SOCIAL BACKGROUND OF INFANTS SUFFERING FROM DIARRHOEA AND VOMITING

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The general statement is often made that social and environmental factors are of considerable importance in the aetiology of diarrhoea and vomiting of infancy. The high incidence of the syndrome in urban as compared with rural districts was shown by Gairdner (1944), who also gave figures indicating that illegitimate babies are much more susceptible to diarrhoeal conditions than those who are legitimate. Few attempts, however, have been made to investigate the influence of other social factors. The purpose of this report is to present some details of the domestic background of a group of infants admitted to the gastro-enteritis ward of this hospital during 1949.

Information was obtained by means of a questionnaire devised to assess housing conditions and "mother care." This questionnaire was completed by one of the child-welfare sisters, who visited the infant's home shortly after its admission to hospital. There was no selection of patients. The only criteria demanded were the pre-admission diagnosis of gastro-enteritis and that the child should be under 1 year of age.

Diarrhoea, either alone or accompanied by vomiting, is a common symptom of many disorders of infancy. These may be conveniently grouped in one of three broad categories—namely, dietetic diarrhoea, diarrhoea due to parenteral infection, and true gastro-enteritis. (In the last group no parenteral infection can be detected.) The cases in this series were placed in one of these three groups, according to the clinical history on admission and the clinical signs obtained within a week of admission.

Housing Conditions

It will be seen from Table I that 61 (56%) of the 109 homes were "single ends." There was no hot-water system in 95 (87%) of the dwellings. An inside lavatory was present in only 34 (31%) of the homes, the remaining 75 (69%) sharing communal stairhead closets.

TABLE I.—Housing Conditions of Enteritis Cases

Type of Enteritis	Total Cases	No. of Habitable Rooms			Hot-water System		Inside W.C.		No. of Siblings			
		1	2	2+	Yes	No	Yes	No	0	1	2	2+
Dietetic diarrhoea	37	23	9	5	3	34	9	28	9	11	11	6
Parenteral diarrhoea	57	30	18	9	8	49	21	36	10	15	9	23
True gastro-enteritis	15	8	6	1	3	12	4	11	5	6	1	3
Total	109	61 (56)	33 (30)	15 (14)	14 (13)	95 (87)	34 (31)	75 (69)	24 (22)	32 (29)	21 (19)	32 (29)

Figures in parentheses represent percentages.

Subdivision of the cases according to size of family showed that 77 (70%) of the infants came from families of three children and under, and that 56 (51%) were either first or second children. No control figures are available for comparison, but this rather high proportion might suggest that the mothers' ignorance of infant

feeding played an important part in initiating the syndrome. It is of interest to compare the family size of the two broad groups—those with dietetic diarrhoea and true gastro-enteritis (which may be considered together because as yet there is no absolute aetiological distinction between them)—and those secondary to a parenteral infection (see Chart). In the infants with three or more

siblings the commonest cause of enteritis was a parenteral infection. This would rather suggest the importance of overcrowding and the intrafamilial cross-infection to which it gave rise.

"Mother Care"

It is obviously more difficult to assess "mother care"; nevertheless it is considered that the extensive experience of the child-welfare sisters in home visitation gives a broad accuracy to the figures. They were able to estimate the intelligence, personal cleanliness, and housekeeping abilities of the mothers with far greater accuracy than could be achieved by any interview at hospital.

Table II shows that only 34 (31%) of the mothers attended a child-welfare clinic on two or more occasions. It is noteworthy, however, that only 26 (24%) of the mothers were regarded as of poor intelligence, and only 17 (16%) were untidy in appearance.

TABLE II.—Assessment of Mothers

Type of Enteritis	Total Cases	Attended C.W. Clinic		Appearance of Mother			Intelligence of Mother		
		Yes	No	Cared For	Intermediate	Unkempt	Good	Aver.	Poor
Dietetic diarrhoea	37	14	23	9	22	6	6	22	9
Parenteral diarrhoea	57	17	40	14	34	9	7	36	14
True gastro-enteritis	15	3	12	4	9	2	2	10	3
Total	109	34 (31)	75	27	65	17 (16)	15	68	26 (24)

Figures in parentheses represent percentages.

Discussion

The picture revealed by these figures is indeed depressing. In such a group the occurrence of enteritis is not surprising. Indeed, that these babies should survive at all seems almost incredible. Of the social factors studied

here, it would seem that poor housing conditions are intimately related to the occurrence of diarrhoea and vomiting of infancy.

Now, it might be argued that infants with enteritis from good homes are probably not admitted to hospital, and that any survey of hospital cases is therefore not representative. Most general practitioners, however, realize that the outcome of even a mild enteritis in infancy is unpredictable. Moreover, they recognize the value of hospital treatment in dehydrated infants. It is thus likely that the present survey depicts with fair accuracy the social background in Glasgow of cases of diarrhoea and vomiting of infancy.

The precise aetiological relationship of poor home conditions has yet to be determined. Infection probably plays some part in the aetiology. Under such conditions as have been described it is certain that feeding-bottles are not boiled regularly, that napkins are washed infrequently, and that even hand-washing before making up feeds becomes almost impracticable. It is interesting that no breast-fed babies were found in this series, and of course breast milk is less liable to bacterial contamination than artificial feeds. It may, however, be argued with some cogency that under such social circumstances nutritional factors may be of considerable importance. Many of these infants were underweight, and some marasmic. Inquiry often revealed gross dietetic mismanagement. Moreover, as breast milk is the perfectly balanced food for the young infant, the greater susceptibility of the artificially fed to diarrhoea and vomiting may well be nutritional in origin.

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REFERENCE

Gairdner, P. (1944). *Proc. R. Soc. Med.*, 37, 480.

Nova et Vetera

NEW NOSES FOR OLD

The Life and Times of Gaspare Tagliacozzi, Surgeon of Bologna, 1545-1599. With a documentary study of the Scientific and Cultural Life of Bologna in the 16th Century. By Martha Teach Gnudi and Jerome Pierce Webster. Preface by Arturo Castiglioni. (Pp. 538; 77 plates. \$15.) New York: Herbert Reichner.

This magnificent volume, printed in a limited edition in Italy but in the English language, commemorates the life and work of the most famous of all plastic surgeons, Gaspare Tagliacozzi. Miss Gnudi is already well known for her admirable translation from Italian of the first work on scientific metallurgy. Dr. Webster, who spent five years teaching surgery in China and did distinguished work in the first world war, is an eminent exponent of plastic surgery. Their book contains, among other things, a history of anatomical and surgical teaching in the University of Bologna, which is the oldest medical school in Europe attached to a university. The practice of public dissection began there in the fourteenth century, even earlier than at Padua, and it has been continuous ever since.

Plastic surgery did not start with Tagliacozzi. It was practised in ancient India in the pre-Christian centuries, and there are traces of it among the Greeks. It was taken up in the later Middle Ages in south Italy. Notably two of

the name of Branca, in Sicily, brought the art to considerable perfection in the fifteenth century. It was often practised on the nose. In an account by a Bishop of Lucera toward the end of the fifteenth century we read:

"Illustrious indeed through all these times is Branca, the Sicilian, outstanding among all the surgeons of the whole world. He invented in that art a certain thing worthy of admiration and indeed almost incredible. For he conceived a method by which he could restore and repair mutilated noses. His son Antonius added not a little to this fine discovery of his father. Indeed he discovered a method of repairing not only noses, but lips and ears."

This art was not confined to Italy, but was practised also in France and Germany. About the middle of the fifteenth century the military surgeon Heinrich von Pfolpspeunt wrote:

"To make a new nose for one who lacks it entirely and the dogs have devoured it.—If a person comes to you, whose nose has been devoured, and you wish to make a new nose for him, make him promise you solemnly to conceal how you wish to heal him. And after the vow, tell him your opinion. If he wishes to risk it tell him how you must cut and also bind him and how long he must be in bed. And allow no one to watch, so that he may not learn the art from you. Then either you or he must find a trustworthy person who will also promise to conceal the matter, and whom you may allow to observe, provided he be of aid to you and also help the patient to eat and drink and bring him other necessary things. And the room wherein he lies must also be locked. Let no one have access except the person who is to serve you and him."

Plastic Operations

Tagliacozzi worked and wrote more than a hundred years after these men. He was well trained in surgery at Bologna by Aranzio (1530-89), an excellent anatomist, still remembered for his contributions to heart anatomy and himself a plastic surgeon. Tagliacozzi became the professor of surgery in 1586. From the first he was attracted to the plastic side of the art. In the year of his appointment he addressed a letter on it to Mercuriale, the famous writer on gymnastics. Tagliacozzi's crowning achievement is his great *De Curtorum Chirurgia* ("On the surgery of deformities") (1597). This contains a series of figures illustrating plastic operations, the best known being that of a patient whose left arm is bound to his head while a flap of skin from over the biceps has been attached to his mutilated nose. The poor wretch had to remain in this position for some weeks, when the flap, having obtained new vascular connexions, was severed from the arm and more neatly tucked in round the nostrils.

This operation has been commemorated in several literary works. The most entertaining version, which should still add to the gaiety of nations, is a perverted account of the original. It is a translation by Walter Charlton (1619-1707), a medical gas-bag of the Restoration, whose language is as fantastic as his ideas. He took it, in turn, from a treatise by Van Helmont, of Brussels (1577-1644), on the "sympathetic" treatment of wounds:

"This one experiment, of all others, cannot but be free from all suspect of imposture, and illusion of the Devil. A certain inhabitant of *Bruxels*, in a combat had his nose mowed off, addressed himself to *Tagliacozzus* a famous Chirurgeon, living at *Bononia*, that he might procure a new one; and when he feared the incision of his own arm, he hired a Porter to admit it, out of whose arm, having first given the reward agreed upon, at length he dig'd a new nose. About thirteen moneths after his return to his own Countrey, on a sudden the ingrafted nose grew cold, putrified, and within a few days, dropt off. To those of his friends, that were curious in the exploration of the cause of this unexpected misfortune, it was discovered, that the Porter expired, near about the same punctilio of time, wherein the nose grew frigid and cadaverous. There are at *Bruxels*, yet surviving, some of good repute, that were eyewitnesses of these occurrences. Is not this Magnetism of manifest affinity with mummy, whereby the nose, enjoying, by title and right of inoculation, a community of life, sense and vegetation, for so many moneths, on a sudden mortified on the other side of the *Alpes*? I pray, what is