Antenatal care and maternal demographic and social characteristics

Evolution in France between 1972 and 1976

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SUMMARY A study was carried out on representative samples of 11 254 births in France in 1972 and 4685 births in 1976. Women were interviewed after delivery to obtain information about the medical care they had received during pregnancy. Inadequate antenatal care was defined as: first antenatal visit after the first trimester of pregnancy, or total number of visits fewer than the required minimum, or no visit to an obstetrician or the hospital maternity team. In 1972, the problem of inadequate care occurred mainly in very young women, or in those of high parity or with short birth intervals when the father's social class had been taken into account. Social status was also an important factor independently of a woman's demographic characteristics. These inequalities persisted in 1976 despite the policy adopted in 1972 to improve antenatal care for high-risk women.

Since 1945 the emphasis on antenatal care in France has stimulated a series of legal measures and an organisation of services for pregnant women requiring a minimum of four antenatal visits at prescribed stages of pregnancy—the first during the first trimester. This system is both egalitarian and authoritarian, in so far as these four visits are free for all women, and maternity benefits are conditional upon attendance. (In 1976, these benefits amounted to 1375 French francs, or about £140).

New measures designed to reduce perinatal mortality and morbidity were introduced after a study of the economic advantages of different possible programmes to improve medical care during pregnancy, delivery, and the neonatal period.^{1,2} It was decided to give priority in antenatal care to women classified as having high-risk pregnancies, and such women were recommended to visit an obstetrician or gynaecologist as soon as any pathological or high-risk factor had been identified.³ High-risk pregnancy centres were set up in the main public hospital maternity units to provide care free of charge, using the most up to date equipment and techniques. In addition, since 1975, local authorities have been empowered to provide midwives to visit high-risk women in their homes.

To evaluate this perinatal policy, the Institut National de la Santé et de la Recherche Médicale

carried out two studies on national samples, one in 1972, when the new measures were first applied, the other in 1976. The aim was to estimate the rate of perinatal mortality and morbidity, to evaluate the medical care given during pregnancy, delivery, and the neonatal period, and to measure any changes between the two periods. Between 1972 and 1976 overall mortality and prematurity rates decreased and antenatal care increased.⁴ However, the high-risk groups found in 1972⁵ remained high-risk groups in 1976.⁶

The aim of the investigation reported below was to find out whether high-risk women actually received a higher level of antenatal care as a result of the measures taken between 1972 and 1976. High-risk factors are of very different types: pathology, fatigue, alcohol, smoking during pregnancy, unfavourable outcome of previous pregnancies, and poor sociodemographic factors. As the total level of antenatal care varies according to the time of identification of the risk factor, this study is limited to the factors recognised in early pregnancy. An earlier study, in 1972, had shown that women who had had a previous stillbirth received more antenatal care than other women, and that this difference increased in 1976.⁶ Our aim was to find out whether the same was true of women at high risk because of demographic or social factors.

Material and methods

This study was based on data from two surveys carried out by the Institut National de la Santé et de la Recherche Médicale on representative samples of births in France in 1972 and 1976.⁴ France was divided into 12 geographical areas and in a year's survey each area was completed in one month. A two-stage random sampling scheme was used, first drawing a sample of maternity units, after stratification according to the geographical area, the maternity sector (private or public), and the number of beds; and, secondly, in the selected units, drawing a sample of births, so that the total sampling fraction was $\frac{1}{4}$ in 1972 and $\frac{1}{8}$ in 1976. The 1972 sample included 626 maternity units and 11 254 births and the 1976 sample 404 maternity units and 4685 births. Births at home were not included. These formed a very small proportion of births: 1.6% in France in 1972⁷ and slightly lower in 1976.

Women were interviewed in the six days after delivery, using a standardised questionnaire. Questions were asked on their pregnancy, antenatal care, previous pregnancies, and sociocultural characteristics. Data were also available, from clinical observation forms, on the delivery itself, and on each mother's and child's condition at birth and during their stay in the maternity unit.

Immigrant women constitute a specific group because of their sociodemographic characteristics and their attitude towards health services, and they have been studied separately.^{8,9} The results presented here refer to women of French nationality born on the French mainland: 9364 women in 1972, 3720 in 1976.

The statistical methods used are the Pearson χ^2 test and Fisher's exact test where numbers are too small for χ^2 .¹⁰

Results

(1) LEVEL OF ANTENATAL CARE

In 1972, in spite of the legislation, 10% of the pregnant women made their first antenatal visit after the 15th week of pregnancy, 11% did not achieve the required number of visits (four for term deliveries, two or three for pre-term deliveries), and 19% never visited an obstetrician or the hospital maternity team (Table 1).

Overall, in 1972, 30% of the pregnant women received inadequate antenatal care for at least one of the three reasons given (first antenatal visit too late, fewer than the legal number of antenatal visits, or no visits to an obstetrician or the hospital maternity team). Between 1972 and 1976, antenatal care improved: the proportion of women receiving

Table 1 Characteristics of antenatal care, 1972-1976

Characteristics	1972		1976		Comparison 1972-1976
	No.	%	No.	%	
Late care ^(a)	7580	10	3145	7	***
Fewer than legal number of visits ^(b)	9162	11	3669	7	***
No visit to obstetrician or hospital maternity team	9327	19	3635	17	*
Inadequate care ^(c)	9331	30	3694	24	***

* $P \leq 0.05$ *** $P \leq 0.001$

(a) First antenatal visit after the 15th week of gestation since last menstrual period.

(b) Legal number: four antenatal visits for term deliveries and two or three for premature deliveries.

(c) Inadequate care for at least one of the three reasons: late care, fewer than legal number of visits, or no visits to obstetrician or hospital maternity team.

inadequate care as defined had fallen to 24% in 1976. However, the three elements of care were affected differently: late care and insufficient number of visits became more infrequent, but the proportion of women who did not visit an obstetrician or the maternity team remained high.

(2) ANTENATAL CARE AND MATERNAL DEMOGRAPHIC CHARACTERISTICS

The level of care was studied in women of different age and parity groups (Table 2). In 1972, antenatal

Table 2 Inadequate antenatal care by maternal demographic characteristics: evolution 1972-1976

Demographic Characteristics	1972		1976		Comparison 1972-1976
	No.	%	No.	%	
AGE×PARITY GROUPS					
< 20 years	943	43	316	37	NS
≥ 20 years and parity 0	3231	24	1448	19	***
≥ 20 years and parity 1 or 2	3868	28	1619	22	***
≥ 20 years and parity 3 or more	1207	44 ***	276	45 ***	NS
		(t)		(t)	
PARITY 0					
Interval between marriage and birth:					
< 8 months	1022	35	324	29	NS
≥ 8 months	2437	20 ***	1176	15 ***	***
		(t)		(t)	
PARITY 1					
Interval between the two births:					
< 18 months	582	35	162	28	NS
≥ 18 months	2076	25 ***	1048	21 *	*
		(t)		(t)	
PARITY 2 OR MORE					
Interval between the last two births:					
< 18 months	470	47	94	51	NS
≥ 18 months	1808	35 ***	569	31 ***	NS
		(t)		(t)	

* $P \leq 0.05$ *** $P \leq 0.001$

(t) Significance of comparison within each year.

care as defined above was poor among very young women, whatever their parity, and among women of high parity whatever their age: 43% of women under 20 and 44% of women with parity over 2 received inadequate care. Women with a short interval between marriage and birth for parity 0 or between the previous birth and the birth studied were particularly likely to have received inadequate care (Table 2).

The most statistically significant improvement in antenatal care between 1972 and 1976 was for women aged 20 or over, of parity 0, 1, or 2, without a short interval between marriage and birth or between the previous and the present births (Table 2). For women aged under 20, or those with a premarital conception or a short interval between the two first births, there was no significant improvement. For women with parity 3 or more and multiparous women with very close successive births, there was no change for the better.

In 1976, antenatal care remained poorer among very young women, women of high parity, or those with a birth following very shortly after marriage or the previous birth (Table 2). These findings held good when each of the components of antenatal care was examined separately: the date of the first visit, the number of visits, and the qualifications of the medical staff consulted. However, the individual differences were not always significant. (Table 3).

Table 3 *Antenatal care by maternal demographic characteristics in 1976*

Demographic characteristics	Late care		Fewer than legal number of visits		No visit to obstetrician or maternity team	
	No.	%	No.	%	No.	%
AGE × PARITY GROUPS						
< 20 years	241	13	312	14	311	25
≥ 20 years and parity 0	1276	6	1438	4	1430	13
≥ 20 years and parity 1 or 2	1393	6	1611	5	1589	16
≥ 20 years and parity 3 or more	214	11	274	25	272	35
		***		***		***
PARITY 0						
Interval between marriage and birth:						
< 8 months	263	9	324	7	320	20
≥ 8 months	1051	4	1169	2	1162	11
		**		***		***
PARITY 1						
Interval between the two births:						
< 18 months	126	8	162	7	160	21
≥ 18 months	916	5	1043	4	1029	16
		NS		**		NS
PARITY 2 OR MORE						
Interval between the last two births:						
< 18 months	72	11	93	28	93	40
≥ 18 months	474	8	566	12	561	23
		NS		***		***

** P ≤ 0.01 *** P ≤ 0.001

(3) ANTENATAL CARE AND SOCIAL STATUS

In 1972 as well as in 1976, the level of care was closely related to the social class of the child's father (Table 4). Women married to a man in the professional, managerial or intermediate group, or to a clerical worker or a shop assistant, were less likely than others to have inadequate care.

Table 4 *Inadequate antenatal care by social class of child's father: evolution 1972-1976*

Social class of father	1972		1976		Comparison 1972-1976
	No.	%	No.	%	
Professional, managerial, intermediate	2137	18	977	13	***
Clerical workers, shop assistants	926	25	385	20	*
Self-employed (farmers, shopkeepers, manual workers)	1152	33	371	29	NS
Skilled workers	2632	32	866	22	***
Unskilled workers	1904	40	808	35	*
		***		***	

* P ≤ 0.05 *** P ≤ 0.001

In all groups, there was a decrease in the percentage receiving inadequate antenatal care between 1972 and 1976. The greatest improvement was for women married to skilled workers. In 1976, the care they received had become as good as that of women married to clerical workers and shop assistants.

The two least privileged groups in 1972, women married to self-employed workers and to unskilled workers, made slight progress only, and remained those with the poorest care in 1976, particularly in terms of number of visits and qualifications of the medical staff consulted (Table 5).

In the social classes for which there has been little improvement in antenatal care, there is also an excess of women at high risk because of their demographic

Table 5 *Antenatal care by social class of child's father in 1976*

Social class of father	Late care		Fewer than legal number of visits		No visit to obstetrician or maternity team	
	No.	%	No.	%	No.	%
Professional, managerial, intermediate	874	5	974	2	961	9
Clerical workers, shop assistants	339	6	382	5	379	14
Self-employed (farmers, shopkeepers, manual workers)	315	9	370	9	363	23
Skilled workers	745	6	862	5	852	15
Unskilled workers	659	8	807	12	798	27
		*		***		***

* P ≤ 0.05 *** P ≤ 0.001

characteristics¹¹—a high proportion of very young women among the wives of unskilled workers; a high proportion of older women of high parity among the wives of unskilled or self-employed workers; and a high proportion of pregnancies following short birth intervals among the wives of skilled or unskilled workers.

To investigate the relationship between these variables, it was necessary to analyse antenatal care according to maternal demographic characteristics as well as social status.

The level of care improved among almost all groups, but especially among women with parity less than 3 married to skilled workers, and, to a lesser degree, among primiparous women married to unskilled workers (Table 6). However, the already unfavourable situation in 1972 for high-parity women married to unskilled or self-employed

workers seemed to have become worse in 1976. In 1972, in each socioprofessional category, there was a strong relationship between the age and parity of women on the one hand, and antenatal care on the other. This relationship was no longer found in 1976 if the husband was a clerical worker, a shop assistant, or in a professional, managerial or intermediate occupation. But this relationship appeared to become stronger in the other groups, especially for high-parity women. In 1972 as well as in 1976, in each parity group, antenatal care was significantly better among women of higher social class, except when they were under 20, in which case social class had no influence.

The change in antenatal care according to social class and birth spacing was harder to analyse (Table 7). Numbers were smaller in each group and it was more difficult to detect a trend. However, a great

Table 6 *Inadequate antenatal care by age and parity of the mother and social class of the father, 1972–1976*

Age × parity groups	Professional, managerial, intermediate			Clerical workers, shop assistants			Self-employed (farmers, shopkeepers, manual workers)			Skilled workers			Unskilled workers		
	1972	1976	1972–76	1972	1976	1972–76	1972	1976	1972–76	1972	1976	1972–76	1972	1976	1972–76
< 20 years	35	(8)	*	41	(25)	NS	45	(40)	NS	38	29	NS	41	41	NS
≥ 20 years and parity 0	16	14	NS	20	18	NS	25	21	NS	26	17	***	33	24	*
≥ 20 years and parity 1 or 2	18	12	***	24	22	NS	30	26	NS	31	21	***	38	33	NS
≥ 20 years and parity 3 or more	19	(15)	NS	41	(19)	NS	48	54	NS	46	42	NS	48	57	NS
	***	NS		***	NS		***	***		***	***		***	***	

() Number of cases <30

* P ≤ 0.05 ** P ≤ 0.01 *** P ≤ 0.001

Table 7 *Inadequate antenatal care by birth spacing and social class of the father, 1972–1976*

Birth spacing	Professional, managerial, intermediate			Clerical workers, shop assistants			Self-employed (farmers, shopkeepers, manual workers)			Skilled workers			Unskilled workers		
	1972	1976	1972–76	1972	1976	1972–76	1972	1976	1972–76	1972	1976	1972–76	1972	1976	1972–76
Parity 0:															
Interval between marriage and birth															
< 8 months	26	24	NS	36	31	**	37	(44)	NS	37	27	NS	38	32	NS
≥ 8 months	15	12	NS	18	13	NS	23	19	NS	22	14	**	29	24	NS
	***	*		***	*		*	NS		***	**		*	NS	
Parity 1:															
Interval between the two births															
< 18 months	23	24	NS	25	(33)	*	39	(25)	NS	35	32	NS	47	27	*
≥ 18 months	14	11	NS	21	21	NS	28	24	NS	28	19	**	32	35	NS
	*	*		NS	NS		NS	NS		NS	NS		**	NS	
Parity 2 or more:															
Interval between the last two births															
< 18 months	22	(8)	NS	(42)	(40)	NS	42	(71)	*	45	(50)	NS	57	53	NS
≥ 18 months	20	11	*	34	19	NS	39	41	NS	37	31	NS	42	44	NS
	NS	NS		NS	NS		NS	NS		NS	NS		***	NS	

() Number of cases <30

* P ≤ 0.05 ** P ≤ 0.01 *** P ≤ 0.001

improvement could be seen among women of parity 1 or 2 who were married to skilled workers and who had long intervals between marriage and birth or between the previous birth and the present birth.

In each socioprofessional category, inadequate care was more common when there was a short interval between marriage and birth or previous and present births, but most of this difference was significant only among primiparous women. Belonging to a higher social class had a favourable influence on care whatever the spacing of births, except among primiparous women with a premarital conception: in 1972 as well as in 1976, they received almost the same level of care, irrespective of their social class.

Discussion

In 1972, inadequate antenatal care was more frequently observed among very young women, or those of high parity or with short birth intervals after social status had been taken into consideration. Social status was also an important factor independently of a woman's demographic characteristics. The improvement in antenatal care between 1972 and 1976 affected almost all the sociodemographic groups, except those who were less privileged in 1972, and the inequalities observed in 1972 had not disappeared in 1976.

The aim of antenatal policy in the period between the two surveys was to offer high-risk women priority for intensive antenatal care. It would have been necessary, in order to measure the level of care, to consider the existence or non-existence of a large number of visits, but this number is highly variable according to the length of pregnancy. However, the minimum care defined in the legislation corresponds to a very precise number of visits according to term at delivery: this is why the indicator of inadequate care used in this study does not take into consideration the totality of care but the minimum care specified by law (date and number of visits) or advised in case of high risk (examination by an obstetrician).

Late attendance for antenatal care, or a low number of visits during pregnancy, have also been observed in other countries among very young or older women, high-parity women, and the socially disadvantaged.¹² Some authors have emphasised the part played by maternal characteristics in relatively homogeneous groups, such as women receiving social welfare during their pregnancy. Collver *et al*¹³ observed that very young women, those of high parity, of low educational level, or with an illegitimate child, had fewer antenatal visits than the average. Watkins¹⁴ observed that antenatal care

started later among older women and women of high parity or with short intervals between births, and Yankauer *et al*¹⁵ reported this to be characteristic of women of high fertility, when age had been taken into account. McKinlay^{16 17} observed that antenatal care usually started later among women with a premarital conception, whatever their social class, and among those of high parity (in a study limited to the lower social classes).

Disparities in the use of health services by women of different social and cultural backgrounds are not limited to the antenatal sector. In France, a survey of a representative sample of households has shown that in 1970 members of the higher social classes made more visits to doctors than the rest of the population and consulted specialists more frequently.¹⁸

The complexity of the factors that influence the uptake of antenatal care may explain why such care remained inadequate for some groups of women throughout this study. Similar patterns have been reported from other countries.^{19 20} High-parity women are most likely to fail to attend for early care.²¹ They rely on the experience gained during previous pregnancies and also they more often have practical problems which make it difficult for them to undertake the visits. The greater their number of children, the greater is the gap between their estimation of how much antenatal care is needed and their actual uptake.²¹

The atmosphere in which a pregnancy develops also plays an important part: a planned pregnancy,²² acceptance of the forthcoming child,¹⁴ family and professional stability,¹⁶ and complications of previous pregnancies¹⁷ are all elements leading to better care.

Knowledge of the pathology which may occur in pregnancy, and of the possibility of treatment and prevention during this period, also contribute to a more positive attitude towards care.²³ There is very rapid change in medical practice in obstetrics and the persistence of disparities in care may stem from a slow spreading of medical knowledge from the upper classes, who are the best informed, to the lower classes.²⁴ This could account for the behaviour of skilled workers' wives whose antenatal care tended to catch up, in 1976, with that of the higher social classes, whereas, among unskilled or self-employed workers' wives, antenatal care very often remained inadequate. Another example of this phenomenon as it now exists in France concerns antenatal visits to maternity departments: among mothers attending a hospital in a small town it has been observed that the majority of the women from higher social classes came to the unit for care from the beginning of the study period, whereas, for the other social classes, this habit spread later.²⁵

The interpretation of the development of antenatal care must take into account the fact that belonging to a high-risk group because of unfavourable demographic or social characteristics did not have the same significance in 1972 as in 1976. The decrease in the birth rate in France has been particularly marked among women of high parity. Women with three or more children represented 15% of the women interviewed in the 1972 survey, and 10% in 1976. The increased proportion of births to low-parity young women (regarded as the 'norm') tends to increase the gap between them, and the decreasing proportion of women at high risk because of parity or age, who become more and more 'deviant'. This could explain the improved uptake of antenatal care among the majority of women and the absence of improvement or the decrease in care among certain groups, especially high-parity women of low social class.

The measures adopted between 1970 and 1976 to promote care among high-risk women were not particularly well adapted to the needs of the very young or high-parity women, or women of low social classes.⁶ High-risk pregnancy centres with high technology but situated widely apart are essentially meant for women presenting with a severe pathology justifying their transfer to a specialised centre. These centres cannot therefore meet the needs of women for regular very accessible care when there is an unfavourable family or social situation. The midwives in charge of looking after pregnant women in their homes seem to satisfy this need better but their deployment is very recent and remains limited.⁶

The very limited improvement in antenatal care among high-risk women, because of unfavourable social or demographic factors, could also be a reflection of the medical profession's behaviour in respect to antenatal preventive care. On the one hand, there is no uniformity in the standard or extent of the care offered by the various services (maternity team, obstetrician, general practitioner), and the least privileged women, with a poor social and family situation, more often use the type of health services providing a small number of visits.⁶ On the other hand, it might be that certain practitioners doubt the effectiveness of intensive antenatal care in the case of non-medical risk factors, and do not pay particular attention to women from less privileged social classes. In the current situation, in France, the problem may not be a lack of intensive care for high-risk women, but their lack of even the level of care received by the other women.

Conclusion

These results have shown that women with a high risk because of their unfavourable demographic or social

situation do not obtain adequate care during pregnancy. It is important for the medical profession to become more aware of this situation. There are a large number of obstacles, both sociocultural and practical, hindering the uptake of such care, but antenatal visits should at least be organised so as to make the care system easily accessible and to allow a close relationship between the medical team and the pregnant women.

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