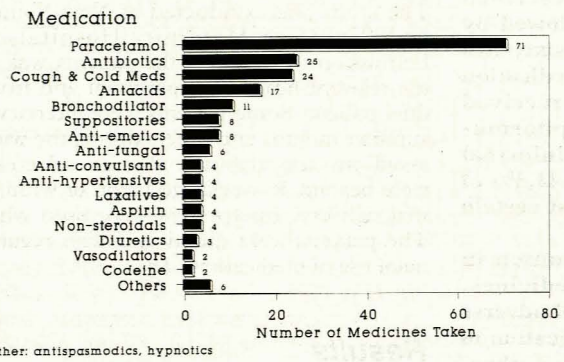

FIG. 1.
Prescribed medication taken by 140 patients (*N* = 203).

The frequency and period over which the medications were taken are shown in Tables III and IV respectively. Forty-seven per cent of the prescribed medication was taken more often than once daily and the most common duration of ingestion was 1 week (33%). Of the medications, 24% were taken for longer than 3 months. The most common were analgesics (27%), anti-asthma medications (20%), antacids (12%), non-steroidal anti-inflammatories (12%) and anticonvulsants (8%).

In 88% of cases, prescribed medication was taken only during pregnancy. In 8% of cases prescribed medication was commenced before pregnancy and continued throughout its duration, while in 3% of cases, patients were started on long-term medication while they were pregnant. One per cent stopped long-term medication during pregnancy.

Non-prescribed medication

Sixty-eight women (28,8%) admitted to taking non-prescribed medication. Twelve categories of non-prescribed medications were taken, accounting for a total of 80 medications. Forty patients (16,9%) took non-prescribed medication in conjunction with prescribed medicine. Thus 28 took non-prescribed medication only. Fifty-six (82%) took only 1 medication, while 12 (18%) took 2.

Conditions for which these medications were taken commonly included headaches (35 cases, 44%), heartburn (14, 18%) and constipation (13, 16%) (Table II). Commonly used medications are shown in Fig. 2 and include analgesics: paracetamol in 30 cases (38%) and aspirin in 11 (14%).

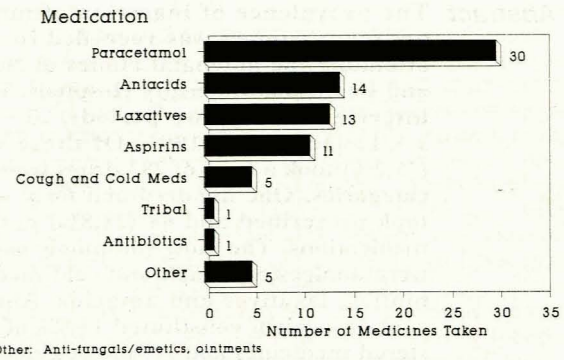

FIG. 2.
Non-prescribed medication taken by 68 patients (*N* = 80).

The frequency and duration of non-prescribed medicine ingestion are shown in Tables III and IV respectively.

TABLE III.
Frequency of medication ingestion in 236 women

Frequency of medication ingestion	Prescribed medication No.	Prescribed medication %	Non-prescribed medication No.	Non-prescribed medication %
Once only	12	5,9	6	7,5
Less than 5 times per pregnancy	8	3,9	8	10,0
Between 5 and 20 times per pregnancy	11	5,4	12	15,0
Once weekly	5	2,5	8	10,0
3 - 4 times per week	22	10,8	11	13,8
Daily	49	24,1	11	13,8
More than once daily	96	47,3	24	30,0

TABLE IV.
Period over which medication was ingested by 236 women

Period of medication ingestion	Prescribed medication No.	Prescribed medication %	Non-prescribed medication No.	Non-prescribed medication %
1 day	21	10,3	7	8,8
1 week	66	32,5	13	16,3
1 week - 1 month	28	13,8	6	7,5
1 - 2 months	37	18,2	16	20,0
2 - 3 months	2	1,0	2	2,5
Longer than 3 months	49	24,1	36	45,0

Of the medications taken for more than 3 months, the most common were analgesics (53% — 33% paracetamol, 20% aspirin), non-steroidal anti-inflammatories (17%), laxatives (14%) and antacids (14%).

Fig. 3 shows that 48 (60%) patients bought their medicines at a pharmacy while 26 (33%) did so at a supermarket. Three received medicines from family or friends while 2 received theirs from a tribal healer.

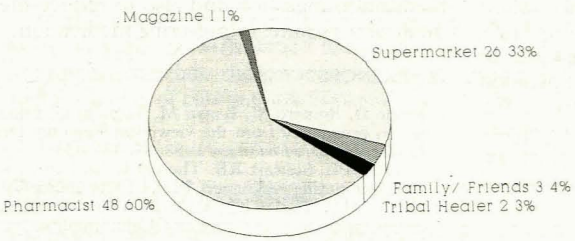

FIG. 3.
Source of non-prescribed medication (*N* = 80).

Knowledge

Of the 236 patients interviewed, only 74 (31%) received advice with regard to the taking of medications during pregnancy. Fifty-seven per cent of this advice came from medically trained personnel, whereas 43% of the advice was from informal sources (Fig. 4).

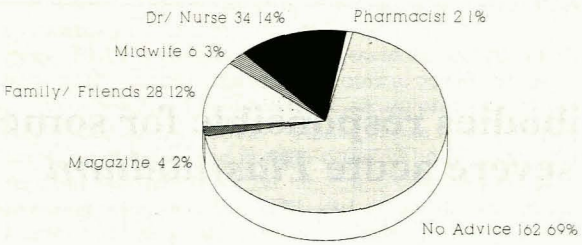

FIG. 4.
Source of advice on medication obtained by 236 pregnant women.

Fig. 5 shows the responses to a question pertaining to the safety of medicines in pregnancy. Eighty-eight (37%) patients wanted more information about what is safe during pregnancy; 148 (63%) did not want to know any more.

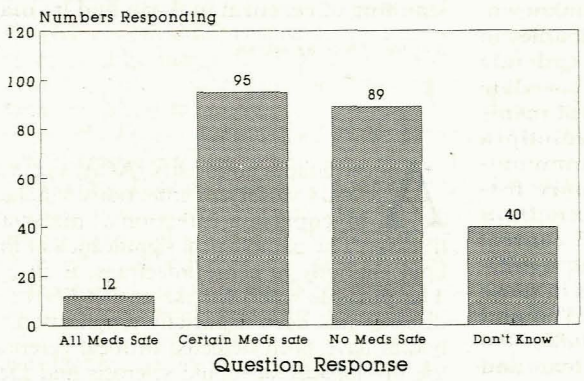

FIG. 5.
Knowledge of medication in pregnancy.

Discussion

The study examined the prevalence of medication use in 236 pregnant women in Cape Town.

There has been much adverse publicity in the post-thalidomide period about the use of medicines during pregnancy. Much has been written in medical and pharmaceutical journals and in popular magazines about these adverse effects. This has resulted in increased awareness on the part of pharmaceutical companies and consumers alike. To avoid litigation, companies are reluctant to claim any degree of safety for their products in pregnancy, given the complexity of this field. This was well illustrated in the case of Debendox/Bendectin, which was withdrawn from the market world-wide because of unsubstantiated claims regarding its safety, despite the evidence in support of its efficacy in the treatment of nausea and vomiting in early pregnancy.[6]

Overall 59% took prescribed medication and 28,8% took non-prescribed medication. These results mirror those found in other studies.[3,7]

With regard to prescribed medication, we feel that the prevalence is inappropriately high. Most of the conditions for which medication was prescribed were essentially benign and self-limiting, so that medication may have been unnecessary in many cases. This is reflected in the high rate of analgesics (37% of prescriptions) and cough and cold medicines (12%) prescribed. The provision of symptomatic relief reinforces the mother's belief that there should be no discomfort associated with pregnancy. This in turn puts pressure on the doctor to continue prescribing, as refusal results in the patient's obtaining medication elsewhere (and perhaps purchasing potentially unsafe medications).

In the present study, 24% of prescribed medications were taken for a period longer than 3 months; 27% of these prescriptions were for analgesics. We feel that greater emphasis should be placed on psychological support and reassurance as these alone may be the strongest medicine a patient needs.

It is worrying that in 4 cases aspirin was prescribed when paracetamol would have been preferable, as aspirin has been linked to fetal malformation.[3,7] It has been suggested that it should be avoided throughout pregnancy, especially in the last trimester, because of the increase in perinatal mortality owing to premature closure of the ductus arteriosus.

The pattern with regard to non-prescribed medication follows that of prescribed medication closely with analgesics accounting for 52% of self-administered medication. Aspirin ingestion was almost 7 times greater in this group, compared with those taking prescribed medication. Paracetamol, however, still accounts for the majority of self-administered medications (38%). This agrees with the finding of Hill *et al.*,[8] who also found analgesics to be the medications most commonly used.

The present study found not only a high prevalence of non-prescribed medication use, but also prolonged use:[1] more women on non-prescribed medication took medicines for longer than 3 months (45%) compared with those who took prescribed medication (24%). Again analgesics were the most commonly used (53%). Other medications used for longer than 3 months include non-steroidals (17%), antacids (14%) and laxatives (14%).

Our study investigated how aware women are of possible adverse effects of drugs taken while pregnant. A disturbing finding was that 68,6% of patients did not receive advice during their pregnancy and that 59,7% of patients did not know that only certain medicines were safe in pregnancy.

A minority of patients (31%) said that they had received advice about medications. However, only 57% of this advice came from medically trained personnel. Medical personnel should be more aware and ask patients if they have any questions with regard to medicines. Many patients were reluctant to ask about the medications they were taking, although 37% wanted to know more about them. This need could be addressed by an information booklet distributed at antenatal clinics.

The major source of non-prescribed medication was the pharmacy. Posters or warning stickers could be

placed near medicines which are commonly taken unwisely during pregnancy (e.g. aspirin-containing analgesics). The pharmacist can play an important role in advising pregnant women about what should be avoided and in recommending possible safe alternatives. We found that only 3% of patients remembered receiving advice at a pharmacy, even though pharmacies were the most common places where medicines were obtained (60%).

Conclusion

We found a high prevalence of medicine ingestion during the antenatal period — both prescribed and self-administered. We feel that much of this may be unnecessary and inappropriate and a conservative approach needs to be adopted when medication is prescribed. Education of pregnant women on medication-related issues is necessary to reduce non-prescribed medication ingestion and also to reduce the pressure on medical personnel to prescribe medication.

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