Primary Health Care through family health programmes in field practice area Hadaba Shargia, Tripoli, Libya

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الرعاية الصحية الأولية من خلال برامج صحة الأسرة في منطقة الممارسة الميدانية بالهضبة الشرقية، في طرابلس، بالجماهيرية الليبية

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شملت هذه الدراسة ٣٤٦٥ شخصا من ٤٢٧ عائلة ترددوا على عيادة العائلات بالهضبة الشرقية بطرابلس، في الجماهيرية الليبية ، فيما بين كانون الأول/ديسمبر ١٩٨٥ وتشرين الثاني/نوفمبر ١٩٨٧. ووجد أن ٦١,٩٣٪ من هؤلاء حظوا بتغطية شاملة بالمسح المتعددة المراحل، وكان أغلبهم دون الخامسة عشرة من العمر. وبلغ معدل معرفة القراءة والكتابة بينهم ٦٤,١٨٪. أما الذين يزيد عمرهم علي ١٥ سنة فقد كانت غالبيتهم من ربات البيوت. وكان ٧٥,٣٦ ٪ من العائلات أسرا غير ممتدة يبلغ عدد أفرادها ٨,١ في المتوسط. وكان معدل المراضة وقت المسح ٤٦٤,٦ في الألف، حيث كانت الأمراض المعدية هي الأكثر انتشارا. وكان معدل التطعيم مرتفعا بلقاح بي سي جي ومتوسطاً بالطعم الثلاثي وشلل الأطفال ومنخفضاً بلقاح الحصبة.

The study looked at 3 465 people from 427 families who visited the family clinic in Hadaba Shargia, Tripoli, Libya, between December 1985 and November 1987. Total coverage for the multiphasic screening was 61.93%, out of which a majority were below the age of 15 years. The literacy rate was 64.18%. Most of those screened above the age of 15 were housewives. Of the families, 75.36% were living as nuclear families, with average family size of 8.1. Morbidity prevalence at the time of survey was 464.6 per 1 000, with a predominance of infectious diseases. Vaccination coverage was high for BCG, while moderate for DPT and polio and low for measles.

Les soins de santé primaires grâce à des programmes de santé de la famille dans le secteur de formation pratique de Hadaba Shargia, Tripoli (Libye)

La présente étude a porté sur 3465 personnes appartenant à 427 familles qui se sont rendues au dispensaire familial de Hadaba Shargia à Tripoli (Libye) entre novembre 1985 et décembre 1987. La couverture totale pour l'examen complet était de 61,93% dont une majorité représentait des enfants de moins de 15 ans. Le taux d'alphabétisation était de 64,18%. La plupart des personnes examinées âgées de plus de 15 ans étaient des femmes au foyer; 75,36% des familles étaient de type nucléaire, la famille se composant en moyenne de 8,1 personnes. La morbidité au moment de l'étude était de 464,4 pour 1000 avec une prédominance des maladies infectieuses. La couverture vaccinale était élevée pour le BCG mais moyenne pour le DTC et la polio, et faible pour la rougeole.

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Introduction

Medical practice has been limited for centuries to the treatment of patients upon request, the emphasis being more curative than preventative. The gradual development of family and community medicine since the nineteenth century has added new dimensions of social responsibility to medicine.

The pattern of disease in the community is very different from the pattern in the hospitals; therefore the illnesses of the community must be studied within their ecological setting. Most of the time the fundamental and preventable causes of illness are to be found within the community itself [*1*].

Community surveys have demonstrated that most patients do not go to the hospitals even if they are severely ill, especially in the developing countries. Therefore measures such as home services, periodic examination of people who are at risk and free health care should be made available in order to obtain betterment of health for every human being.

With this in mind, the Department of Family and Community Medicine of Great Al-Fateh University of Medical Sciences in Tripoli implemented a Family Health Programme to provide Primary Health Care to the community, including promotive, preventive, curative and rehabilitative activities, and which considers the individual, the environment and the community as a whole in its field practice area at Hadaba Shargia, Tripoli. The Programme has the following objectives:

- to promote active participation of the local community in various health programmes
- to collect relevant data regarding demographic and social characteristics, environmental factors and morbidity patterns in the community
- to fill the gap between the community and the health centre by reaching out to homes in family visits
- to orient medical students towards community health problems and properly train and equip them for such services.

Methods

Study area and population

This study was conducted at Hadaba Shargia in Tripoli, which is the field training area of the Department of Family and Community Medicine of Great Al-Fateh University of Medical Sciences in Tripoli, and is situated about 3 kilometres from the Medical Faculty on the Hadaba Shargia road. Most of the people in this area have migrated from rural areas in search of a better life and reside usually in three-room flats designed uniformly. These houses are single storey with modern amenities like electricity, water supply and underground sewer drainage. The study population has schooling facilities for their children, markets and a family health centre inside the locality.

The area contained about 1 000 houses with an estimated population of approximately 9 000 in 1988. Seven roads and 15 lanes were used to subdivide the selected area to locate the families during revisits and follow-up visits.

Family Health Programme

The Family Health Programme consisted of five components: family visit, family clinic, family revisit, follow-up visit and follow-up clinic.

Family visit

Families were visited twice in a week by two or three interns, the family physician and a social worker on an appointment basis, the appointment being made two or three days prior to the visit. All the family's demographic, socioeconomic and environmental information, including vital events for the most recent year,

were recorded in a pretested family folder. Health education on a wide range of subjects was delivered to family members, aiming to improve the environmental conditions of the houses and personal hygiene of individuals. Family members were encouraged to attend the family clinic on the next day.

Family clinic

Detailed clinical examinations of each family member were performed following a set procedure, irrespective of any complaint. Routine blood and urine examination were done for all the family members, including healthy ones, and other relevant investigations were performed, if required.

All this information was recorded on each family member's individual schedule, which was designed according to age: preschool (up to 6 years), school-age (6–18 years), adult male and adult female (above 18 years).

Family folders, including individual schedules of families, were maintained in the health centre, and each family was issued with a family card bearing a family folder number to facilitate identification and record linkage on subsequent visits.

Family revisit

Families were revisited after between 6 and 12 months by interns, the family physician and a social worker. The aims of the revisit were to update information regarding change in vital events in the family folders, to motivate the family members to present themselves for periodic examination, to deliver health education on miscellaneous topics and to provide health care, including prescription investigation and reference papers, at their doorstep.

Follow-up visit

Follow-up visits were performed by social workers; each social worker was responsible for about 200 families. They visited the families once per month to motivate the family members to go for screening and periodic examinations, to deliver health education on different topics, especially to vulnerable groups such as pregnant and lactating mothers, chronically diseased persons and mothers with young children. If a family required medical assistance, the social workers called the family physician.

Follow-up clinic

A follow-up clinic was held daily to enable sick persons to get medical assistance. Ill family members were requested to bring their family card to trace their family folder, and detailed information was recorded on their individual schedule about their sickness.

The prescription fee was exempted to encourage family members to report directly to the follow-up clinic during their illness.

Data collection

Families that were visited for the first time between December 1985 and November 1987 during family visits and examined in family clinic were included in this study.

All the family folders and individual schedules of each family member were selected for the study. Detailed information regarding demographic, social, environmental, medical and vital events of each family was analysed and compared with national figures.

Personal hygiene was scored as good, fair or poor according to the following categories:

Elements assessed		
1. Nails:	cut = 1	not cut = 0
2. Hair/dandruff:	not present = 1	present = 0
3. Clothes:	clean = 1	not clean = 0
4. Hands:	clean = 1	not clean = 0
5. Feet:	clean = 1	not clean = 0

Scoring system

5 = good, 4 = fair, 3 or less = poor.

An overcrowding index was assessed by dividing the total number of family members by the number of bedrooms used.

Results and discussion

The study looked at 427 families comprising 3 465 individuals from the target population. Of these, 1 319 (38.07%) individuals were not included in the study (except with respect to age and sex distribution) as they were unwilling to visit the family clinic. The total coverage in family clinics was 2 146 (61.93%), out of which 774 (36.07%) were aged above 15 years. The findings are summarized below.

Sociodemographic aspects

The sociodemographic aspects of the study are summarized in Table 1.

Age distribution

About half (50.61% of the total population) of the sample were children below 15 years of age, as compared with 15.4% for the entire country [2]. The proportion of adults aged 15 to 44 years was 39.36%, and those aged above 45 to 64 years, 8.17%. Among children 0 to 15 years of age, infants formed 3.5%, preschool 12.29% and school age 34.80% of the total population.

The proportion of elderly population aged 65 years and above constituted 1.85%: relatively low. The dependency ratio was 116% as compared to a national dependency ratio of 134% [2]. This may be because most of these

Table 1 **Sociodemographic aspects**

	Number	Percentage
Age (years)		
$n = 3\,465$		
<1	122	3.52
1–4	426	12.29
5–15	1 206	34.80
15–44	1 364	39.36
45–64	283	8.17
65+	64	1.85
Educational status (age more than 15 years)		
$n = 774$		
Uneducated	285	36.82
Primary	143	18.47
Preparatory	167	21.58
Secondary	118	15.24
University	61	7.88
Occupational status (age more than 15 years)		
$n = 774$		
Housework	409	52.84
Students	149	19.25
Army and police	40	5.17
Skilled workers	49	6.33
Office workers	49	6.33
Professionals	29	3.75
Business	12	1.55
Unemployed	37	4.78
Sex		
$n = 3\,465$		
Male	1 706	49.24
Female	1 759	50.76
Marital status (age more than 15 years)		
$n = 774$		
Married	465	60.08
Single	270	34.88
Widow	34	4.39
Divorced	5	0.65
Consanguineous marriage ($n = 465$)	242	52.04
Family size		
$n = 427$		
1–4	53	12.3
5–9	196	45.9
10+	178	41.68
Family type		
$n = 427$		
Nuclear	323	75.64
Joint	104	24.36
Per capita income (in Libyan dinars)		
$n = 427$		
<50	356	83.37
50–99	66	15.46
100+	5	1.17

families' elderly were still living in their parental houses in rural areas.

The age distribution in the study area is typical of that of a developing country. It has a broad base and tapering top with a high proportion of nonproducing dependants and a low proportion of people living beyond middle age.

Sex distribution

The study revealed that the sex ratio of the target population was 1 013 female to 1 000 males as compared with the national figures of 959 to 1 000 [3]. It may reflect the high divorce rate and higher longevity of females.

Educational status

More than one third (36.82%) of the population aged above 15 years was uneducated, while 18.47% had been educated up to primary level, 21.58% up to preparatory level and 15.24% educated up to secondary level. Only 7.88% of the total population aged above 15 years had had a university education. The literacy rate was observed to be higher in the younger population. This could be attributed to the fact that earlier there were limited facilities for formal education.

Occupational status

About half (52.84%) of the total population were home-makers, the majority of whom were female. Students formed 19.25% of the population aged above 15 years, while 6.33% were skilled workers, 6.33% office workers, 5.17% army and police, 3.75% professionals and 1.55% self-employed. Only 4.78% of the population were still searching for job. Similar findings have been observed by other authors [4].

Marital status

Of the total population aged above 15 years, 60.08% were married, out of which about half (52.04%) had consanguineous marriages, while 4.39% were widows and 0.65% were divorced. These numbers were similar to those elsewhere in the Libyan Arab Jamahiriya [5].

Family size

The average family size of the target population was 8.11 as similarly reported for the Libyan Arab Jamahiriya and other Arab nations [4]. This is much higher than the average family size in developed countries, which is around 3 [6].

Family type

About three quarters (75.64%) of all families were living as nuclear families, while 25.36% were living in joint families. These numbers may reflect the effects of urbanization on the community.

Income

More than four fifths (83.37%) of all families had less than Libyan dinars (LD) 50 (US$175) per capita income per month, while 15.4 had an income between LD50 and 99. Only 1.17% of families had an income of LD100 (US$350) or more. Similar findings have been observed by other investigators in Benghazi and Tripoli [4]. The national per capita monthly gross national product was US dollars 710 [8]. The population's income was relatively low because most of them were unskilled, illiterate and had migrated from rural areas. However, they may not have revealed their income from other sources, which fact could not be verified.

Medical aspects

The medical aspects of the study are presented in Table 2.

Disabilities

Out of total disabilities (2.02%) in the study population, 1.77% were physical and 0.23% mental disabilities. The physical disabilities

Table 2 **Medical aspects of the families in the study population**

	Number	Percentage
Disabilities		
n = 2 146		
Physical	38	1.77
Mental	5	0.23
Personal hygiene		
n = 2 146		
Good	1 123	52.33
Fair	640	29.82
Poor	383	17.85
Smoking behaviour (males above 15 years)		
n = 279		
Heavy smokers (20 cigarettes or more per day)	24	8.60
Light smokers (less than 20 cigarettes per day)	62	22.22
Vaccination coverage (at the age of one year)		
n = 111		
BCG	106	95.49
DPT	77	69.37
Oral polio	78	70.27
Measles	57	51.35

reported were blindness, deafness, dumbness and loss of one or both limbs. The prevalence of blindness was 5.1 per 1 000 as compared to the national blindness figure, which is 4.6 per 1 000 [2].

Personal hygiene

About half (52.33% of the study population) had good personal hygiene, while 29.82% had fair hygiene and 17.85% had poor personal hygiene. Health education programmes were started to improve personal hygiene.

Smoking behaviour

Of the male study population aged above 15 years, 30.82% were smokers, and most of them started smoking in their teens. Of these men, 8.60% smoked 20 or more than 20 cigarettes per day while 22.22% smoked less than 20 cigarettes per day. These findings were more or less similar to those in developed countries [9]. This high prevalence of smoking may be due to the effects of urbanization on the community.

Vaccination coverage

High BCG vaccination coverage (95.49%) [10] was reported in the study population. This high rate may be attributed to the government policy of immunizing the children at the time of birth in the hospital, and in the study community a majority (96.5%) of the deliveries were conducted in hospital. For DPT and oral polio vaccination the coverage for all the three doses were 69.37% and 70.27% respectively. The coverage of measles vaccination was reported low (51.35%), similar to findings reported by other investigators in the same area [11]. This low coverage of DPT, OPV and measles vaccination was because, at the time, no effort had been made to persuade the mothers to have their children fully vaccinated. Nowadays more emphasis is given to vaccination, especially after the Maghreb "immunization days" held in October 1989, to raise immunization coverage to at least 80%.

Morbidity pattern

The morbidity pattern found by the study is presented in Table 3.

Overall morbidity prevalence at the time of survey was 464.6 per 1 000 population. Dental caries was observed most frequently (123.5 per 1 000) in the study population followed by carbuncles and furuncles (68 per 1 000); the rate for acute nasopharingitis was 44.3 per 1 000; acute tonsilitis, 43.8 per 1 000; gingival and periodontal diseases, 23.7 per 1 000; inflammation of the eyelids, 29.4 per 1 000; and urinary tract infection 11.2 per 1 000.

The high morbidity rate with a predominance of infectious diseases is a characteristic typical of developing countries [7]. The

higher prevalence of obesity (22.8 per 1 000) than malnutrition (3.3 per 1 000) in other developing countries reflects a high calorie diet (147% of daily requirements per capita per day), which is one of world's highest [*13*].

The high prevalence of dental caries was possibly due to the population's dietary pattern and lack of oral hygiene. Anaemia (6.5 per 1 000) was common among females, maybe due to their high parity and repeated pregnancies with inadequate spacing. Among noncommunicable diseases, hypertension and diabetes mellitus were observed with nearly similar prevalences, 9.3 per 1 000 and 9.8 per 1 000 respectively, followed by rheumatoid arthritis (8.4 per 1 000). Defective vision was observed in 16 per 1 000 population, and has started to emerge as a public health problem.

Environmental aspects

The environmental aspects of the study are presented in Table 4.

Overcrowding

About half (57.37%) of the families were living with average of three or more than three persons per bedroom. This may cause physical as well as psychological overcrowding, which could be a reason for the high morbidity pattern in the study population.

Natural light

Nearly one third (31.85%) of the total families had poor natural lighting in their houses. This may cause lodgement and multiplication of disease-producing organisms, disease vectors and vermin in their houses.

Table 3 **Morbidity pattern of families in the study population**

Disease	Number	
Dental caries	265	123.5
Gingival and periodontal disease	51	23.7
Hypertension	20	9.3
Acute nasopharingitis	95	44.3
Acute tonsilitis	94	43.8
Bronchial asthma	13	6.1
Defective vision	35	16.3
Inflammation of eyelids	63	29.4
Trachoma	13	6.1
Obesity	49	22.8
Diabetes mellitus	21	9.8
Anaemia	14	6.5
Urinary tract infection	24	11.2
Carbuncles and furuncles	147	68.5
Rheumatoid arthritis	18	8.4
Malnutrition	7	3.3
Others	68	31.7
Total	997	464.6

Table 4 **Environmental aspects of the families in the study population**

	Number	Percentage
Overcrowding index		
<1	27	6.32
1–1.99	51	11.94
2–2.99	104	24.35
3–3.99	137	32.08
4+	108	25.29
Natural light		
Good	291	68.15
Poor	136	31.85
Ventilation		
Good	216	50.60
Poor	211	49.40
Toilet		
Satisfactory	382	89.46
Unsatisfactory	45	10.54
Refuse disposal		
Satisfactory	182	42.62
Unsatisfactory	245	57.38
Water supply		
Continuous	148	34.66
Interrupted	279	65.34

Ventilation

Nearly half (49.40%) of the families lived in poorly ventilated houses, which may increase the density of microorganisms in their homes.

Poor ventilation and lighting in the houses of reference families are a result of the construction design of the houses, which are attached to other houses on three sides; very few houses had an open courtyard inside. The families were advised to improve the ventilation and lighting of their houses by opening windows and doors simultaneously during the day. In future planning for the construction of new rooms or houses, the people should make provision for good natural lighting and cross ventilation.

For those houses that were found to be highly overcrowded, ill ventilated and poorly lit during the visits, a letter was given to the head of the family to request for the allotment of another house from the housing department.

Toilets

A majority of the families (89.46%) have satisfactory toilets. Health education was delivered to improve the toilet conditions of the 10% or so who had unsatisfactory toilets.

Refuse disposal

More than half (57.38%) of the families have unsatisfactory refuse disposal. Most families collect solid waste materials in plastic bags or in tin containers without sealing them properly. This may attract flies, cockroaches and rats etc. Families were advised to tie the plastic bags or close the containers tightly and try to dispose of refuse daily.

Water supply

About two thirds (65.34%) of the families in the study area suffered from an interrupted water supply from the municipality, which may increase the chances of contamination of water. Water is more likely to be contaminated during storage and distribution from big containers, and this may cause an increase in the prevalence of water-borne diseases. Health education was provided about the importance of a safe water supply.

Vital events

Vital events statistics from the study are presented in Table 5.

The birth rate in the study population was 156 (47.82 per 1 000 population as compared to 43.2 for the entire country). A higher birth

Table 5 **Vital events of families in the study population, compared with the national rate (NR)**

Event	Number	Rate	NR	Unit
Birth rate	156	47.62	43.2	per 1 000 population
Stillbirth rate	9	5.45	13.4	per 1 000 total births
Abortion rate	14	19.18	–	per 1 000 females aged 15–45
Crude death rate	21	6.06	4.6	per 1 000 population
Infant death rate	5	32.05	32.8	per 1 000 live births
Pregnancies	196	26.85	25.9[a]	per 100 reproductive age females
Women aged 15–45	730	41.50	40.5	per 100 total females
Currently married women	486	66.57	71.9	per 100 females aged 15–45
Child–women ratio		750	–	per 1 000 females aged 15–45

[a] *In Benghazi*

rate in the reference population may be due to low literacy, early marriage and traditional customs and habits. The crude death rate was 6.06 per 1 000 population as compared to 4.60 [2] for the country. The infant mortality rate was 32.05 per 1 000 live births, similar to the national infant mortality rate of 32.8 [2]. The stillbirth rate was lower than the national figure; this may reflect the better antenatal care provided in the study community. The abortion rate of 19.18 per 1 000 females of reproductive age was similar to that reported by other investigators [*14*].

Of the females, 41.50% were aged between 15 and 45 years, out of which 486 (66.57%) were married at the time of the study. At the time of survey 196 (26.85%) of females were pregnant, as similarly reported from Bengazhi [*7*] and from other developing countries [*15*].

Conclusion

A family health programme is the ideal approach to Primary Health Care, including primary, secondary and tertiary prevention against various health hazards in the community. It is felt that such programmes can help to improve a country's health delivery system.

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