A FAMILY-COMMUNITY ORIENTED PROGRAMME FOR AN UNDERDEVELOPED COMMUNITY IN TEHRAN, IRAN

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the southern sector of Tehran the Mahalleh or Jewish
rter of the city houses a population of approximately
)0 people confined within an area of 30,000 square
ds. The American Joint Distribution Committee, a
fare organization concerned with Jewish communities
listress, provides both financial and technical assistance
the organization of health programmes in association
ı active interested members of local committees. The
pose of this paper is to describe more specifically one
hese health programmes, namely the family-neighbour-
d-community health service for the Mahalleh popula-

THE COMMUNITY

Jews in Iran have their origins in that country dating
n approximately 2,500 years ago. The Mahalleh is
ıt 120 years old and was founded when a movement
: place from the provincial centres of Hamadan and
az to the new capital, Tehran. It is only recently that
community has shown any change in its mode of life,
:h resembled that of the semi-rural communities still
g in the smaller provincial towns.

n so unsophisticated a population the impact of an
nized health programme may be far-reaching despite
lenging problems confronting health workers asso-

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ciated with it. Among such problems may be cited the deep-rooted cultural beliefs that resulted in rigid behaviour patterns and attitudes, inadequate use of health services when provided, lack of health knowledge, and therefore action, and other similar obstacles to healthier living conditions.

Since it was felt that objective demographic facts may help indicate problems that had to be faced in programme planning and development, a study of various aspects of this community was undertaken. The findings are summarized below:

A. The Census

Total population of the Mahalleh in 1961	6,720
No. of families	1,355
Average no. of persons per family	4·96
Jewish population	71%
Non-Jewish population	29%

B. Age Distribution of the Community

TABLE A

Age (years)	0–1	1–3	3–6	6–12	*Over* 12	*Tota*
Male	88	267	354	592	2,308	3,409
Female	117	179	295	410	2,110	3,311
% Male	1·2	3·9	5·3	8·8	34·3	52·3
% Female	1·9	2·7	4·4	6·1	31·4	49·7
Total	250	446	649	1,002	4,418	6,720

C. Occupational Stratification

A study undertaken in 1957 indicating the occupation of

the head of the household in a sample of 700 Mahalleh families, revealed the following distribution:

TABLE B

	Professional	*Clerical*	*Self-employed*	*Manual*	*Unemployed*	*Total*
Unskilled	—	—	288	139	—	427
Semi-skilled	8	18	140	51	—	217
Skilled	2	—	—	2	—	4
Unemployed	—	—	—	—	52	52
Total	10 (1·4%)	18 2·6%)	428 (61·1%)	192 (27·4%)	52 (7·5%)	700

The largest group comprised unskilled, self-employed persons who were mainly occupied as itinerant pedlars.

D. Income

The average estimated income per person per day was $1.00 - $2.00 (73 cents - R1.46) when head of household was working full-time.

E. The Educational Standard (1961)

Literacy figures were used as the basis for the assessment of 5,420 persons.

TABLE C

	7–18 *years*			*Over 18 years*	
	No.		*No.*	*%*	*%*
Literate	1,766	87·55		1,742	51·19
Illiterate	251	12·45		1,661	48·81
Total	2,017	100·00		3,403	100·00

Summary of the Community

The community lives in an environment hardly conducive to health. Nevertheless, this form of life has an atmosphere of security. Its members, being mainly of the same religious persuasion, and thrown together in so confined an area, knew one another and were subject to one another's customs, beliefs, and cultural and behaviour patterns. This domiciliary immobility of the community allowed for the continuity of long-term programme planning and development. There were nevertheless drawbacks; exposure to other communities undergoing progressive change in their thinking, habits, and behaviour would have been beneficial. In the Mahalleh community there was still the resistance to either new ideas or rapid change—'a clash of progress and security'. The old traditional modes of life were entrenched and educative aspects of the programme often fell on 'closed ears and doors'. This pattern is changing through the combined efforts of the pre-school and school programmes as well as the health projects run by the American Joint Distribution Committee. The dissemination of health education to this community remains a major challenge. Steuart and Ward[2] state:

'Intrinsic to the way of life of every human community, there are potentialities for change and for constructive effort in the solution of its own problems. The success of a programme directed towards health and disease depends on a constant balance between the action and service of experts and the needs and drives felt by the whole community.'

In the planning of a priority-based programme these factors have been taken into consideration. Although much still remains to be accomplished, a great deal has been done already, and, however insidious these changes may appear to be, they are practical examples of progress in the field of community development.

THE ENVIRONMENT

The Mahalleh can best be described as a labyrinth of narrow passages and alleyways, sprinkled with minute shops and crammed with people. Copper beaters, manufacturers of laboriously hand-cut wooden combs, grocery and herb vendors, samovar shops, poultry sellers with their wares alive and confined in coops, and itinerant pedlars make up the *pot pourri*. Offal sellers adjoin spotlessly clean butcher shops complete with deep-freeze apparatus. Television aerials jut from the roofs of some houses, bedding and junk piles from others. Narrow alleyways (Fig. 1)

Fig. 1. A covered alleyway.

lead off at angles from main passageways and culminate in old wooden carved doors which open onto courtyards around which the houses are built (Fig. 2). These 'houses'

Fig. 2. A typical courtyard group. The women members of these families share the same environs.

comprise a number of rooms set in square formation around the central courtyard (Fig. 3). All doors (and windows, if any) open onto the courtyard: there is no

ross-ventilation, and there is little indication of what may e found behind these main doors.

Fig. 3. Two houses in the Mahalleh.

Description of the Home Environment

A family comprising 5 - 6 members occupies a section of the ouse consisting of 1½ - 2 small rooms. These are utilized for eeping, cooking, and eating purposes as well as for storage. ooking utensils remain on the floor with the ever-present anger of boiling water from samovars and basins, or hot od, being within easy reach of toddlers and young children. he central pool in the courtyard is shared by the families mprising the household (Fig. 2), and is utilized for washing. his is where gossiping, quarreling, and the dissemination of formation takes place. It constitutes the 'courtyard group', hich is mentioned later as a unit of study for health ppraisal.

The water supply has recently become modernized with the troduction of chlorinated city water. This change was ffected through the persuasion of the sanitarians and actual nancial contribution of the community who realized its mportance and demanded the facility. The water supply as it sed to be is worthy of description: A series of connected ells or 'qanats' of different depths channeled water from the rrounding hills through 'jubes', or troughs, exposed in many aces to the atmosphere and to all forms of pollution. At rtnightly intervals water was supplied through these channels a different part of the city and was stored in the 'ab umbars' water reservoirs beneath the courtyards. The constant tention of the sanitarians had to be directed towards its rification and to the drowning hazard, since young children ten fell into the pits.

Waste-water disposal was effected by means of a 30-metre-ep pit adjoining the recently installed faucet. The toilet cilities, which were shared by all family members, were of e pit-privy type. There was often contamination of the old-shioned type of water storage by adjoining pit-privies which ere simply dug in various parts of the courtyard as the older es became filled. Refuse disposal bins were in use (after uch educative work), but were seldom kept covered and ere raided by flies and vagrant cats, and the debris strewn out. There was a sporadic collection of this refuse by the cal authorities.

Houses were constructed of bricks, mud, straw and manure, th some plaster, and the flooring was made of a clayish mpound which was often exceedingly damp. Approximately persons shared a room with an area of 8·75 square metres, d less fortunate families made do with even less space. There s no cross-ventilation as mentioned above and in summer e heat was intolerable.

Lighting was by means of electricity in 85% of the houses. the winters, which were often severe, 92% of the families used the 'korsi' for heating purposes. It consisted of a square wooden table with 4 short legs standing about 50 cm. high, under which was placed the 'manghal'. This was a circular fire grate in which charcoal was burned. Having been lit outside it was carried into the house and placed under the 'korsi', which is in turn covered by blankets. The family unit sat with legs extended beneath the 'korsi' and often slept in this fashion throughout the night. Burns seldom resulted and, despite poor ventilation and overcrowding, it was possibly the use of charcoal that was responsible for the absence of carbon monoxide poisoning.

The courtyard is often inhabited by goats, sheep, chickens, dogs, and cats, and worm infestation is rife. In summary, this environment is a fascinating conglomeration of sights, sounds, and smells, yet behind the bustle and activity there may be witnessed scenes associated with the most abject poverty and ignorance.

THE SERVICE

A health service designed for a community impoverished in both health knowledge and material resources, can be neither too ambitious nor elaborate. Periodic assessment and systematic priority evaluation is required before any health project is put into action. In the planning of such programmes, the felt needs of the community must be taken into consideration and as far as possible, met. Initially these felt needs would be expressed through the use of services at a curative level. Here the diagnosis and treatment of ill patients established the kind of confidence in the service that would later permit its extension to preventive and promotive care.

A large proportion of the family physician's day was involved with such curative care sessions. Immunization programmes had been developed and the community took full advantage of these facilities. A personal communication from the Head of the Pasteur Institute in Iran[3] indicated that the level of natural immunity to poliomyelitis was high, that foetal antibodies had been established above the ceiling level required for protection, and the infant was subsequently re-infected at about 6 months of age, thus acquiring natural immunity. Promotive care, or the raising of health knowledge and thereby standards by educative means, remains a major challenge. One of the important programmes in promotive care was that of the underweight infant preceded by the follow-up care of the neonate and infant before it reached the underweight stage. The healthy baby was seen periodically after its discharge from the maternity ward, and a review of the loosely-structured infant-feeding programme was organized as a teaching project for the doctor and nursing teams. This is now being worked out in order to establish a more systematic feeding schedule within the cultural setting of the community's feeding habits. The underweight baby was regarded as 'failure in care', the cause, in the absence of illness, blamed on the inadequacy of follow-up education of the mother with regard to her previously healthy infant at the time of discharge from the maternity ward.

Breast feeding was practised initially, but certain cultural factors altered this; these are further discussed later in this paper.

Health education was carried out in its simplest form by the physicians in their clinics, by the behyars in the homes, and, at a more practical and demonstrable level, by the sanitarians in the home and community environment. The need still remained for greater emphasis to be

placed on health educative techniques at the community level; at the time of writing there were no trained health educators in the programme. The organization of a 'Mothers' club' composed of active and interested women who had learned to read and write, and therefore had influence in the community, was the nucleus for the engendering of health educative principles and techniques.

The Structure and Orientation of the Service

Two important concepts underlied the structure of the family health service:

1. The family was considered to be the unit of health appraisal and practice, rather than emphasis on its individual members. This concept was extended to the aggregate of families making up the community.

2. The service was team-orientated. Each team comprised: (*a*) The family physician (the head of the team), (*b*) two home-visiting nurses with public-health experience (behyars), and (*c*) a sanitarian.

Three such teams covered the health needs of 1,335 families; each team was therefore responsible for approximately 450 families. These families were under care both at the health centre and in their home environment, thus maintaining a continuity of contact and care through a multi-disciplined group of health workers. The family health centre had the advantage of inpatient facilities within the hospital in which it functioned and which was an integral part of the total service provided. The inpatient facilities operated on a priority basis for (*a*) maternity patients, and (*b*) infants and children (plus a small isolation unit for cases of communicable disease).

The Family Health Service

The service was so structured that each sub-area team had its family physician and one of its two behyars engaged in a 4 - 5 hour curative care session per day, while the second behyar and sanitarian were out visiting the homes of their families.

The curative care clinics became family orientated as home-visiting follow-ups were arranged and previous ones discussed, appointments made for immunization, specific instructions given to the team members to report findings in the homes, the keeping of the family census up to date, the devoting of special attention to those families making inadequate use of facilities provided, and the linking of the home-visiting nurse with the sanitarian on problems that concerned them both. The last portion of the day was organized for neonatal and underweight infant clinics, immunization, antenatal and postnatal sessions and specialist clinic services in gynaecology, surgery, and otorhinolaryngology. Weekly team meetings were held which alternated between the health centre where the programme-planning took place and visits by the whole team to the Mahalleh itself. This enabled all team members to appreciate one another's work and problems, to learn at first hand in the field the attitudes and criticisms of the community, to see problem families in their own environmental setting—thereby obtaining an overall impression on which evaluation of progress could be assessed.

Individual team members accepted this policy of working together as a complementary unit in a social milieu with rigid social stratification. The outcome may best be described as a 'group dynamic concept of the health worker'. Clinical case conferences chaired by the medical director took place weekly and took on an orientation which assumed broader health implications within the family and community setting. In discussing the service no attempt will be made to cover the complete morbidity picture, since the absence of health recorders, coupled with the *laissez faire* attitude to statistics, makes any such attempt unreliable. Disease problems are discussed more specifically to draw attention to illnesses which were of concern and received priority treatment.

Health hazards in the past included a typhus epidemic in 1943 (which in fact was responsible for the inauguration of the hospital), a large number of trachoma cases, cutaneous leishmaniasis, enteric fever, diphtheria, smallpox, and other such illnesses preventable by immunization today, endemic malaria, meningococcal meningitis, tuberculosis, helminthiasis, and relapsing fever.

During the years 1959 - 1962 smallpox and diphtheria have been absent from this community. The few cases of typhoid fever which occurred in the Mahalleh community came from families who had recently moved into this area unimmunized and from a far worse environment in provincial towns where health services were still inadequately developed.

Trachoma is no longer present in the acute form, but residual blindness in the older generation presents as a socio-economic problem. Malaria in Iran has been effectively curtailed through the combined efforts and action of the Ministry of Health and the United States Operation Mission. Further prevalence studies are required to estimate tuberculosis, which does not appear to represent any problem among this community.

Cutaneous leishmaniasis has been reduced, but the disease still remains a health hazard because sand flies find suitable breeding grounds in the floors of damp cellars. Meningococcal meningitis is seen twice yearly in autumn and early spring. Helminthiasis remains a major problem. A study by Biocca[4] demonstrates the extent of intestinal helminthiasis in Jewish communities in Iran. His findings in the Tehran Mahalleh may be quoted: 'Of 406 children examined, 142 (35%) demonstrated ova of intestinal parasites in their stools, and 259 of 586 inhabitants of the Mahalleh (42%) likewise were shown to harbour helminths on one single direct examination'.

A study undertaken by me concerning infestation among a specific group, the food-handlers, was a further indication of the need to tackle the problem. These people not only shared their environmental facilities with other families, but handled and sold food products to a large section of the community. 133 food-handlers submitted themselves for examination; of these 97 (72·9%) had positive stools, whereas 36 (27·1%) were negative on one single direct examination. 29 (± 30%) had trichostrongylus infestation, whereas 24 (25·7%) were infested with ascariasis.

The curative care clinics attended by mothers with their children showed morbidity patterns which did not differ significantly from those seen elsewhere. Certain illnesses, however, required a combined preventive and promotive approach to diminish both the incidence and recurrence

ıong those who had previously contracted the illness. ıe such illness is gastroenteritis, which takes its toll in ch overcrowded environs where poor health knowledge d inadequate sanitary facilities exist. Tehran has ex-:mely hot dry summers, flies are innumerable, and this ness is at its peak. It is my experience, while working ith African families in South Africa, that many lives are ved by elaborate therapy in our paediatric hospitals, but adequate preventive and promotive action is taken which ight aid the avoidance of recurrence. Insufficient educa-ɔn of mothers with regard to both cause and prevention, ıd the necessity of returning the infant when well to the :ry environmental conditions that helped precipitate the ness in the first instance, were problems that required to : tackled on a more intensive scale. Adequate instruction ıould be given and followed up by home visits to ensure at these instructions are carried out correctly. This ıould be combined with discussion groups between health orkers and community members, and it should to some ‹tent lessen the number of repeat attendances.

astroenteritis in the Mahalleh Community

During the period May to August in Tehran the mean mperatures range from 35 - 41°C (88 - 103°F), and the ɔmplex aetiological features associated with the disease ıanifest themselves in the more virulent form. There ere no previous records, but in 1959 the family health :rvice saw 173 infants with this illness in the period ıentioned above. These figures were used to initiate an ction programme to serve as both a staff teaching xperience and an attempt to decrease incidence in the ıture. In planning the project it was thought necessary ɔ assess the existing state of health knowledge and the ction taken. A questionnaire was compiled to assess this, ut space prohibits publishing the questionnaire's results nd the subsequent action taken. The staff was inexperi-nced in questionnaire administration and the 'correct' nswers were often coerced from the respondents. 'Fate' nd the use of dried skimmed milk were the items thought ɔ be the aetiological factors in this illness. It may also be ıentioned that an average of 2·15 persons per family had xperienced the illness.

THE INPATIENT SERVICES

hese facilities were available for maternity patients, and nfants and children.

a) The Maternity Service

Pregnant women were encouraged to attend the prenatal linics at regular intervals and from an early date in their ɔregnancies. All deliveries occurred in the maternity section of he hospital since environmental conditions in the homes pre-luded the possibility of safe home deliveries. In 1959 the ervice dealt with 872 deliveries, 190 (21·8%) from the area Mahalleh community) and 662 (78·2%) from the large unde-ined portion of Tehran known as the extra-area.

The new-born infants lie-in with their mothers in the ward hroughout the 7-day stay. The advantage of this system is hat it fulfils the purpose of establishing a satisfactory mother-nfant relationship with the subsequent development of a eriodicity pattern in demand-feeding, enables the mother to handle her infant at all times, and teaches her to know its needs and thereby to feel full confidence concerning manage-ment on her return home. Visitors were freely permitted from the very environment where home deliveries would have constituted a health hazard, yet cross-infection in the ward was negligible. The peace and quiet in this ward is in striking contrast to the usual bedlam of infant nurseries.

Following is an analysis of deliveries in this ward in 1959:

	Mahalleh area	*Extra-area*	*Totals*
Normal deliveries	172	643	815
Abnormal deliveries	11	46	57
	183	689	872
Stillbirths	4	12	16
Neonatal deaths	0	0	0

The number of premature infants born in 1960 numbered 42, with 6 deaths among those whose birth weights were below 2 kg. (4·4 lb.). At the time of writing there was no incubator in use.

The inauguration of health education discussion groups in the maternity ward was met with good response and the staff were able to gauge knowledge related to both child-bearing and child-rearing attitudes and practices. The sex of the infant was a predominant discussion topic and, in general, preference for the male infant was marked. Beliefs existed that the mother was responsible for the sex of her infant, and further that certain behaviour patterns during her pregnancy predetermined the sex of the infant. Rejection of the female infant permeated throughout infant-rearing patterns. A number of mothers were breast feeding their male children of over a year of age, but denying this to their newly-born female infants. The rejection factor showed itself in weight differences between the sexes over and above any normal physiological differences, and, in fact, in their relative health standards.

(b) The Paediatric Service

In contrast to the procedure in the maternity section, the admission of infants and children was highly selective. The proximity of the hospital to the Mahalleh, the constant attention of home-visiting nurses carrying out therapy ordered by the doctors and reporting progress, and the general reluctance of the community members to have their children admitted were some of the factors restricting admission. In fact, the general principle was 'a full maternity ward and an empty children's ward'. The majority of the admissions was from the extra-area which had neither the benefit of home-visiting care nor the intensity of service provided for the area community through the family health programme.

The following summary indicates some of the illnesses involved in admission to the wards. They were selected because they were of concern to the staff and, with the exception of meningitis (and to some extent rheumatic fever), they could possibly have been diminished by appropriate preventive action. The figures are given for the period 1958 - 1960:

TABLE D

Diseases	*Mahalleh*				*Extra-area*				
	Ages			*Total*	*Ages*			*Total*	*Gr. tota*
	0–3	3–6	6–12		0–3	3–6	6–12		
Gastroenteritis	24	5	5	34	42	4	12	58	92
M. meningitis	4	4	0	8	3	6	11	29	28
Typhoid	2	0	8	10	3	9	15	27	37
Rheumatic fever	0	2	9	11	0	9	16	25	36
Burns/scalds	17	2	16	35	13	8	13	34	69

The above figures require little comment. Typhoid was the hazard that had directed the attention of the sanitarians in the past towards improvement of the water supplies which were so easily contaminated where the water ran through open channels in the streets. In 1961 95% of the homes possessed chlorinated city water piped into the courtyards. This, together with the immunization programmes, has markedly diminished the incidence of this illness. The extra-area community, on the other hand, relied for its water supply on the 'jube-qanat' system. In 1960 16 cases were reported from this community compared to 2 from the Mahalleh. The disease was used as a platform for teaching the team workers the importance of a cooperative effort. A form was compiled which illustrated the

importance of combined action and the proper recording of action taken, but space again prohibits its inclusion in this paper. I believe that rheumatic fever was often 'over-diagnosed' on too scanty evidence. Febrile illnesses with monarthritic joint involvement with or without laboratory evidence of the presence of *H.streptococci* as the causative agent may be quoted as an example. Large numbers of children in the wards were found to have systolic murmurs which were often functional in origin, yet in the presence of pyrexia and vague arthritic pains the diagnosis of rheumatic carditis was made. Over-diagnosing was not discouraged, but cases were vetted on ward rounds; the alternative would have been missing true cases. With regard to burns and scalds, the preventive approach was most important. The negligence of parents regarding the potential hazards from cooking and heating appliances on the floors, coupled with overcrowding, intensified the dangers.

DISCUSSION

The application of the concept of family-community health practice to an unsophisticated community whose members were poor and lacking in health knowledge, was no innovation. I was associated with the Department of Social, Preventive, and Family Medicine at the University of Natal where the field practice was oriented in a similar fashion for African and Indian communities. This type of health concept and its practical application has been demonstrated to work effectively in widely differing culture groups, but in the similar setting of socio-economic underdevelopment. Cultural modifications and priority assessments are the important considerations in programme planning and action.

There are certain epidemiological factors that might fruitfully be explored further:

The 'courtyard group' in this community would be worthy of study since it involves the implications for health and disease from the association of its members with one another.

'Problem families', living in ignorance of health factors and steeped in rigid beliefs and behaviour patterns detrimental to the health of others, and the concerted approach towards active and interested key members of certain families, who would promote better health conditions for others less knowledgeable, are factors for consideration.

Methods must be introduced to fortify cultural beliefs where these are health promotive and to alter them where detrimental. The problem of consanguinity presented itself, and these marriages were sanctioned by religion. I collected 100 families with a history of consanguinous marriage at either uncle-niece or first cousin level; of these 16 showed evidence of a congenital anomaly in one or more of their offspring. Further detailed study would be of interest.

There should be encouragement regarding a community's desire to help itself and for this to be put into overt action despite limited economic means. Far more is achieved by the establishment of a community pride than by the method of 'handouts' which then become expected as a right.

The use of community health educators and culturally applicable health aides are important techniques for health promotion. Despite poverty, members of this community seldom showed evidence of gross malnutrition in its infant population or gross avitaminotic deficiencies in its adult population. The feeding habits of this community were conducive to a fairly well-balanced diet. The use of yoghurt, goat-milk cheese, greens of all kinds eaten raw in salads or as constituents of stews, vegetables, cheaper cuts of meat, and fruits of every variety purchased inexpensively when slightly over-ripe, bread that was unrefined and the use of many types of herbs may be among the factors contributing to this adequate dietary pattern.

CONCLUSION

A specific community (mainly Jewish) living in a geographically defined area in Tehran, Iran, has been described together with the health services designed for it on a family-neighbourhood-community basis. Epidemiological factors have been raised for consideration for further study and action.

It was most gratifying to work in an organization such as the American Joint Distribution Committee, which played a complementary role in education, feeding, clothing, health and other aspects of community development. Through the organization's policy, local committees contributed financially and accepted responsibility for their own communities. However important the health programme, it was but a facet of total welfare enabling this community to uplift itself and thereby achieve a place in and a more productive role for its future.

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