

# RESULTS

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### I- Physical set-up and served population:

Table (1) illustrated by fig. (1, 2, 3, 4) shows that

#### A- Kafr Shokr district:

1- El-Shukr rural health unit was established in 1967. It provides the basic health services for one village and five Ezzhas, inhabited by 4978 persons.

The unit is divided into many division such as, Tickets room, mechanical water pump room, pharmacy, out patient clinic, store room, laboratory, W.C., M.C.H. room, nursing room, sanitarian room, dental care room, Health office room and two waiting places (Fig. 1).

2- Assniet rural health center was established in 1946, it provides the basic health services for 6 villages inhabited by 21042 persons.

The center is divided into many division such as, physcian room (used for out-patient clinic) oral rehydration room, store room, dental care room, store room, M.C.H. room, internal section for ladies and men, operating room, sterilization room, out-patient clinic (not used) sanitarian room, clerk's room, W.C., x-ray

room used during 1986, Ticket's room, laboratory, pharmacy and two waiting hall fig. (2).

**B- Benha district:**

1- Gamgara rural health unit was established in 1964 it delivers basic health services for two villages inhabited by 10711 persons. The building is divided into many division such as ,Ticket's room, out-patient clinic, store room, waiting hall, pharmacy, M.C.H. room, Machinery light room, laboratory, W.C, Dental care room, sanitarian room and Health office room Fig. (3).

2- Sheblinga rural health center was established in 1956. It delivers health services for 3 villages inhabited by 17974 persons. The center is divided into many divisions such as, Ticket's room, pharmacy, W.C., laboratory, Dental care room, M.C.H. room, out-patient clinic, Health office room, sanitarian room, waiting hall and internal sections in the second floor. (Fig. (4).

The distance between all the studied localities and the served areas varies between half kilometer to three kilometers. The units and centers located on a paved road except Gamgara unit which is located on a half kilometer from the paved road. All the studied localities have a telephone and every center has a car.

Table (1): General background information about the studied localities.

|  | Rural health unit                   |              | Rural health center    |                        |
|--|-------------------------------------|--------------|------------------------|------------------------|
|  | El-Shukr                            | Gamgara      | Assniet                | Sheblinga              |
| * Adress                                   | Kafr Shokr                          | Benha        | Kafr Shokr             | Benha                  |
| * Date of establishment                    | 1967                                | 1964         | 1946                   | 1956                   |
| * Population served                        | 4978                                | 10711        | 21042                  | 17974                  |
| * Villages served                          | one village and 5 Ezzabs            | two villages | 6 villages             | 3 villages             |
| * Distance between unit and served targets | ½ to 3 Kilo.                        | ½ to 3 Kilo. | ½ to 3 Kilo.           | ½ to 3 Kilo.           |
| * Means of communication                   | A telephone                         | A telephone  | A telephone and a car. | A telephone and a car. |
| * Water supply                             | Safe water supply (Mechanical well) |              |                        |                        |
| * Sewage disposal                          | By accesspit                        | By accesspit | By accesspit           | By accesspit           |
| * Refuse disposal                          | By incineration                     |              |                        |                        |
| * Electric supply                          | present                             | present      | present                | present                |

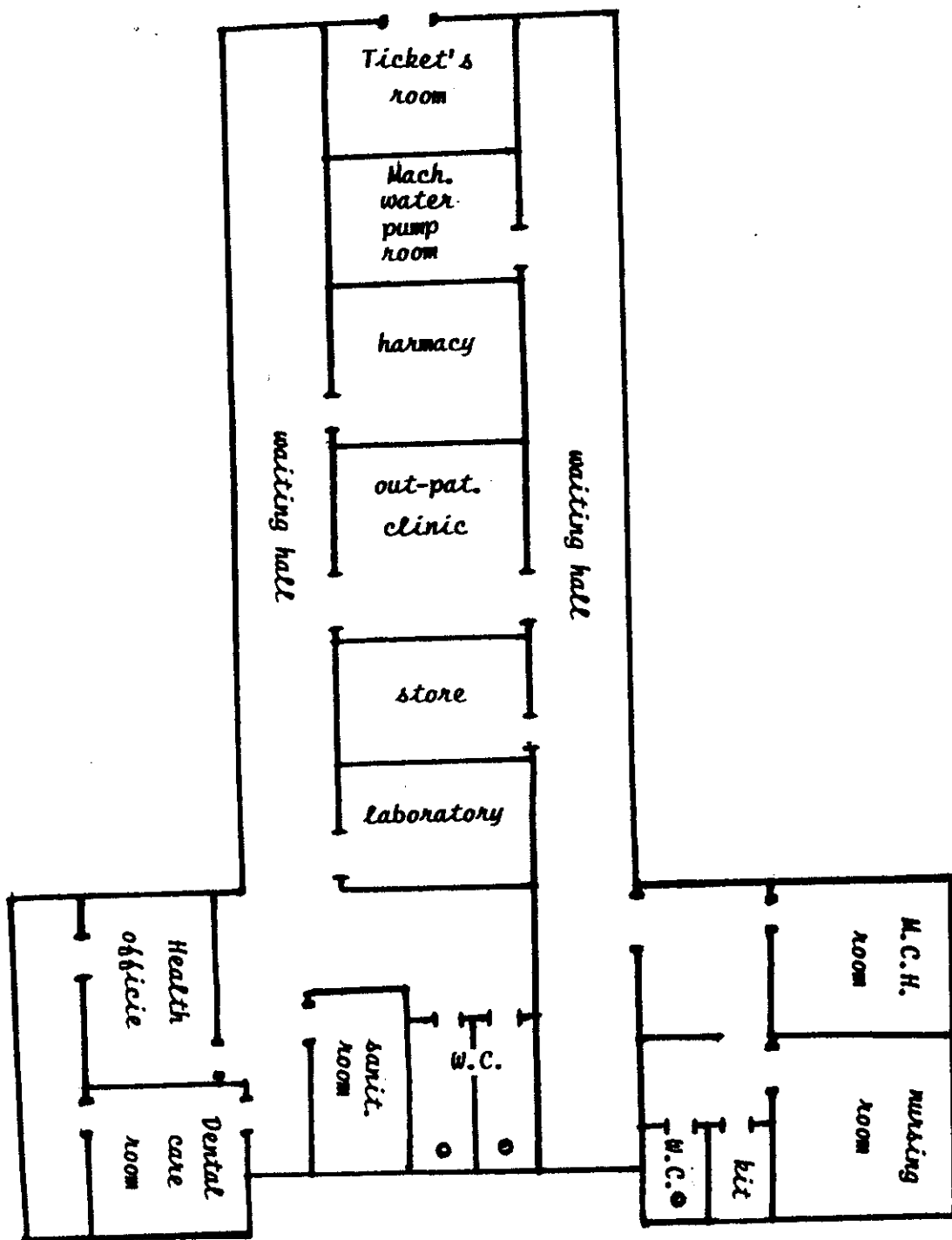


Figure (1): El-Shukr R.H.U.

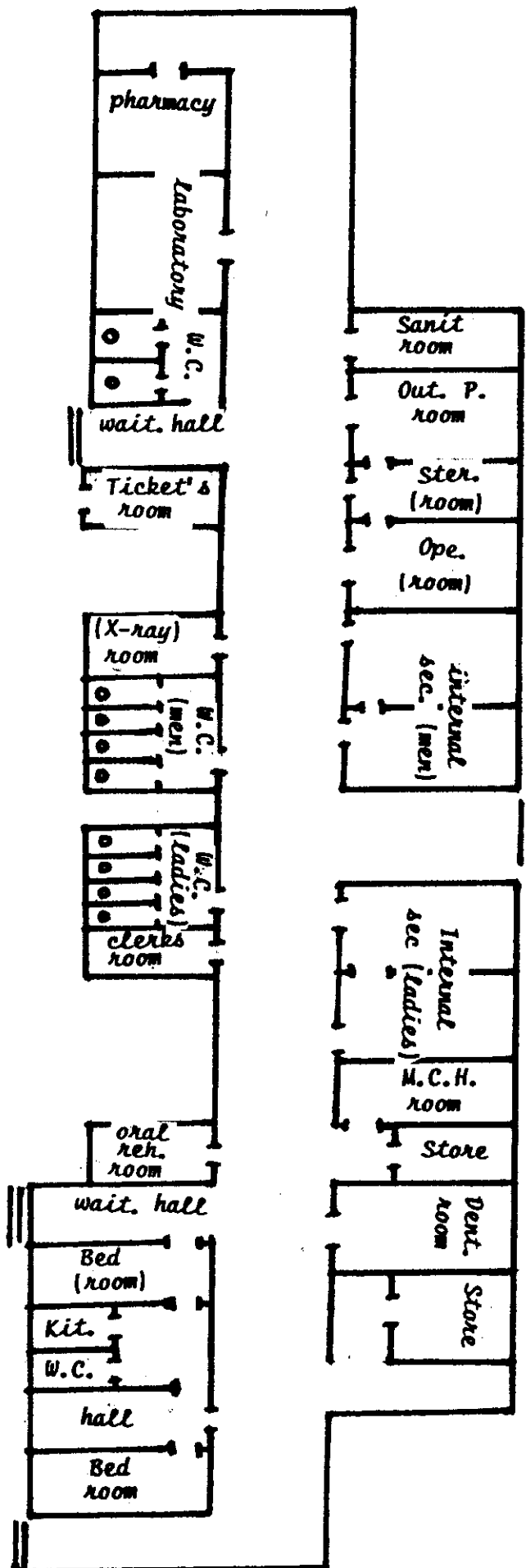


Figure (2): Asmiel. R.H.C

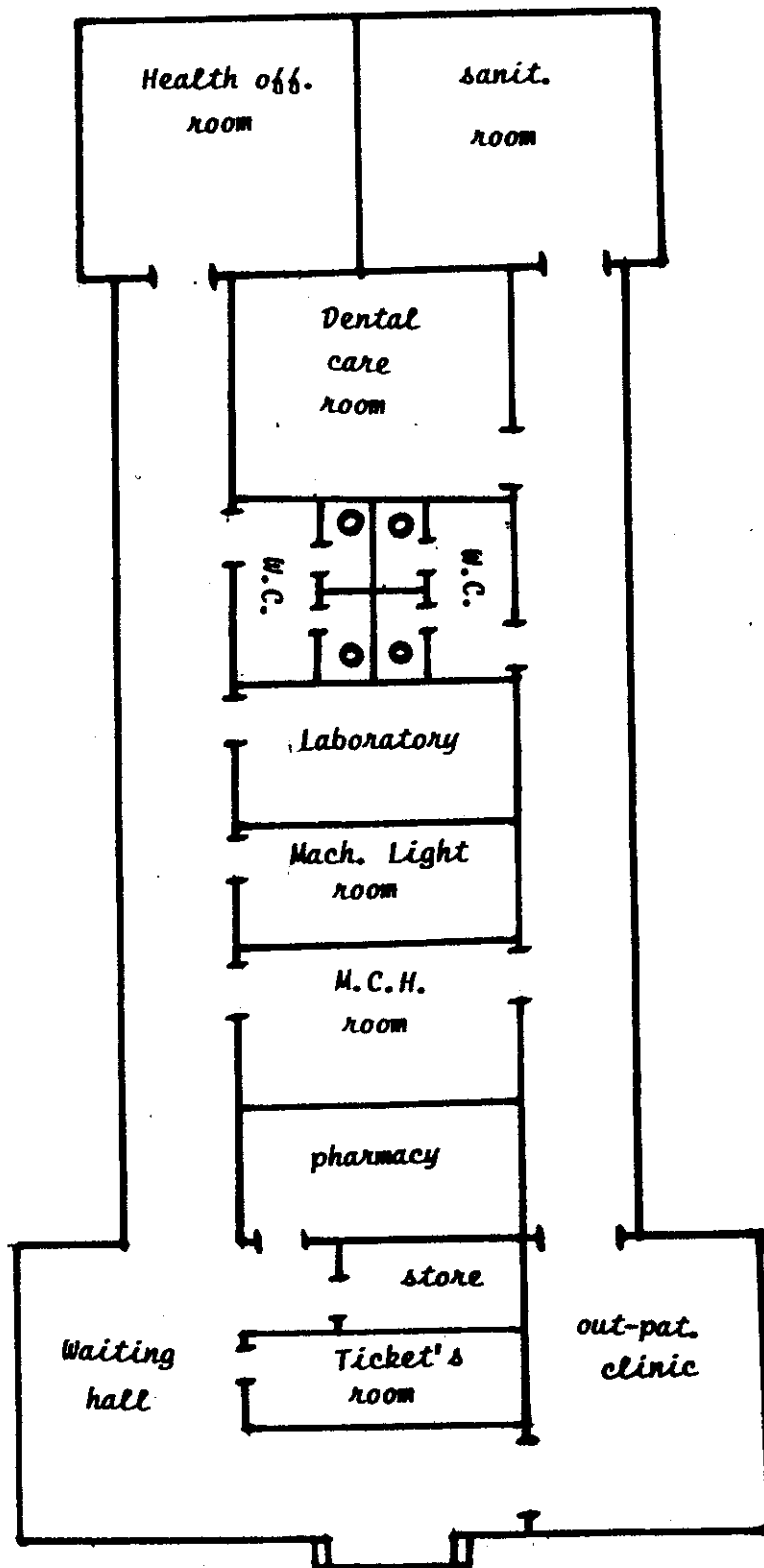
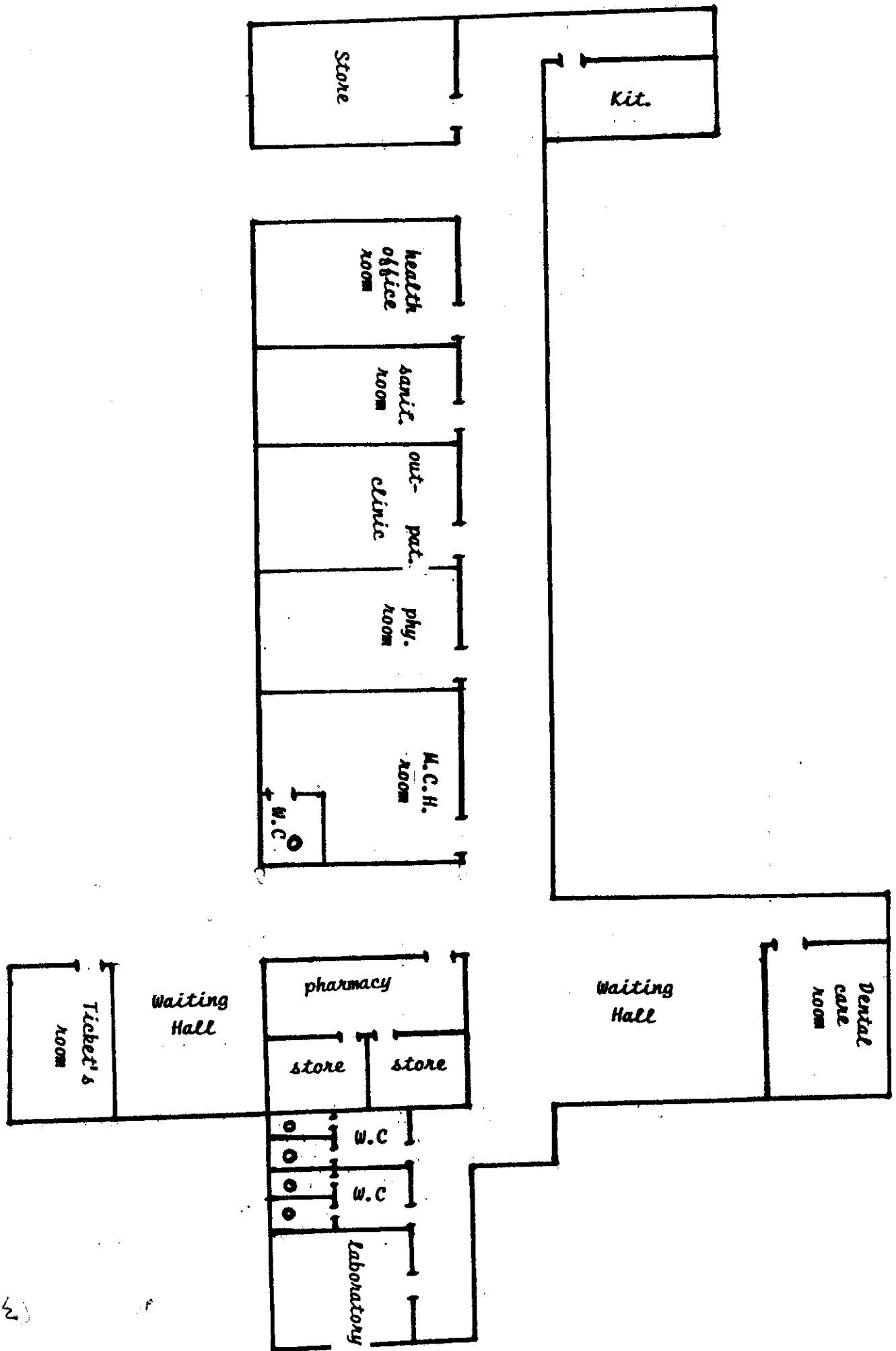


Figure (3): Gangara R.H.U.

Figure (4): Sheblinga R.H.C.

(56)





## II- Man power staffing the outlets:

Table (2, 3) clearly illustrate that the available doctors varies in the different rural outlets, one general practitioner for the unit and two general practitioner for the center. The physician per population ratio varied from 1/4978 to 1/10711 in El-Shukr and Gamgara units respectively.

The number of nurses varied from 3 nurses in El-Shukr unit to 15 nurses in Sheblinga center, and the nurse per population ratio varied from 1/1198.3 to 1/1785.1 .

The Midwife per population ratio varied from zero in El-Shukr unit to 1/10711 in Gamgara unit. Also there is one laboratory assistant and one assistant sanitarian in every unit and center, and one dentist for the unit or the center.

Table (2): Number and distribution of health team of the studied areas.

| Health team             | Rural health unit |         | Rural health center |           |
|-------------------------|-------------------|---------|---------------------|-----------|
|                         | El-Shukr          | Gangara | Assniet             | Sheblinga |
| 1- General practitioner | 1                 | 1       | 2                   | 2         |
| 2- Dentist              | 1                 | 1       | 1                   | 1         |
| 3- Nurse                | 3                 | 6       | 12                  | 15        |
| 4- Assistant midwife    | 0                 | 1       | 2                   | 2         |
| 5- Assistant sanitarian | 1                 | 1       | 1                   | 1         |
| 6- Laboratory assistant | 1                 | 1       | 1                   | 1         |
| 7- Clerks               | 1                 | 1       | 1                   | 1         |
| 8- Driver               | -                 | -       | 1                   | 3         |

Table (3): Coverage indicators in the studied areas.

| Ratio                   | Rural health unit |          | Rural health center |           |
|-------------------------|-------------------|----------|---------------------|-----------|
|                         | El-Shukr          | Gangara  | Assniet             | Sheblinga |
| 1- Unit/village         | 1/1               | 1/2      | 1/6                 | 1/3       |
| 2- Unit/population      | 1/4978            | 1/10711  | 1/21042             | 1/17974   |
| 3- Physician/population | 1/4978            | 1/10711  | 1/10521             | 1/8987    |
| 4- nurse/population     | 1/1659.3          | 1/1785.1 | 1/1753.5            | 1/1198.3  |
| 5- Midwife/population   | 0                 | 1/10711  | 1/10521             | 1/8987    |

### III- The Services:

#### Schedule of work:

hours

The units and centers function 24<sub>x</sub> daily, six hours of which are out patient clinic (8 a.m. 2 p.m) except on Friday. The remaining hours the units and centers work as a first aid post. The out patient clinic ticket costs five piastres and its dispensation is from 8 to 11 a.m. daily. The same system existed for dental care, but its function was restricted for the out patient clinic activities, no scheme for dental care was observed for school children and Maternal child health center attendants. As regards endemic disease control, collection and examination of samples of urine and stools were done daily except on fridays.

#### Methods of supervision:

During the field work, methods of supervision of health services as observed were:

- 1- Supervision in the form of visits done by the supervisory staff, which comprises, senior sanitarian, senior laboratory technician and financial and administrator inspector. The only way of supervision applied was the review of records.

- 2- High level supervision in the form of irregular sudden visits by the director of preventive health in the Health Directorate of Kafr Shokr and Benha. His role did not exceed inspection of the attendance of the on duty staff.
- 3- Monthly reports from the unit or center to The Health Directorate, about the activities concerned with all the services provided.

**A- The preventive services:****1- Vaccinations:**

Immunization of newborns by B.C.G., poliomyelitis, D.P.T. and measles vaccines are compulsory by law. In the rural health unit or center every newborn is given an immunization card with his birth certificate. Also a separate register is assigned for every type of immunization.

In El-Shukr unit and Assniet center the sanitarian, filled the registers of immunization for every child completely except those who died below the first year.

In Gamgara unit, no records for immunization were available but the sanitarian or the assistant midwife registered the vaccination on birth certificate of the vaccinated child. On the other hand, In sheblinga center the sanitarian, filled on the registers both primary and the booster doses of vaccinations. It was observed that the records of tetanus vaccination for pregnant females were not complete in all the studied areas.

**2- Environmental sanitation:**

It was found that the records concerning the environmental sanitation in all the studied areas included inspection of houses sanitation, slaughter place and mosques latrines, and the results of these inspections

were reported by the sanitarian and sended to official authorities.

**3- Food hygiene and sanitation:**

The records of food hygiene were registered by the sanitarian. These included the following activities:

- a- Inspection of food stuff and workers in shops.
- b- Taking food samples from food shops.
- c- Destruction of spoiled food.

In all the studied areas most of these records were used to provide data for the monthly report concerning the food hygiene activities.

**4- Snail and vector control:**

It was found that no registration for this type of services in all the studied areas.

**5- Communicable disease control:**

The reported cases of infectious disease in all the studied areas were few cases and the records during the studied years (1981-1985) were incomplete in Assniet and Sheblinga Centers and not available in El-Shukr and Gamgara Units, the measures taken by the rural health unit or center for control of communicable diseases

are measures for contacts such as, vaccination, detection of carriers and disinfection for houses and its contents.

**6- School health services:**

The data concered with the activities of the unit or the center related to school health services were registered in a monthly report. and sent to the local health authority and these records were not kept in the school and not complete in all the studied areas.

**7- Health education:**

It was found that health education program was neglected in all the studied areas.



# 8- Maternal Health care activities:

Table (4) illustrates that the No. and percentages of registered pregnant females for antenatal care to live births by the years (1981-1985). The percentages varied from 16.87% in Assniet center during the year 1983 to 51.61% in El-Shukr unit during the year 1985.

On the other hand, the percentages in El-Shukr unit, varied from 29.2% to 51.61% during the years 1981 and 1985.

In Gamgara unit, varied from 26.04% to 37.1% during the years 1985 & 1984.

In Assniet center, varied from 16.87% to 26.69% during the years 1983 and 1985, and In Sheblinga center ranged from 20.45% to 33.29% during the years 1982 and 1984.

Table (5) showed that the numbers and percentages of deliveries performed by health team during the years 1981-1985, ranged from 10.16% during 1981 to 43.71% during 1985 in Assniet center.

On the other hand, these percentages tend to decrease in both units and to increase in both centers.

The percentage varied from 32.26% to 38.6% during the years 1985 and 1981 in El-Shukr unit.

It ranged from 26.56% to 28.75% during 1985 & 1981 in Gamgara unit. And it varied from 12.41% to 24.28% during the years 1981 & 1985 in Sheblinga center.

Tables (6 & 7) clearly showed that,

The highest mean rate of home visits for ante-natal care was 1.7 visit for registered pregnant female per year in Assniet center and the lowest one was 0.96 visit in Sheblinga center table (6).

On the other hand the highest mean rate of home visits for post-natal care was 2.74 visit for each delivered female per year in El-Shukr unit and the lowest one was 0.7 visit in Assniet center table (7).



Table (5): Numbers and percentages of deliveries performed by health team to live births in the studied areas by the years (1981-1985).

| Year | Rural health unit  |                      |       |                    |                      |       | Rural health center |                      |       |                    |                      |       |
|------|--------------------|----------------------|-------|--------------------|----------------------|-------|---------------------|----------------------|-------|--------------------|----------------------|-------|
|      | El-Shukr           |                      |       | Gangara            |                      |       | Assniet             |                      |       | Sheblinga          |                      |       |
|      | No. of live births | deliveries performed |       | No. of Live births | deliveries performed |       | No. of Live births  | deliveries performed |       | No. of Live births | deliveries performed |       |
|      |                    | No.                  | %     |                    | No.                  | %     |                     | No.                  | %     |                    | No.                  | %     |
| 1981 | 202                | 78                   | 38.61 | 313                | 90                   | 28.75 | 837                 | 85                   | 10.16 | 717                | 89                   | 12.41 |
| 1982 | 204                | 71                   | 34.80 | 344                | 97                   | 28.20 | 754                 | 218                  | 28.91 | 660                | 110                  | 16.70 |
| 1983 | 246                | 85                   | 34.55 | 340                | 92                   | 27.06 | 806                 | 234                  | 29.03 | 703                | 168                  | 23.90 |
| 1984 | 245                | 84                   | 34.28 | 345                | 92                   | 26.70 | 833                 | 253                  | 30.37 | 712                | 169                  | 23.74 |
| 1985 | 248                | 80                   | 32.26 | 384                | 102                  | 26.56 | 858                 | 375                  | 43.71 | 626                | 152                  | 24.28 |



Table (7): Total number and rates of home visits for post-natal care to total no. of deliveries in the studied areas (1981-1985)

| Year  | Rural health center |                 |       |                     |                 |       |                     |                 |       |                     |                 |       |
|-------|---------------------|-----------------|-------|---------------------|-----------------|-------|---------------------|-----------------|-------|---------------------|-----------------|-------|
|       | Rural health unit   |                 |       |                     |                 |       | Rural health center |                 |       |                     |                 |       |
|       | El-Shukr            |                 |       | Gangara             |                 |       | Assniet             |                 |       | Sheblinga           |                 |       |
|       | No. of reg. females | Home visits No. | Rates | No. of reg. females | Home visits No. | Rates | No. of reg. Females | Home visits No. | Rates | No. of reg. Females | Home visits No. | Rates |
| 1981  | 202.00              | 795.00          | 3.90  | 313.00              | 542.00          | 0.70  | 837.00              | 516.00          | 0.60  | 717.00              | 530.00          | 0.70  |
| 1982  | 204.00              | 570.00          | 3.80  | 344.00              | 622.00          | 0.80  | 754.00              | 490.00          | 0.61  | 660.00              | 725.00          | 1.10  |
| 1983  | 246.00              | 552.00          | 2.20  | 340.00              | 552.00          | 0.60  | 806.00              | 593.00          | 0.70  | 703.00              | 1118.00         | 1.60  |
| 1984  | 245.00              | 595.00          | 2.40  | 345.00              | 54.00           | 1.60  | 833.00              | 695.00          | 0.80  | 712.00              | 1135.00         | 1.60  |
| 1985  | 248.00              | 610.00          | 2.40  | 384.00              | 635.00          | 1.60  | 858.00              | 726.00          | 0.80  | 626.00              | 935.00          | 1.50  |
| Mean  | 229.00              | 624.40          | 2.74  | 354.20              | 578.20          | 1.66  | 817.60              | 604.00          | 0.70  | 683.60              | 888.60          | 1.30  |
| S.D.+ | 23.77               | 97.95           | 0.68  | 25.35               | 46.37           | 0.09  | 40.08               | 104.91          | 0.10  | 39.28               | 260.20          | 0.39  |

### 9- Family planning activities:

Table (8) illustrated by Chart (1) clearly shows that the total numbers and percentages of females attending family planning clinic in both units during (1981-1985) varied. The mean value of females attending both studied units is  $(113.6 \pm 24.88)$  per year in El-Shukr unit and  $(298.4 \pm 36.35)$ /year in Gamgara unit, this difference is statistically significant ( $P < 0.001$ ).

The percentages of females attending family planning clinic to the total population in El-Shukr unit, rose to 3.27% in 1983 then declined to 2.15% in 1985.

The percentages in Gamgara unit, rose to 3.57% in 1982 then declined to 2.73% in 1983 followed by rose to 2.91% in 1985.

On the other hand, the percentages of mean number of attendants to married females is 12.12% in El-Shukr unit and 15.04% in Gamgara unit as seen in table (8,a).

It is evident from table (9) that the total number of females who used intra-utrine devices by Assniet center during the years (1981-1985) tend to increase, with a mean value of  $(78 \pm 22.81)$ /year.

On the other hand, the percentage of mean number of females using intrautrine devices per year to married females in child bearing period (15-49 Y) in Assniet center during 1985 was 2.06% table (9,a).

Table (10) clearly illustrates that the highest mean value of annual dispensed strips of contraceptive pills was  $(2648.4 \pm 1553.71)$  in Sheblinga center and the lowest was  $(814.4 \pm 213.84)$  in Gamgara unit during the studied years.

On the other hand, a peak of rise of dispensed strips occurred in El-Shukr unit during the year 1983 it was 2010 strips and during the year 1984 it was 2125 strips.

In Gamgar unit, it was 1108 strips during the year 1983.

In Assniet center, it was 2370 during the year 1984.

In Sheblinga center, it was 4504 strips during the year 1984.

It is evident from table (10,a) that the percentage of dispensed strips to married females in the studied areas was ranged from 41.03% in Gamgara Unit to 178.8% in El-Shukr Unit.



Table (8): Numbers and percentages of females attending family planning clinic to the total population in the studied units (1981-1985).

| Year  | El-Shukr unit |             |      | Gangara unit |             |      |
|-------|---------------|-------------|------|--------------|-------------|------|
|       | Size of pop.  | No. of att. | %    | Size of pop. | No. of att. | %    |
| 1981  | 4306          | 95          | 2.20 | 9578         | 257         | 2.68 |
| 1982  | 4458          | 90          | 2.02 | 9843         | 352         | 3.57 |
| 1983  | 4610          | 151         | 3.27 | 10100        | 276         | 2.73 |
| 1984  | 4787          | 125         | 2.61 | 10384        | 295         | 2.84 |
| 1985  | 4978          | 107         | 2.15 | 10711        | 312         | 2.91 |
| Means | 4628          | 113.6       | 2.50 | 10123        | 298.4       | 2.90 |
| S.D.+ | --            | 24.88       | 0.50 | --           | 36.35       | 0.36 |

t = 9.38

P<0.001

Table (8a): The percentage of mean number of attendants family planning clinic per year to married\* females in child bearing period in the studied units (1985).

| Health unit | No. of married fem. in child-bearing period (15 - 49 Y.). | mean number of attendants family planning clinic/year. | %     |
|-------------|---|--|-------|
| El-Shukr    | 937   | 113.6+24.88  | 12.12 |
| Gangara     | 1984  | 298.4+36.35  | 15.04 |

\* According to second population project in Qalubia Governorate (1985).

Chart (1)

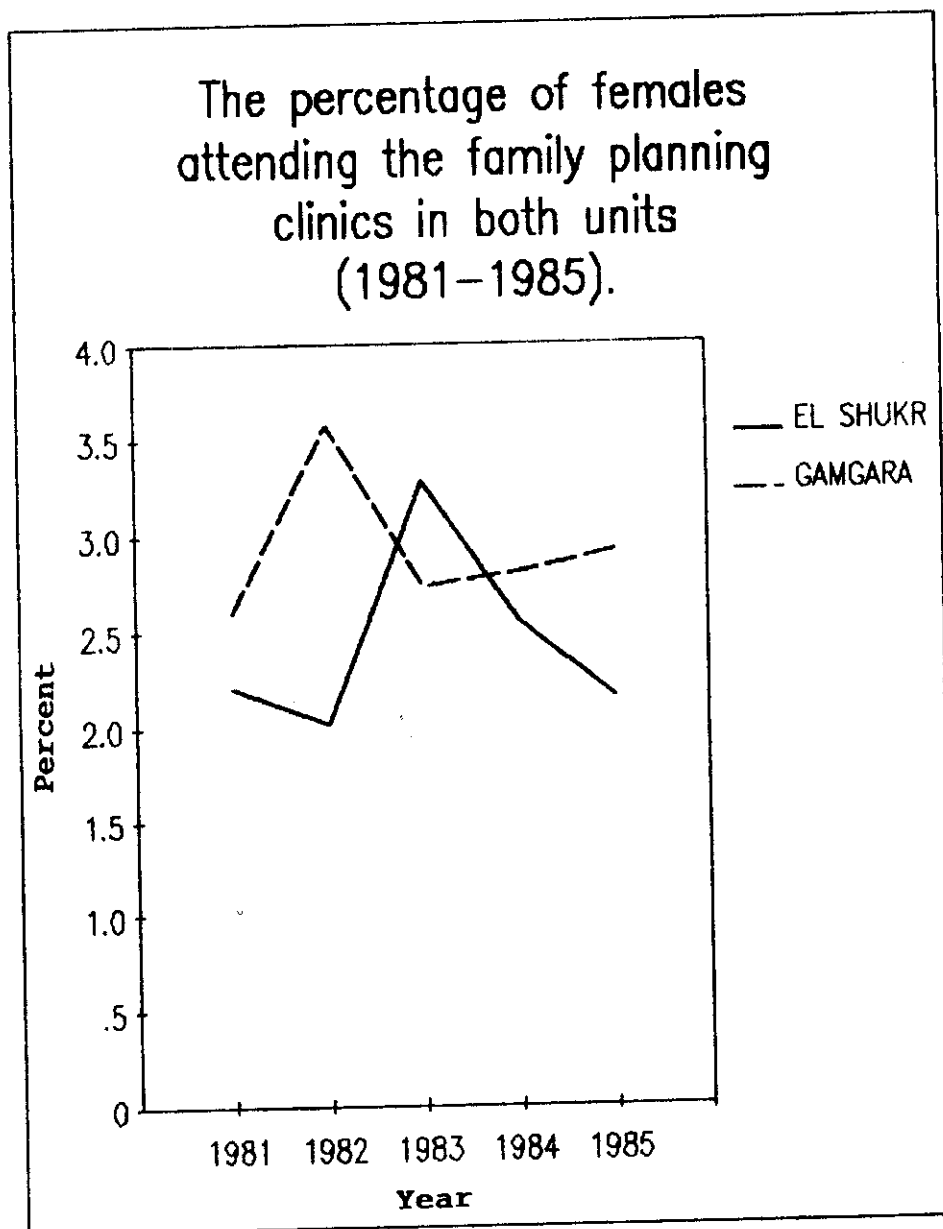


Table (9): Total number of females using intrauterine devices by Assniet center during the years (1981 - 1985).

| Year  | No. of females used intrauterine devices |
|-------|--|
| 1981  | 55.00                                    |
| 1982  | 55.00                                    |
| 1983  | 80.00                                    |
| 1984  | 95.00                                    |
| 1985  | 105.00                                   |
| Mean  | 78.00                                    |
| S.D.± | 22.81                                    |

Table (9,a): Percentage of mean number of females using intrauterine devices to married females in child bearing period (1985) in Assniet center.

| No. of married fem. in child-bearing period (15-49 Y) | Mean No. of fem. using IUDS/ year | %    |
|---|-----------------------------------|------|
| 3791  | 78                                | 2.06 |

Table (10): The total number of annual dispensed strips of contraceptive pills in the studied areas by the years (1981-1985).

| Year       | Rural health unit |               | Rural health center |               |
|------------|-------------------|---------------|---------------------|---------------|
|            | El-Shukr          | Gangara       | Assniet             | Sheblinga     |
|            | No. of strips     | No. of strips | No. of strips       | No. of strips |
| 1981       | 1650.00           | 594.00        | 1667.00             | 1042.00       |
| 1982       | 1550.00           | 625.00        | 1106.00             | 1096.00       |
| 1983       | 2010.00           | 1108.00       | 1153.00             | 2868.00       |
| 1984       | 2125.00           | 925.00        | 2370.00             | 4504.00       |
| 1985       | 1041.00           | 820.00        | 2070.00             | 3732.00       |
| Total      | 8376.00           | 4072.00       | 8366.00             | 13242.00      |
| Mean       | 1675.20           | 814.40        | 1673.20             | 2648.40       |
| S.D. $\pm$ | 382.86            | 213.84        | 555.73              | 1553.71       |

Table (10a): Percentage of mean number of dispensed strips to married females\* in child bearing period in the studied areas (1985).

| Studied area | No. of married females in child bearing period | Mean number of dispensed strips | %      |
|--------------|--|---------------------------------|--------|
| El-Shukr     | 937  | 1975.2 $\pm$ 382.86             | 178.80 |
| Gangara      | 1984   | 814.4 $\pm$ 213.84              | 41.03  |
| Assniet      | 3791   | 1673.2 $\pm$ 555.73             | 44.14  |
| Sheblinga    | 3928   | 2648.4 $\pm$ 1553.71            | 67.40  |

\* According to the second population project in Qaluobia Governorate (1985).

**B- The curative services:****1- Out-patient and Internal section activities:**

Table (11) clearly shows that the mean value of numbers of out patient visits per person per year were higher in El-Shukr unit than in Gamgara unit and Assniet center, and also in Sheblinga center than in Assniet center and the difference is statistically significant ( $P < 0.05$ ).

Also, table (12) illustrates numbers of admitted cases in the studied rural health centers, the highest number was in Assniet center (145) cases by the year 1981 and the lowest one was in Sheblinga center (14) cases by the year, 1982. In both centers the number of admitted cases tend to decrease all over the studied years.

Table (12): Total number of the admitted cases in rural health centers by the year (1981-1985) in the studied areas.

| year | Assniet center<br>No. of cases/year | Sheblinga center<br>No. of cases/year |
|------|-------------------------------------|---------------------------------------|
| 1981 | 145                                 | 18                                    |
| 1982 | 84                                  | 14                                    |
| 1983 | 26                                  | closed                                |
| 1984 | 19                                  | closed                                |
| 1985 | closed                              | closed                                |

## 2- Laboratory activitis:

Tables (13 & 14) illustrate that the annual percentages of patients referred from out-patient clinic to the laboratory in the studied areas for urine and stool analysis were decreased annually by the years (1981-1985). In El-Shukr unit, the percentages declined annually to reach from (50.39%) in 1981 to 39.49% in 1984, then rose to 44.23 in 1985.

In Gamgara unit, the percentages rose to 63.68% in 1982 followed by sudden drop to 45.13% in 1983, then rose again to 52.86% in 1984, followed by a drop to 42.31% in 1985.

In both centers, the percentages rose in 1982 then declined annually to reach 32.13% and 10.35% in 1985 in Assniet and Sheblinga centers respectively. Table (13).

It is evident from table (14) that the percentages of referred patients from out patient clinic for stool analysis in the studied areas during the years (1981-1985), declined in El-Shukr unit from 50.3% during the year 1981 to 38.07% in 1984 then rose to 42.51% during 1985. The percentages, in Gamgara unit rose to 70.66% in 1982 followed by decline to 44.64% in 1983 then rose to 52.22% during the year 1984 and declined to 45.14 in 1985. The percentages, in Assniet center

rose to 59.06% during the year 1982 then declined to reach 29.23% during the year 1985. The percentages in Sheblinga center rose to 21.7% in 1982 then followed by decline to reach 10.35% during the year 1985.

It is evident that, in table (15) the percentages of urinary bilharziasis varied in the studied areas during the years (1981-1985). The percentages declined in El-Shukr unit, from 20.11% in the year 1981 to 12.9% in the year 1984 then rose to 14.27% in 1985.

In Gamgara unit the percentages declined to 10.52% in the year 1982 followed by rose to reach 19.79% during the year 1985.

In Assniet center, the percentages declined to 4.28% in the year 1983 then rose to 8.36% in the year 1985.

In Sheblinga center, a peak of rose occurred in the percentages during 1982 it was 8.04% then dropped to 2.77% during the year 1985.

Table (16) illustrates that the percentages of intestinal Bilharziasis tended to increase all over the studied areas by the year (1981-1985). These percentages ranged from 0.03% in El-Shukr unit to 16.17% in Sheblinga center by the years 1981 and 1985.

In El-Shukr unit, these percentages ranged from 8.64% to 9.39% by the years 1982 & 1985.



In Assniet center, the percentages varied from 0.09% to 0.45% by the years 1981 & 1985.

In Sheblinga center, these percentages ranged from 12.4% to 16.17% by the years 1981 & 1985.

It is evident from table (17) that the percentages of Anchylostomiasis among referred patients for stool analysis in the studied areas by the years (1981-1985) tend to decrease allover the studied localities till these were zero by the year 1985.

These percentages ranged from zero allover the studied areas to 2.41% in Gamgara unit by the years 1985 and 1981.

Table (18) demonstrates that the percentages of Ascariasis among referred patients for stool analysis in the studied areas by the years (1981-1985).

These percentages were decreased all-over the studied area except that in Assniet center where these tend to increase. The lowest percentage was 10.07% in Assniet center and the highest was 64.32% in Sheblinga center by the years 1983 and 1981.

In El-Shukr unit, these percentages varied from 20.09% to 29.84% by the years 1985 & 1983.

In Gamgara unit, ranged from 21.91% to 29.33% by the years 1982 & 1981.

In Assniet center, varied from 8.73% to 18.24% by the years 1982 and 1985.

In Sheblinga center, these percentages ranged from 53.34% to 64.32% by the years 1983 and 1981.

Table (13): No. and percentages of referred patients from out-patient attendants for urine analysis in the studied areas by the years (1981-1985).

| Year | Rural health unit   |      |               |         |                     |       | Rural health center |      |                     |           |               |       |
|------|---------------------|------|---------------|---------|---------------------|-------|---------------------|------|---------------------|-----------|---------------|-------|
|      | El-Shukr            |      |               | Gangara |                     |       | Assniet             |      |                     | Sheblinga |               |       |
|      | Out-pat. attendants |      | Referred pat. |         | Out-pat. attendants |       | Referred pat.       |      | Out-pat. attendants |           | Referred pat. |       |
|      | No.                 | %    | No.           | %       | No.                 | %     | No.                 | %    | No.                 | %         | No.           | %     |
| 1981 | 6781                | 3417 | 50.39         | 4005    | 2440                | 60.92 | 12164               | 6448 | 53.01               | 10801     | 2217          | 20.53 |
| 1982 | 8131                | 3665 | 45.07         | 6354    | 4046                | 63.68 | 11747               | 6938 | 59.06               | 12335     | 2451          | 21.62 |
| 1983 | 8574                | 3605 | 42.05         | 9424    | 4253                | 45.13 | 11680               | 6454 | 55.26               | 10721     | 1619          | 15.10 |
| 1984 | 10623               | 4195 | 39.49         | 9868    | 5253                | 52.86 | 9767                | 4542 | 46.50               | 17182     | 2020          | 11.76 |
| 1985 | 8557                | 3785 | 44.23         | 8159    | 3452                | 42.31 | 10652               | 3422 | 32.13               | 19892     | 2059          | 10.35 |

Table (14): No. and percentages of referred patients from out-patient attendants for stool analysis in the studied areas by the years (1981-1985).

| Year | Rural health unit   |       |               |         |                     |       | Rural health center |       |               |           |                     |       |
|------|---------------------|-------|---------------|---------|---------------------|-------|---------------------|-------|---------------|-----------|---------------------|-------|
|      | El-Shukr            |       |               | Gangara |                     |       | Assniet             |       |               | Sheblinga |                     |       |
|      | Out-pat. attendants |       | Referred pat. |         | Out-pat. attendants |       | Out-pat. attendants |       | Referred pat. |           | Out-pat. attendants |       |
|      | No.                 | %     | No.           | %       | No.                 | %     | No.                 | %     | No.           | %         | No.                 | %     |
| 1981 | 6781                | 50.30 | 3411          | 50.30   | 4005                | 68.36 | 12164               | 52.95 | 6441          | 20.53     | 10801               | 20.53 |
| 1982 | 8131                | 44.07 | 3583          | 44.07   | 6354                | 70.66 | 11747               | 59.06 | 6938          | 21.70     | 12335               | 21.70 |
| 1983 | 8574                | 41.78 | 3582          | 41.78   | 9424                | 44.64 | 11680               | 50.65 | 5916          | 15.09     | 10721               | 15.09 |
| 1984 | 10623               | 38.07 | 4044          | 38.07   | 9868                | 52.22 | 9767                | 42.87 | 4187          | 11.76     | 17182               | 11.76 |
| 1985 | 8557                | 42.51 | 3638          | 42.51   | 8159                | 45.14 | 10652               | 29.23 | 3114          | 10.35     | 19892               | 10.35 |

Table (15): Percentages of urinary Bilharziasis among referred patients for urine analysis in the studied areas by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>%     | Gamgara<br>% | Assniet<br>%        | Sheblinga<br>% |
| 1981 | 20.11             | 13.07        | 7.09                | 4.06           |
| 1982 | 18.01             | 10.52        | 6.5                 | 8.04           |
| 1983 | 18.06             | 12.2         | 4.28                | 5.00           |
| 1984 | 12.9              | 14.84        | 4.54                | 4.16           |
| 1985 | 14.27             | 19.79        | 8.36                | 2.77           |

Table (16): Percentages of intestinal Bilharziasis among referred patients for stool analysis in the studied areas by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>%     | Gamgara<br>% | Assniet<br>%        | Sheblinga<br>% |
| 1981 | 0.03              | 8.80         | 0.09                | 12.4           |
| 1982 | 0.11              | 8.64         | 0.20                | 13.09          |
| 1983 | 0.28              | 9.15         | 0.15                | 15.27          |
| 1984 | 0.37              | 9.35         | 0.38                | 13.32          |
| 1985 | 0.80              | 9.39         | 0.45                | 16.17          |

Table (17): Percentages of Anchylostomiasis among referred patients for stool analysis in the studied areas by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>%     | Gamgara<br>% | Assniet<br>%        | Sheblinga<br>% |
| 1981 | 0.15              | 2.41         | 0.20                | 0.09           |
| 1982 | 0.03              | 1.40         | 0.04                | 0.08           |
| 1983 | 0.00              | 0.55         | 0.07                | 0.00           |
| 1984 | 0.00              | 0.02         | 0.00                | 0.00           |
| 1985 | 0.00              | 0.00         | 0.00                | 0.00           |

Table (18): Percentages of Ascariasis among referred patients for stool analysis in the studied areas by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>%     | Gamgara<br>% | Assniet<br>%        | Sheblinga<br>% |
| 1981 | 25.83             | 21.91        | 10.34               | 64.32          |
| 1982 | 26.96             | 27.17        | 8.73                | 63.41          |
| 1983 | 29.84             | 29.33        | 10.07               | 53.34          |
| 1984 | 23.19             | 27.55        | 12.44               | 56.34          |
| 1985 | 20.09             | 27.58        | 18.24               | 55.95          |



### III- The vital events of served targets:

Tables (19,20,21) illustrated by charts (2,3,4,5) showed the crude birth rates, crude death rates and the rates of natural increase by the years (1981-1985) in the studied localities.

It is evident from table (19) that the highest crude birth rate was 53.36% in El-Shukr unit during the year 1983 and the lowest C.B.R. was 22.68% in Gamgara unit during the year 1981.

The C.B.R. ranged from 45.67% to 53.36% in El-Shukr Unit during the year 1982 & 1983.

It ranged from 32.68% to 35.85% in Gamgara unit during the years 1981 & 1985.

The C.B.R. ranged from 39.22% to 45.01% in Assniet center during the years 1982 & 1981. and it varied from 34.82% to 44.98% in Sheblinga center by the years 1985 & 1981.

Table (20) illustrates that the highest crude death rate was 15.87% in sheblinga center during the year 1981 and the lowest was 5.32% in Gamgara unit during the year 1985.

The C.D.R. varied from 11.28% to 14.97% in El-Shukr unit during the years 1983 & 1983.

In Gamgara unit the C.D.R. ranged from 5.32% to 10.44% during the years 1985 & 1981.

In Assniet center the C.D.R. varied from 8.89% to 11.19% during the years 1985 & 1981. and in Sheblinga center the C.D.R. ranged from 8.18% to 15.87% during the years 1985 & 1981.

The rate of natural increase as shown in table (21) illustred by charts (6, 7, 8,9) varies, it is highest 39.9% in El-Shukr unit by the year 1984 and the lowest 22.24% in Gamgara unit by the year 1981.

In El-Shukr unit, the rate of natural increase ranged from 34.1% to 39.9% by the years 1982 & 1984.

In Gamgara unit, the rate of natural increase varied from 22.24% to 30.53% by the years 1981 & 1985.

In Assniet center, the rate ranged from 28.45% to 33.82% by the years 1982 & 1981 and in Sheblinga center, it varied from 26.64% to 31.15% by the years 1985 & 1983.

**Table (19): The crude Birth Rates in the studied localities by the years (1981-1985).**

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>‰     | Gamgara<br>‰ | Assniet<br>‰        | Sheblinga<br>‰ |
| 1981 | 46.91             | 22.68        | 45.01               | 44.98          |
| 1982 | 45.76             | 34.95        | 39.22               | 40.18          |
| 1983 | 53.36             | 33.66        | 40.77               | 41.41          |
| 1984 | 51.18             | 33.22        | 40.85               | 40.70          |
| 1985 | 49.82             | 35.85        | 40.78               | 34.82          |

Table (20): The crude death Rates in the studied areas  
by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>‰     | Gamgara<br>‰ | Assniet<br>‰        | Sheblinga<br>‰ |
| 1981 | 11.61             | 10.44        | 11.19               | 15.87          |
| 1982 | 11.66             | 8.03         | 10.77               | 10.46          |
| 1983 | 14.97             | 8.22         | 9.31                | 10.62          |
| 1984 | 11.28             | 5.87         | 8.97                | 9.6            |
| 1985 | 12.05             | 5.32         | 8.89                | 8.18           |

Table (21): The Rates of natural increase in the studied areas by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>‰     | Gamgara<br>‰ | Assniet<br>‰        | Sheblinga<br>‰ |
| 1981 | 35.30             | 12.24        | 33.82               | 29.11          |
| 1982 | 34.10             | 26.92        | 28.45               | 29.72          |
| 1983 | 38.39             | 25.44        | 31.46               | 31.15          |
| 1884 | 39.90             | 27.35        | 31.88               | 31.10          |
| 1985 | 37.77             | 30.53        | 31.89               | 26.64          |

Chart (2)

Rate of natural increase  
in El-Shukr  
in (1981-1985)

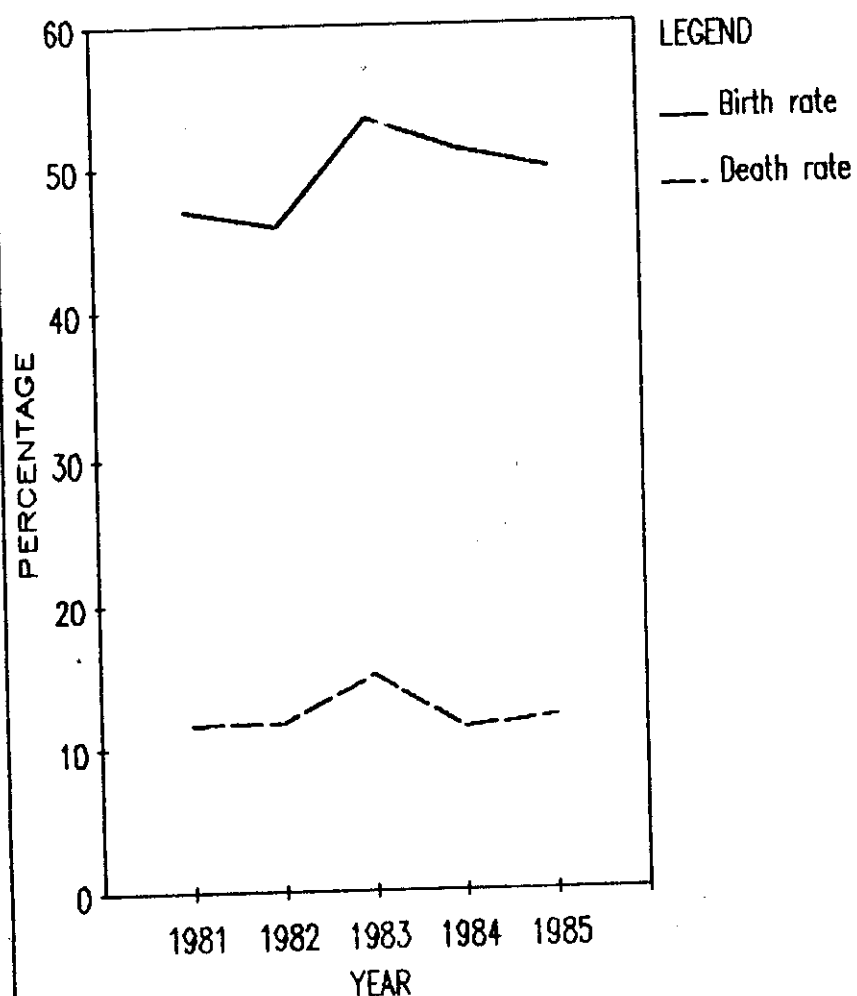


Chart (3)

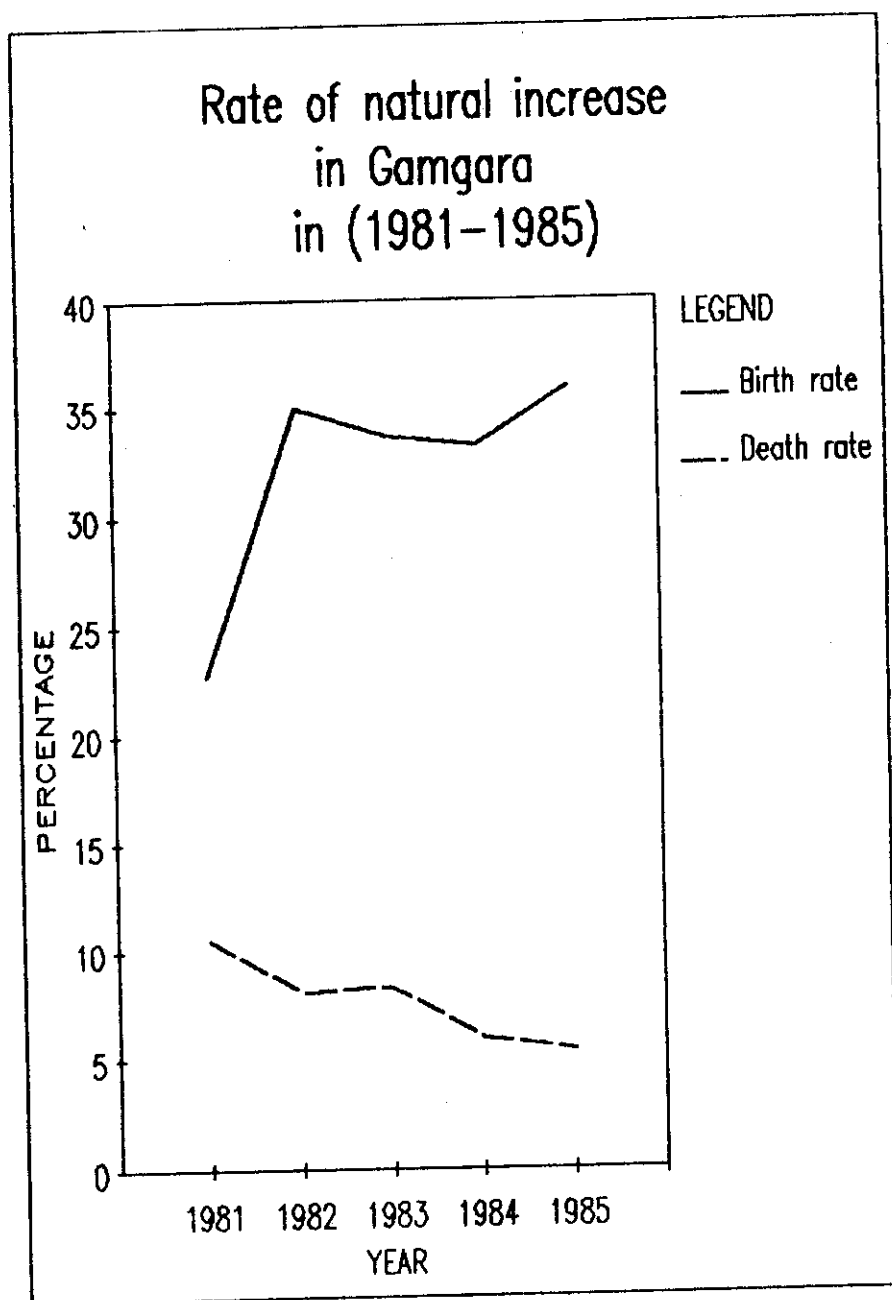


Chart (4)

Rate of natural increase  
in Sheblinga  
in (1981-1985)

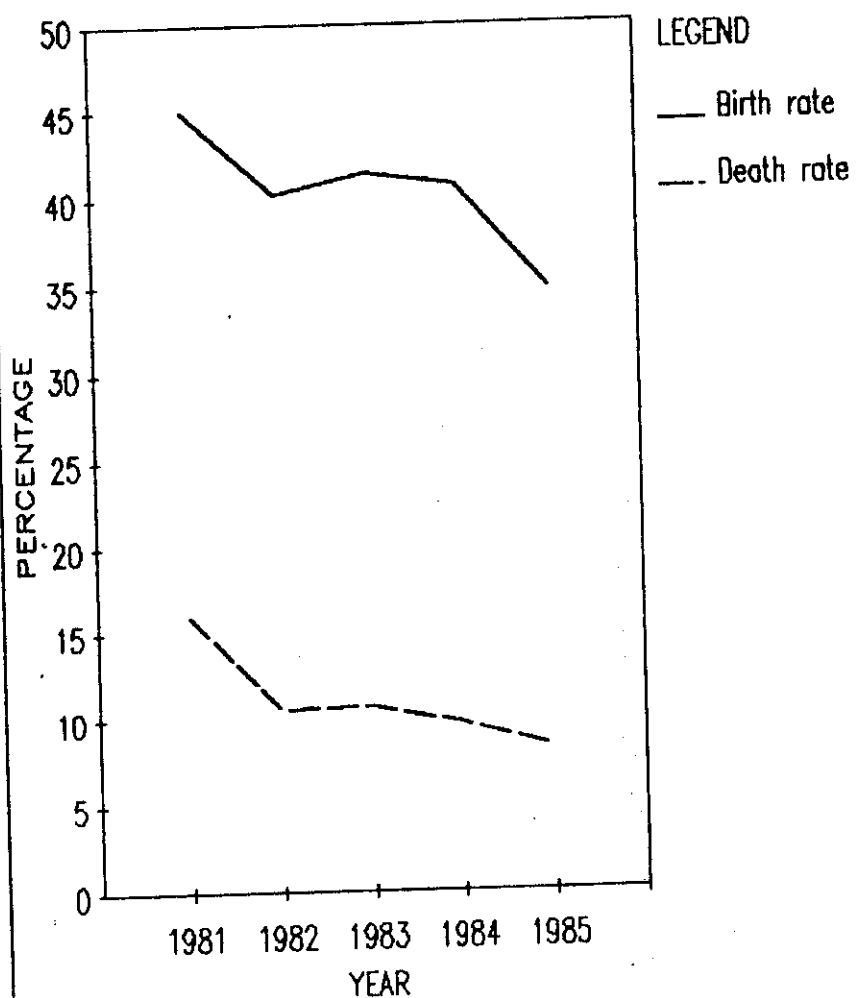
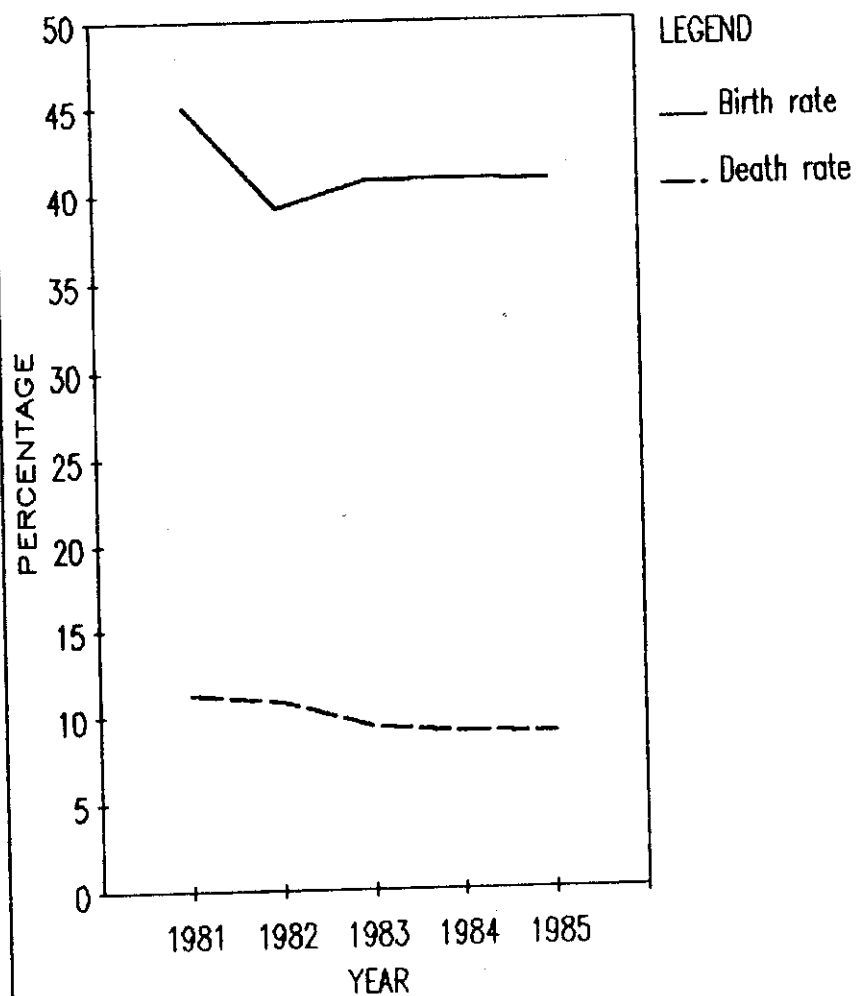




Chart (5)

Rate of natural increase  
in Assniet  
in (1981-1985)



#### IV- Mortality statistical rates:

Table (22) clearly illustrates the very bad registration of neo-natal deaths and it is seen that many cases were missed in registration. This is clearly evident in all studied years except 1983 in El-Shukr unit. On the other hand, there is no registered neo-natal deaths in El-Shukr and Gamgara units by the years 1984 and 1985 respectively.

Table (23) revealed that the post-neonatal mortality rates in the studied areas during the years 1981-1985, were ranged from 15.63% during the year 1985 in Gamgara unit to 89.26% during the year 1981 in Sheblinga center.

In El-Shukr unit, the post-neonatal rate, ranged from 24.49% to 64.36% during the years 1984 & 1981.

In Gamgara unit this rate ranged from 15.63% to 57.5% during the years 1985 & 1981.

In Assniet center, this rate varied from 44.42% to 75.26% during the years 1984 & 1981 and in Sheblinga center, this rate ranged from 50.56% to 89.26% during the years 1984 & 1981.

It would be shown from table (24) that there is decrease of infant mortality rate per thousand live births over the year from 1981-1985 in the studied areas. Also the same table clearly showed that, the highest infant mortality rate was 97.63% in Sheblinga center

by the year 1981 and the lowest rate was 15.63% in Gamgara unit by the year 1985.

In El-Shukr unit, the infant mortality rate ranged from 24.49% in 1984 to 81.3% in 1983.

In Gamgara unit, the rate varied from 15.63% to 67.09% by the years 1985 & 1981.

In Assniet center, the rate ranged from 51.62% to 82.44% by the years 1984 & 1981.

In Sheblinga center, the rate varied from 54.78% to 97.63% by the years 1984 & 1981.

Table (22): Neo-natal mortality rates in the studied areas by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>‰     | Gamgara<br>‰ | Assniet<br>‰        | Sheblinga<br>‰ |
| 1981 | 9.90              | 9.59         | 7.18                | 8.37           |
| 1982 | 4.90              | 5.85         | 9.28                | 6.06           |
| 1983 | 28.46             | 2.42         | 9.92                | 2.84           |
| 1984 | 0.00              | 5.80         | 7.20                | 4.22           |
| 1985 | 12.09             | 0.00         | 8.16                | 6.39           |

Table (23): Post-neonatal mortality rates in the studied areas by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>‰     | Gamgara<br>‰ | Assniet<br>‰        | Sheblinga<br>‰ |
| 1981 | 64.36             | 57.50        | 75.26               | 89.26          |
| 1982 | 44.12             | 46.51        | 58.36               | 62.12          |
| 1983 | 52.85             | 41.18        | 50.87               | 56.90          |
| 1984 | 24.49             | 20.29        | 44.42               | 50.56          |
| 1985 | 44.35             | 15.63        | 45.45               | 62.30          |

Table (24): Infant mortality rates in the studied areas  
by the years (1981-1985).

| year | Rural health unit |              | Rural health center |                |
|------|-------------------|--------------|---------------------|----------------|
|      | El-Shukr<br>‰     | Gamgara<br>‰ | Assniet<br>‰        | Sheblinga<br>‰ |
| 1981 | 74.26             | 67.09        | 82.44               | 97.63          |
| 1982 | 49.02             | 52.33        | 67.64               | 68.18          |
| 1983 | 81.30             | 43.60        | 60.79               | 59.74          |
| 1984 | 24.49             | 26.09        | 51.62               | 54.78          |
| 1985 | 56.45             | 15.63        | 53.61               | 68.69          |