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ATTITUDES OF MOTHERS TO INFANT AND CHILD HEALTH AND WELFARE CLINICS*

BY

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The infant and child health and welfare services in Britain were conceived and grew in an era when poverty and ignorance were commonplace; when most women thought it natural that a considerable proportion of the babies they brought into the world should die before they were old enough to know that they were alive. Now in terms of individual experience the loss of a baby is a rarity, and the hard core of infant mortality rests with small or deformed children whose chances have been slim from the outset. It is therefore natural that searching inquiries should be made on whether expensive facilities concerned with routine medical care of babies and small children are still necessary and, if so, what shape they should take. Such inquiries could be directed towards the most efficient method of dispensing prophylactic vaccinations and inoculations, to the problems of advising on infant management, to the most efficient methods of pre-symptomatic diagnosis, and so on. The present paper, however, confines itself to a study of the attitudes of some mothers to the existing services. Mothers, after all, are not only the customers but in the last resort the people in whose hands the health of the baby lies.

Methods

The Sample.—The research originated in the work of a study group¹ of candidates for postgraduate qualifications in public health and public health nursing that under my tutorship was concerned with certain aspects of infant and child welfare which are not pursued here.² The group did, however, draw up a questionnaire which forms the basis of the present study, and which was used in interviews with mothers attending all five L.C.C. clinics in the Metropolitan Borough of Southwark and mothers attending a mobile clinic in certain villages in the rural districts of Wing and Newport Pagnell in Buckinghamshire and clinics in Ynyshir and Pen-y-Craig in the Rhondda, Glamorganshire. These areas were

chosen arbitrarily by me, but it was borne in mind that they represented widely different environmental conditions: Southwark is in the heart of London, the Buckinghamshire villages are so remote that they are served by a mobile clinic, while in the Rhondda a highly industrial community lives in semirural surroundings.

In terms of infant mortality there is also a wide range, which varies from 33/1,000 in the Rhondda and 28/1,000 in Southwark to 18/1,000 in rural Buckinghamshire. In Southwark the mothers were interviewed by members of the group; in the other two areas they were interviewed by me; and in all three areas it was made clear to the mother that the survey was not being carried out by the local authority but by an independent body. The sampling method employed was to approach every mother attending a given session of a clinic; out of the 245 mothers approached (80 in Southwark, 75 in Buckinghamshire, and 90 in the Rhondda) there were no refusals to co-operate. It is therefore reasonable to assume that the opinions expressed were representative of those of clinic attenders in the three areas, who according to data supplied by the local authorities concerned form 70–75% of the population of mothers of pre-school children.

The Questionary.—The questions were always asked in standard form, and the answers to some of them are analysed below; but information that is not relevant to the present paper was also obtained.

Results

The Mothers.—The mean age of the mothers was 28.4 years (± 5.8) and differed very little between the three areas; but regardless of their age a disproportionate number of mothers were attending with first-born children. It is not remarkable that all the mothers aged 15–19 years and 50% of those aged 20–24 were coming with their first child; but it is very striking that the proportion remained constant at about 38% from the age group 25–29 up to and including the 15 mothers who were over 40. In 1960 in England and Wales only 5% of all mothers aged 35 and over who had a child were bearing their first live baby (Ministry of Health, 1961b). When the age of the baby is considered in terms of maternal age, 78% of the mothers aged 15–19 had infants aged less than 6 months; this proportion falls to 42% among mothers aged 20–24, but there is no further fall. Social classification (Registrar-General, 1960) by the occupation of the father is given in the Chart and compared with the distribution of all males at the 1951 Census (Registrar-General, 1954, 1955). This 10-year time lag between the control and survey information is obviously highly undesirable because there has been emigration from both Southwark and the Rhondda, but a consistent pattern is shown in the three areas—namely, that there is a deficiency of social classes I and V among the clinic attenders, which proportionately is balanced by an excess from social class III.

The Children.—No appreciable difference was found between the age structures of the samples from

¹ Dr. G. D. Chetty, South Africa; Miss K. Cole, Nigeria; Dr. R. Dirican, Turkey; Dr. W. O. Fitzpatrick, R.A.M.C.; Dr. A. N. Hepburn, R.N.; Dr. J. F. Hobson, R.A.F.; Dr. C. S. Hoffman, Ghana; Dr. E. Munoz, Colombia; Dr. J. Randhawa, India; Miss M. Saville, Britain; Miss J. Scott, East Indies; Dr. J. Visvanathan, Malaya.

² The conclusions of the Study Group are given in summary in the Annual Report of the London School of Hygiene and Tropical Medicine for 1960–61, and this summary has been abstracted in the *Lancet* (1961).

*This paper was presented in part to the Society for Social Medicine in London in September, 1961.

Buckinghamshire and the Rhondda, but there was a considerable excess of small infants in Southwark, because in some of the clinics there mothers of "toddlers" and infants were encouraged to come on

Social-class distribution of mothers attending clinics (by occupation of husband) compared with the social class of all men living in the local authority areas concerned in 1951.

different afternoons and the study group happened to visit on an infants' afternoon. The differences in respect of birth rank can nevertheless reasonably be ascribed to sampling ($0.1 > P > 0.05$).

Reason for Attending

The pattern of answers to the unprompted question (suitably modified in Buckinghamshire³)—"You may have several reasons for coming to the clinic to-day; which was the chief one?"—is shown in Table I. As the survey progressed experience showed that the answer "For advice" always meant advice from the health visitor, and, further, that the weighing of a baby involved

TABLE I.—Reason for Attendance

	No.	%
See doctor	13	5
See health visitor	1	
Advice	40	62
Weighing	110	
Immunization	66	27
Welfare foods	11	4
Don't know, and other	4	2
	245	100

more than making a simple observation about its size. It was a conversation piece during which a mother often took the opportunity to discuss some minor skin blemish with the health visitor or to question her about a matter of feeding or general management. Thus since advice often involved weighing and weighing advice, it seemed logical for the purposes of analysis to combine and describe them as "health visitor services." It can be seen (Table I) that these in fact were the given reasons

³ It proved necessary to word this question differently in Buckinghamshire, for here the mobile clinic came to each village only once a month, and thus almost every time an infant was brought it received a preventive inoculation; therefore the question was rephrased: "If this clinic stopped coming to your village, which of the services it offers would you miss most?"

for 62% of the visits, compared with 27% for inoculation and 5% who came to see the doctor. Only 4% came specially for welfare foods—a striking fall in comparison with the 19% reported by George, Lowe, and McKeown (1953) in Birmingham in 1952.

It proved possible by further analysis to learn more of the motivation underlying this pattern of replies. For instance, 80% of the mothers of babies aged 0–3 months, regardless of birth rank, attended in order to obtain health visitor services, as did 71% of mothers of first-born children regardless of age; unfortunately, the numbers were not large enough to permit an analysis by age and birth rank. There was no noticeable trend in doctor consultation in terms of birth rank, but such use as was made of his services was made by mothers of children between the ages of 9 months and 3 years. Apart from the fact that very few (10%) of the younger babies were brought to the clinic specifically for vaccination, there was no trend in the use of the immunization service in respect of the child's age, nor was there any such trend among mothers who came to the clinics specifically to obtain welfare foods⁴; figures for the latter in respect of birth rank can be seen in Table II, but those for the child's age are not shown. So far as immunization and birth rank were concerned, however, the falling off in use of health-visitor services was almost exactly counterbalanced by a proportionate increase in the number of mothers who came with the specific intention of having their child immunized (Table II).

When a similar analysis was made in respect of the age of the mother, some interesting contrasts became apparent (Table IV), for now there was no suggestion of any trend in respect of the use of the health-visitor services or of immunization. Obviously in the population at large the older a group of mothers the

TABLE II.—Reason for Attendance by Birth Rank

	1 %	2 %	3 %	4 %
Doctor	5	7	6	—
Health-visitor services	71	60	51	48
Immunization	19	27	37	44
Food	4	5	3	7
Other	1	2	3	0
Number	(100)	(83)	(35)	(27)

TABLE III.—Reason for Attendance by Maternal Age

	Maternal Age in Years			
	16–24 %	25–29 %	30–34 %	35–48 %
Doctor	4	7	8	2
Health-visitor services	63	65	59	58
Immunization	29	24	25	31
Foods	2	3	6	9
Other	2	1	2	0
Number of replies	(78)	(71)	(51)	(45)

more children they are likely to have, and also the older their children are likely to be. In this sample, however, it has already been shown that there is a disproportionate number of elderly mothers attending with young first-born children and this is presumably the reason why the trends for health-visitor services and immunization shown in Table II do not appear in Table III. On the other hand, there is a trend in respect of the use of welfare foods which does not appear in the previous analyses inasmuch as an increasing proportion of the older mothers use this aspect of the clinic facilities.

⁴ The field work of the survey was completed before the 1961 rise in the cost of welfare foods.

The last analysis in respect of reason for attendance was made by social class, and, as Table IV shows, whereas use of the health-visitor services declines among the lower social classes, this drop is compensated by a proportionate increase with falling social class in demand

TABLE IV.—Reason for Attendance by Social Class

	Social Class		
	I and II %	III %	IV and V %
See doctor	0	5	8
Health-visitor services	73	63	56
Immunization	23	26	36
Welfare foods	4	6	0
Number of replies	(22)	(148)	(64)

Information was incomplete in respect of 11 mothers.

for the doctor and for immunization. This pattern cannot be explained in terms of family size because there was no relationship between number of children and social class in the sample ($P=0.9$), but it may be associated with the differing social structure of the sub-samples from the three areas (see Chart and Table IV).

The last three questions were designed to obtain information about the attitudes of the mothers to the doctor himself. The first of these, "Would you like to see the doctor each time you visit the clinic?" provided most variation. The proportion of affirmative answers rose from 10% in Southwark through 22% in Buckinghamshire to 33% in the Rhondda (see Table V). This is evidently associated with the fact that it was mothers in social classes IV and V who wanted to see the doctor; but as there are so few social class IV and V people in the Southwark sample it is impossible to determine from the data whether the basis of this association is regional inasmuch as mothers in Wales prefer to see the doctor, and this preference transcends social class, or whether such a preference is characteristic of clinic attenders among social classes IV and V everywhere.⁵ At all events, when taken with the results shown in Tables II–IV, the pattern of answers in Table IV suggests that the mothers were on the whole happy to accept the health visitor as an expert in giving advice on the day-to-day problems of infant health.

Table VI shows the actions the mothers said they would take if their baby were ill. In Southwark 6% stated that they would take him to hospital, whereas this action was not mentioned by any of the mothers in the other two regions. The reason for this difference

TABLE V.—Would You Like to See the Doctor Every Time You Come to the Clinic?

	Southwark %	Buckingham- shire %	Rhondda %	Total %
"Yes"	10	22	33	22
"No"	80	77	67	74
"Don't know"	10	1	0	4
Number of replies	(80)	(75)	(90)	(245)

TABLE VI.—If Baby was Ill, Who Would You Take Him To?

	Southwark %	Buckingham- shire %	Rhondda %	Total %
Family doctor	84	89	90	88
This clinic	10	—	10	7
Nurse/midwife	—	11	—	3
Hospital	6	—	—	2
Number of replies	(80)	(75)	(90)	(245)

is presumably that at one time in Southwark the services of Guy's Hospital offered complete medical care to all those who entered its doors, and, although casual treatment or admission of the acutely ill without prior consultation with a general practitioner is no longer an official function of the modern hospital, some of the people of Southwark still look upon Guy's as "The Doctor" (Blackwell, 1962). Thus the 6% who opted for the hospital can reasonably be added to the 84% who chose the family doctor, making a total of 90% of the Southwark mothers who would take their sick child to a medical practitioner in the curative rather than the preventive services. This corresponds with the 89% and 90% of mothers from Buckinghamshire and Rhondda respectively who stated that they would go to the family doctor. In Buckinghamshire, the rural area, no mother suggested that she would go to the clinic, for the obvious reason that the clinic, being mobile, was not available. However, the 11% who would have consulted the local authority nurse⁶ correspond closely with the 10% who would have gone to the clinic in both the urban areas. It is a matter of some interest that none of the mothers in replying to this unprompted question stated that they would consult either their own mother or the chemist.

The last question asked of the mothers was: "Would you like your own doctor to run the clinic?" and apart from the high proportion of "don't know" in Southwark, it produced remarkably standard answers in that just under one-quarter of them replied in the affirmative (see Table VII). No systematic attempt was made to determine the reason for the answers given, but it is worth recording that many of the mothers who expressed a preference for the clinic said, "My own doctor is too busy" or "I like a second opinion."

TABLE VII.—Would You Like Your Own Doctor to Run the Clinic?

	Southwark %	Buckingham- shire %	Rhondda %	Total %
"Yes"	23	24	23	23
"No"	59	71	71	67
"Don't know"	18	5	6	10
Number of replies	(80)	(75)	(90)	(245)

Discussion

The literature on infant and child health and welfare services is extremely extensive and no attempt is made to review it here, nor are all the present findings discussed. Contrasts between this study and earlier work are confined to two major surveys of child health—namely, the National Child Health Survey (Douglas and Blomfield, 1958) and the 1,000 Family Study of Newcastle-upon-tyne (Spence, Walton, Miller, and Court, 1954; Miller, Court, Walton, and Knox, 1960)—because both followed for many years a sample of children born over a specified period of time in a particular area and are therefore able to provide accurate information about clinic non-attenders as well as attenders. It should

⁵ Several explanations could be offered for this trend, but two which come to mind are (1) the personalities of the doctors and health visitors concerned, and (2) the fact that there are more doctors per head of the population in Rhondda than in Southwark. The Welsh certainly gave the impression of expecting more of the medical profession than the Londoners.

⁶ Who may have been the health visitor herself, the midwife, or the district nurse.

⁷ This was probably in part due to the fact that most of the students had never used a questionnaire before.

be remembered, however, that in both these surveys the children studied undertook part of their clinic attendance before the National Health Service was introduced.

The present finding that the highest level of clinic attendance is to be found in social class III and the lowest in social classes I and V is consistent with the Newcastle study (Spence *et al.*, 1954). Douglas and Blomfield (1958) use a different social classification, but their results are also quite consistent with those reported here. The Newcastle study shows clearly that despite social-class factors—which are discussed below—a significant proportion of non-users of the clinic services were unmarried mothers and mothers who “cannot cope” (Spence *et al.*, 1954). Furthermore, in the data of Douglas and Blomfield (1958) there is indirect evidence that, when allowance is made for the worried mother of the weakly child, regular users of the infant and child welfare clinics have healthier children; as a group the infant mortality among them is lower; and they score more highly in several classifications of good social environment.

The findings of these two surveys show that there are grounds for supposing that the opinions not obtained in the present study were those of the wealthier mothers in the community, numerically a small group; those of larger families; unmarried mothers—of whom there were two in the present sample; and, probably the largest group of all, inefficient mothers living in poor social conditions.

The most striking and to some extent surprising finding in this study is that, despite the fact that the doctor was always present in these areas, such a very large proportion of the mothers (62%) should come to the clinics to obtain some sort of service from the health visitor, and that in their minds weighing should be such a popular procedure. It was in fact most popular of all among mothers whose first-born child was less than 3 months old, the group who are most needful of knowledgeable support and counsel. For this reason alone it would seem unwise to yield to the pressure of those who want to discontinue the practice of routine weighing, because, by failing to offer the customers the “goods” they want, the clinic services could well run the risk of causing attendances to fall off. Furthermore, there is little doubt that *provided they are charted graphically* (see Stewart and Acheson, 1959; Tanner and Whitehouse, 1959; etc.) regular records of a baby's weight or gain in weight can be invaluable in the pre-symptomatic diagnosis of both minor and major complaints.

Many general practitioners are starting to take an interest in infant and child welfare within their own practices and offer “mother and baby afternoons.” In my opinion (see also *British Medical Journal*, 1961) this is a highly commendable trend, for it gives the doctor and his patients an excellent opportunity to build up a relationship based on mutual understanding when the stresses of illnesses are absent. This study suggests, however, that if such ventures are to be successful a great deal of rethinking will have to be done. First, and possibly least important, the public may have to be re-educated if the general practitioner is to take on a role in preventive medicine, because the analysis in Tables VI and VII shows clearly that his present image is that of a curer. In the case of infant and child work this should be easily achieved by the general practitioner

who does obstetrics explaining to the expectant mother that care similar to that she enjoys during the antenatal period will be available for her new baby.

However, the present findings suggest that the mother will expect a great deal more in return for her journey to the doctor's surgery than a preventive inoculation or vaccination for her baby and a cursory “Is everything all right?” It is doubtful whether the general practitioner always has time to lend a sympathetic ear to all the mothers would like to discuss with him; indeed, the statement volunteered by many of the mothers, “He's too busy” (see above), shows their views on the matter. Just as the efficient functioning of the present local authority services rests squarely on the shoulders of the health visitor, so it would seem that she must be an essential adjunct to any services built up by the general practitioner in the future. At all events until such time as general practitioners offer a full and adequate service there should be no question of “closing down” the local authority clinics; and this time will manifest itself, because when it comes the attendances at the local authority clinics will be dwindling, not increasing as they are at present (Ministry of Health, 1961a). Moreover, the health visitor will still depend upon notifications of birth to make domiciliary calls among mothers who cannot cope, unmarried mothers, and those in social class V. These mothers tend to have the poorest relationship with the general practitioner and therefore the visiting of their homes should continue to be based on local authority clinics. It is worth adding that McDonald (1957) considered domiciliary visits to be the most poorly performed part of the health visitor's work.

Finally, the doctor himself—and, more important, the university and college authorities who produce him—will have to consider the effect that undertaking preventive care must have on his clinical technique and attitude in the surgery as on his professional philosophy. It is questionable whether paediatric instruction or qualifications at either the undergraduate or the post-graduate level are properly orientated to the subtleties of good child care in an age when the great epidemics are a rarity, when dirt and poverty are no longer a commonplace, and when the influences of the human component of the child's environment are rapidly increasing in relative importance. Sir James Spence (1949) wrote: “The purpose of the consultation is not the diagnosis or the technical treatment. It is the explanation and advice with the diagnosis acting as a means to those ends.” Diagnosis is difficult and explanation and advice impossible unless the doctor has a full understanding of the physical and emotional developmental patterns of the normal child, together with the mechanisms by which these patterns may become distorted.

The health visitor, from both her training and her experience, is already something of an expert in this field and almost certainly often works with doctors who know less of it than she. The conclusions which may therefore be drawn are, first, that the education of the doctor, whether he is doing the work with the local authority or in his own practice, should be so modified as to overcome this difficulty, and, secondly, that full use should be made of the health visitor's skill by the local authority both in its own clinics and by making health visitors under suitable circumstances available to general practitioners.

Summary

The findings are reported of a small survey of the attitudes of mothers using local authority infant and child health and welfare services in three widely contrasted areas of England and Wales. The results are compared and contrasted with those of the National Child Health Survey and the Newcastle-on-Tyne 1,000 Family Study. Special reference is made to the fact that over 60% consultations are made with the health visitor—a circumstance the mothers seem readily to accept; and to the fact that her services are most popular with mothers of all ages who have a young first-born infant.

Some conclusions are drawn on the possible effects these findings may have on the shape of infant and child preventive care that general practitioners are developing within their own practices; in particular it is pointed out that such ventures are unlikely to be successful unless the assistance of a health visitor is obtained.

In addition to the Study Group, whose names are listed above, many people gave invaluable assistance in this survey. Dr. W. H. S. Wallace, London County Council Division 8, Dr. Roy B. Morley-Davies, of Rhondda, Glamorganshire, and Dr. G. W. H. Townsend, of Buckinghamshire, kindly allowed the mothers attending their clinics to be approached and made available unpublished statistics; Miss Newington, Superintendent Health Visitor of Buckinghamshire, was especially helpful in connexion with the work I did in her area. Among the many other colleagues with whom I have discussed this survey I would in particular like to mention Mrs. Margot Jefferys, Dr. Ronald MacKeith, Professor W. S. Walton, and Dr. Michael Warren.

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The general trend for metric measures to be adopted in hospitals led to the publication in 1960 of B.S. 3221, *Medicine Glasses (Metric Units) for Medicine Glasses of 50 ml. Total Graduated Capacity*. The scope of this standard (in future to be known as Part 1) has been extended by issuing Part 2, which deals with glass medicine measures of 30 ml. capacity. The new specification covers materials, design, graduation marking, and tolerances for these measures. Copies of both parts of this standard may be obtained from the B.S.I. Sales Branch, 2 Park Street, London W.1. (Price 3s. each; postage extra to non-subscribers.)

NEONATAL JAUNDICE IN GLUCOSE-6-PHOSPHATE-DEHYDROGENASE-DEFICIENT INFANTS

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In previous articles (Doxiadis *et al.*, 1960, 1961) we presented evidence that a great proportion of Greek infants who developed severe neonatal jaundice in the absence of incompatibility or immaturity had an inherited deficiency of the red-cell enzyme glucose-6-phosphate dehydrogenase (G-6-P.D.). Such cases had been described also in other communities (Panizon, 1960; Smith and Vella, 1960; Weatherall, 1960; Gilles and Taylor, 1961; Gaburro *et al.*, 1961).

From neither our own nor any other publications was it possible to assess the incidence of severe neonatal jaundice among the newborn infants with this enzyme defect. Also, no attempt has so far been made to find what other factors, apart from the well-known exogenous precipitating agents such as vitamin-K analogues and naphthalene, may contribute to the development of haemolysis and hyperbilirubinaemia in the G-6-P.D.-deficient neonates.

The present work was undertaken in order to find out (a) the incidence of the G-6-P.D. deficiency among the newborns of the Alexandra Maternity Hospital, Athens; (b) the incidence of severe neonatal jaundice among the G-6-P.D.-deficient newborns; and (c) whether there is any accumulation of cases with severe neonatal jaundice in certain families, suggesting that there are additional factors, genetic or other, contributing to the development of severe jaundice.

Material and Methods

Two groups of infants were analysed regarding the incidence of neonatal jaundice in relation to red-cell G-6-P.D. activity. The first group consisted of 786 male infants randomly selected, from whom cord blood samples were collected by the delivery-room personnel at Alexandra Maternity Hospital. A special form was kept for each infant. The mother's place of birth and her previous obstetrical history were recorded. She was also asked whether any of her previous infants had shown neonatal jaundice and whether she or any other member of her family had had an episode of icterus. The infants were seen daily and the presence of jaundice was noted. Blood grouping, direct Coombs test, and estimation of serum bilirubin were performed whenever there was a clinical indication. The doctor responsible for the clinical observation of the infants was unaware of the results of the G-6-P.D. estimation.

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