GROUP MEETING ON CANCER OF THE
CERVIX UTERI (CCU)

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DATA ON CANCER OF THE CERVIX UTERI IN TEN EASTERN MEDITERRANEAN COUNTRIES
SUGGESTIONS FOR FUTURE IMPROVEMENTS OF CONTROL MEASURES

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I   INTRODUCTION

Cancer of the cervix uteri (CCU) is one of the human cancers for which methods for early detection, reduction and a high rate of cure are available in the technical armamenitarium of modern medical care.

With a clearly understood natural histroy and a quite comprehensive knowledge of the epidemiology of CCU, the medical authorities are in a much better position to formulate a technically sound policy for the control of this disease, (as has been seen in Canada, USA, Norway, Portugal, Switzerland, Australia, New Zealand).

Despite these facts, CCU represents in some of Eastern Mediterranean countries an important cause of death and suffering, as well as a burden on families and the medical network.

Data on cancer in the Eastern Mediterranean countries collected from various sources (Ra 1) stress that the cervix uteri is the first site for female cancers in Iran (21.1%) and Lebanon (38.1%) of all female cancers, the second site for females in Tunisia (18.4%) and Sudan (24.7%) and the third in Egypt (10.8%), Iraq (8.4%) and Pakistan (8.7%). No data of the incidence of CCU were available in EM countries except Israel and the mortality data are not enough to measure the dimensions of this problem, for reasons related to improper recording and diagnosis.

The epidemiologic patterns of CCU underline the direct relationship between CCU incidence and early onset of sexual life, lower income, multiple partners, bad sexual hygiene and viral infections - Herpes Virus being under suspicion. Most of the above-mentioned factors are largely encountered in EM Region stressing the fact that the actual very low rate is due to underdetection of the disease, related with social, cultural or religious taboos common in these countries and with lack of a proper organization of the medical infrastructure capable of detecting and diagnosing CCU.

Data obtained in the present study support the previous affirmations. More than 50 per cent of CCU cases are detected during Stages III and IV, which leads to a treatment which cannot cure but can only add to painful survival. The medium age of CCU cases in EM countries is lower than in other areas of the world, creating an important social problem in families with many children where the mother is dying because of CCU.

At the same time the information collected during this study, which is a retrospective one, also demonstrates that data could be produced in EM countries and, therefore, the information required for an adequate orientation of a campaign for control of a certain disease could be made available with enough patience, co-operation and interest in collecting and interpreting such data.

II   MATERIAL AND METHOD

In order to obtain data describing the actual situation for cancer of the cervix uteri
in Eastern Mediterranean countries, two forms were prepared and distributed to ten specialists
from: Cyprus, Egypt, Iran, Iraq, Libya, Kuwait, Pakistan, Sudan, Syria and Tunisia.   The
first form requested general information concerning the approximate population covered by
the unit providing information, existence of a screening programme, description of staging
procedures, statistical information about the number of cases by stage seen during the last
three to five years, description of treatment by stage of the follow-up procedures, the total
number of cases seen during 1971 - 1975 and an estimation of the proportion they represent
of all cases in the area.   All these data were furnished with varying degrees of complete-
ness by the ten specialists participating.

The second form was designed for an individual study of 50 - 100 sequential CCU cases
seen.   The form requested data about: age, residence (urban/rural), religion, stage before
treatment, method of treatment applied, results of the treatment at discharge of the patient
from hospital,. and age at: menarche, first marriage and first pregnancy, as well as the number
of husbands (partners).   This second form was returned only by eight of the participating
specialists and was completed for a total number of 455 patients.

It should be mentioned that not all data provided seems to have been carefully checked
by the participants and the statistical results presented here are subject to the unavoidable
error produced by the way the data were collected, which was not under the control of the
author of the present paper.

III   RESULTS

The results obtained from statistical analysis of the two forms are presented in the
following nine tables.

Table I gives a general overview of the situation as regards the infrastructure for
detection of CCU in the participating countries, together with the number of CCU cases seen
by the specialist who provided the information during the period 1971 - 1975, with three
exceptions: Baghdad, Kuwait and Tunis, where only data for four years were given.

An attempt was made to calculate from the data offered (average annual number of cases
and population) an incidence for the female population over twenty years.

Tables II and III deal with the distribution of all cases of cancer of the cervix uteri
(CCU) by stage in various areas of Eastern Mediterranean stressing the efficacy of the actual
detection of CCU in various places.

From Table IV onward, with one exception - Table VII, the informations are gathered from
the Hospital Record Form completed for 34 to 101 subsequent CCU cases in different places. An
analysis of the age distribution of CCU cases was possible, as well as age at menarche, first
marriage and first pregnancy.   Table VII was produced by compilation of Form one and presents
the treatment of CCU as described by the participating specialists.   Table VIII and IX give
the data about therapeutic methods used for each individual CCU case and results obtained,
when these have been recorded.

In the following chapter we will discuss in detail all data together with information
taken from literature on the subject.

IV   DISCUSSION

Data presented in Table I summarise the situation of CCU in ten areas studied in Eastern Mediterranean Region.   It could be seen that only in two places, Baghdad and Teheran, some of the patients are referred for treatment after cytological screening, and, that in Tunis a screening programme related with family planning exists, with no visible impact on CCU detection.

The average number of CCU cases seen yearly by each of the specialists participating in this study, varies from 7 to 111 but only in three instances was an estimation given of what this figure represents from the total number of cases diagnosed yearly in the same area.   It is difficult to assess the reliability of such a figure, but the one from Omdurman, (Sudan), lead to a CCU incidence which seems to be reasonable.

An attempt has been made to calculate the CCU incidence from the above data.   It was not possible to have the incidence expressed for women 35-64 years as used in UICC Publication Cancer in Five Continents and a compromise, has been made in calculating the incidence for female population over 20 years.   The figures obtained are between 6.5 in Tunisia and 35.7 in the Sudan (when the referral factor of 20 per cent is used), the rest of the figures are 7.8; 7.9; 11.6; 14.3; 14.7 and 16.3 which all are very low approaching the figure 12, which is the incidence of CCU in Israel, a country which has the lowest world recorded incidence of cancer in five continents(Ca1).

Of course the main reason is that we do not know the value of the coefficient X which is the total number of cases existent in the area, divided by the actual number of patients seen by the unit where data have been recorded.   This coefficient has to be determined if we wish to have a true incidence.   Data obtained from the Cancer Registry in Ibadan (Nigeria) are of the order of 62-65 per 10^5 women 35-65 years, in South Korea 35.1, in Bombay (India) around 60, all these data stress   the fact that we are facing an under-detection and diagnosis of CCU.

Mortality data published by health authorities are not very helpful in correcting our information, Egypt gives in 1972 the figure of 0.2 per 10^5 deaths as CCU mortality and Kuwait for the same year 0.2 per 10^5, compared with 9.5 in Israel (1965-69), 11.4 in Greece, 24.0 in Yugoslavia, 26.9 in Italy, 33.8 in Taiwan, 39.1 in Mexico and 45.5 in Romania (Ca 1).

The main reason for not having real information from the mortality data in those EM countries where data by cause are published, is the very high figure included as symptoms and ill-defined disease, which form 12.0%of all female deaths in Kuwait, 43-48% of all female deaths.Egypt (1972), 43-48% of all deaths in Iraq (1967-68) and 65-70% of all deaths in Syria (1969-70).

Other facts which will be discussed here clearly show the low detection coefficient for CCU in the EM countries.   Table II presenting the CCU situation by stage is a very strong argument in this direction.   From the total of 2 466 cases seen during the last 4-5 years, 16.6% were Stage I, the percentage of detection at this stage being very low in some areas (3.8; 5.7 or 7.3) and higher in other areas (27.8; 27.3 or 19.2).   Stage II with 27.2% of all cases has even a higher variation from 6.0 to 51.7% in different places of the Region.   For Stage III, 34.4% of the total represents the stage where the biggest number of cases are detected in Alexandria, Nicosia, Damascus, Karachi, Omdurman, Tripoli and Tunis.   Another fact which gained our attention is the high number of cases undefined by stage, which reaches 30 or 40% in some areas in EM Region.

Einhoen (Ei 1) gives the distribution of CCU by stage in Stockholm in two different periods as following:

Stage CCU in %	I	II	III	IV	Undefined
1951	12	57	23	7.0	0.1
1969	37	43	13	6.6	0.4

In the case of Bjerre (Bj 1) in Malmö the percentage of CCU per stage in a period without screening (1950-55) and with screening was:

Stage CCU in %	IA	IB	II	III	IV
1950 - 55	1	41	46	10	2
1960 - 74	25	26	30	17	2

In order to obtain a better representation of the trends in detection of Stage I and II during the five years, Table III was prepared showing the yearly percentage of Stage I and II in relation to all stages. This table shows that only in Baghdad and Teheran there is a visible tendency toward improvement of detection of Stage I and II. The values have very big variations in Kuwait and Cyprus and are quite constant in Damascus, Karachi and Tunisia. Very low values are encountered in three areas: Alexandria, Omdurman and Tripoli. Could these observations be related to the fact that Baghdad and Teheran are the only areas where 8-10% of the patients are referred from the screening activity? The author is not able to answer this question with the data to hand.

The 455 cases for which individual Hospital Record Forms were completed have a stage distribution as shown in Table IV, which is a little different from the one for all CCU cases studied (Table II). Main differences are that 5.7% Stage 0 were recorded, Stage I and II have increased and subsequently Stage III, IV and "Undefined" decreased as percentages of the total. Although not totally representative for CCU cases in the EM countries, this lot, which represents 18.5% of the whole lot, has been used for a more detailed analysis.

Age of CCU cases by stage is the first parameter analyzed (Table V). Normally Stage 0 is found mainly in young people, 31% being before 30 years and 88.5% before the age of 40. The percentage decreases with the increase in stage. For example, 45% of Stage I are less than 40 years old, only 25% of Stage II are found before this age, 15.3% of Stage III and for Stage IV we have a new increase to 26.2%. Before 50 years, all Stage 0 are seen, 72% of Stage I, 67% of Stage II, 51% of Stage III and 48% of Stage IV, etc.

It is important to mention that approx. 6% of all CCU cases are less than 30 years and 31% or practically one third, have less than 40 years. This fact has to be considered from the social, economic and humanitarian viewpoint. With the actual situation of late detection, few cases are surviving long enough and therefore a remarkably high number of mothers capable of having children are lost, due to insufficient control of cancer of the cervix in EM countries.

The age distribution of CCU could guide the detection programme toward the real high risk groups as is mentioned in the theoretical attempt made by INSERM in France to develop a rational model for detection of CCU (In 1).

A comparison of the age distribution of CCU in eight EM countries with other areas has also been made. Only Poland and Jamaica have a younger age structure of CCU than the average of the eight EM countries, see Table below (V A). Italy and India have an older age structure very evident in the case of Florence (Italy). In the United States, CCU has the following distribution (data from End Results in Cancer, Rep. No. 4 (En 1)).

Age group	less 35	35-44y	45-54y	55-64y	65y +
%	9	23	24	21	23
cumm. %	9	32	56	77	100

which is quite similar to that seen in Florence.

TABLE VA - AGE DISTRIBUTION OF CCU AS PERCENTAGE OF TOTAL CASES IN VARIOUS COUNTRIES COMPARED WITH EM REGION

AGE GROUP	Eight EM countries (average)		Poland (SO 1)		Bologna (Ma 1)		Florence (Ga 1)		Jamaica (Ma 2)		India (Agra)	
	%	cumm	%	cumm	%	cumm	%	cumm	%	cumm	%	cumm
24-30y	5.7	5.7	9.7	9.7	0.4	0.4	0.6	0.6	22.0	22.0	1.8	1.8
31-40y	25.3	31.0	25.9	3.56	17.8	18.2	9.9	10.5	37.5	59.5	25.5	27.3
41-50y	32.5	63.5	32.8	68.4	36.0	54.2	28.5	39.0	22.0	81.5	34.5	61.8
51-60y	20.9	84.4	22.6	91.0	25.4	79.6	24.6	73.6	18.5	100.0	17.0	78.8
61y +	15.4	99.8	9.0	100.0	20.4	100.0	26.4	100.0			21.2	100.0
Undef.	0.2											

A calculation of the median age for various stages of CCU in the eight EM countries has given the following values, which are compared with values given by other authors.

	EM countries	Hertig and collab. (In-1)	Campion (In-1)
Stage 0	33.07 years	--	--
Stage I	43.02 years	50.0 years	45.1 y
Stage II	46.42 years	51.2 years	51.1 y
Stage III	50.55 years	52.8 years	51.6 y
Stage IV	50.43 years	52.5 years	52.5 y

Even here a tendency toward younger age can be observed.

CCU has now clear epidemiologic characteristics which are recognized in Table VI. An attempt has been made to identify the reality of such characteristics. Not having the control lot available, the data just give information which could be used later on to be compared with proper controls.

Age at menarche does not seem to be different from what is expected in a normal population in this geographic area.

Age at first marriage is more relevant from 286 cases from where such information has been obtained: 15% have been married before or at age of 14 y; 39% between age 15 and 17; all together 87% were married before the age of 20. Only one case of CCU from 286 was unmarried. Luthra (Lu 1) in India has found the following clear relation between the age at marriage and CCU:

Age at marriage	14 and below	15-19	20 and above
Rate of CCU 10^{-3}	7.61	5.50	2.09

Age at first pregnancy is related with the marriage age as could be seen from the third compartment of Table VI. From 277 cases providing data, 7% were pregnant at 15 or below; 47% at an age less than 19 years and 77% before reaching 22 years. Only three out of 277 women with CCU were nullipara. We have not followed the relation between partity and CCU which is supported by some authors and rejected by others. Luthra presents data in favour of this hypothesis:

Number of pregnancy	0	1-2	3-4	5-6	7-8	9+
Rate of CCU 10^{-3}	0.73	2.35	5.16	7.15	12.50	21.52

We have not been able to obtain information which is relevant on the number of
partners. Although this question was mentioned in our form the answer was one, with
very few exceptions only.

Also the data about religion has not been useful. The majority of our cases are
found to be of the Moslem religion, which was expected as it is the prevalent religion
in the area. Luthra in India found a double prevalence rate for population of the
Hindu religion by comparison with Moslems, but his population groups are different in
size, the Hindu group being ten times the size of the Moslem one, a fact which is an
important bias, and should not be disregarded.

The treatment of CCU as theoretically recommended by the ten specialists partici-
pating in the present study is seen in Table VII. It is possible to observe the
differences in treating the same stage of CCU from one place to another. In Stage I and
II, surgery seems to be used by most of the specialists, alone or with radiotherapy.
The way of applying radiotherapy is also very different; in some places intracavitary
radiotherapy is applied as preoperative treatment and completed by a postoperative
external radiotherapy with Co-60. Others prefer only the two radiotherapy methods
and in few places only one of the two is applied.

As regards intracavitary radiotherapy the ^{226}Ra, ^{137}Cs and ^{192}Ir are used; after-
loading systems are employed in one or two places and even a cathetron for high dose
intracavitary radiotherapy in one centre in an EM country. The techniques for both
external and intracavitary radiotherapy are dependent on the school where the radio-
therapist was trained, and very little could be said about the real doses delivered
during intracavitary radiotherapy, but it is easy to guess that variations could be
considerable. During external radiotherapy with Co-60, deviations of $^{\pm}$5 to $^{\pm}$20 per
cent from the nominal dose were measured in a recent IAEA/WHO-TLD Intercomparison
programme. The deviations could by no means be lower when radioactive sources are
inserted into the vagina and uterus and when the dosimetric computations are more compli-
cated to calculate and usually no measurements are made.

Table VIII presents the methods of treatment used by the eight specialists who have
returned the Hospital Record forms. Surgery combined with one of the two types of
radiotherapy is the most used method in Stage I, followed by radiotherapy alone and by
surgery alone. In Stage II, local + external radiotherapy is in the first place,
external radiotherapy alone in the second and radiotherapy combined with surgery is in
the third position. In Stage III and IV, external radiotherapy is the most used treat-
ment, Surgery has still a minor place in Stage III, but it is totally avoided in Stage IV,
where palliative treatment - a term with a very general and confused meaning - is
utilized for one third of all patients.

The results obtained by the therapeutic methods presented above are shown in
Table IX. Of course these are results observed when the patient was discharged from
hospital and pertain to a much smaller number of cases (279) where such results have
been mentioned. Even in some of these cases it was not clearly stated, as requested
by the questionnaire, if the patient had still a tumour or was free of tumour.

Table IX shows an increasing percentage of patients leaving the hospital, after
treatment, with residual cancer. The stage of CCU is increasing from 12 per cent for
Stage I to 25 per cent Stage II, 49 per cent Stage III and 74 per cent Stage IV
confirming the fact well established elsewhere that the earlier the treatment is applied
the better the chances of cure are.

None of the specialists participating in our study has a proper follow-up system
able to provide survival data. The USDHEW Report No. 4 End Results in Cancer (En 1)
gives the following survival data by age and stage for patients diagnosed during 1955-
64:

	All ages	under 35	35-44	45-54	55-64	65 +
Nb. of cases	10.557	977	2412	2513	2209	2446
% Distrib.	100	9	23	24	21	23

All Stages Survival rate (%) Observed Data

	All ages	under 35	35-44	45-54	55-64	65 +
5 years	55	73	67	58	53	35
10 years	46	69	61	50	41	21

Localized

	All ages	under 35	35-44	45-54	55-64	65 +
5 years	74	83	82	77	72	54
10 years	64	79	76	69	59	33

Such survival rates are an encouraging aim to be attained and could be a real mobilizing factor towards an adequate programme for the control of CCU in EM countries, where approx. 65% of CCU patients are under 50 years old and the great majority of cases are detected when the tumour has spread outside of the cervix area.

How could the control of CCU in the EM Region be improved?

Data presented above point out the following main characteristics of CCU in this Region:

1. A very low number of CCU cases is seen and treated by medical institutions in comparison with the expected number.

2. The majority of CCU cases are seen at stages where a cure has very small probability of being attained.

3. Age distribution of CCU seems to be younger than in developed areas of the world.

4. Therapy does not achieve the same high results as in developed countries and no survival data could be estimated due to the very low percentage of true follow-up.

Identifying the above-mentioned characteristics, we have also stressed the direction in which efforts should be oriented in order to improve the control of CCU in Eastern Mediterranean Region. What is needed therefore is:

A- Better detection, diagnosis and registration of CCU cases and their precursors in EM countries in order to obtain:

(i) true information of the CCU incidence;
(ii) shifting of CCU cases from late to earlier stages with a higher probability of cure rates;
(iii) diminishing of the percentage of uncertain stages in areas where this is high today.

B- Improvement of treatment and especially follow-up procedures for obtaining:

(i) a higher percentage of cure which are possible with the actual medical technology;
(ii) true information on the survival of CCU patients as well as on the CCU mortality rate.

How could the desiderata mentioned above be achieved? We have to consider the specific constraints facing the countries in EM Region with regard to medical care, in order to suggest measures capable of being implemented in those countries. The major constraints are:

(a) insufficient medical coverage of the population;

(b) very low health expenditure per inhabitant in some of the less fortunate EM countries;

(c)   lack of specialists and the infrastructures needed for adequate detection, diagnosis, treatment and registration of CCU cases;

(d)   insufficient communication between the specialists able to detect and treat CCU and all members of health profession, as well as the general public, which leads to a lower degree of use of existing facilities for detection, diagnosis and treatment of CCU;

(e)   the low level of health education of the population;

and not the last in importance

(f)   the low priority CCU has in the health problems in this Region where malaria, schistosomiasis, maternal and child health, nutrition, etc. are still major public health concerns.

Enumerating the above constraints does not mean that we should not try to find practical solutions which could overcome, at least partially, those constraints and improve the methods for control of CCU in the EM Region.

1.   <u>Better detection, diagnosis and registration of CCU cases in EM countries</u>   could be achieved by the following means:

(i) active involvement of the existing specialists in motivation and teaching the various members of health profession who are in direct contact with the population how to look for lesions of the cervix by simple clinical methods;

(ii) organization of a proper system for referral of patients having cervical lesions for examination by more appropriate methods;

(iii) development of cytology laboratories, at first at central level, with a proper communication system to enable such a central unit to serve the area covered operatively. In paranthesis it should be said - the WHO Regional Office has organized in the past eleven courses for cytotechnologists and five courses for cytopathologists in Eastern Mediterranean and has sponsored a number of cytopathologists from this Region to attend courses organized by DANIDA with WHO collaboration.   This effort has not been fully supported till now by National Health Authorities which have not organized the required infrastructure where the trained persons could develop their work.   Only Iran, Iraq and recently Kuwait have started cytology laboratories where diagnosis based on this method could be done.   It is a fact that most of the specialists working in EM countries, including those present here at the Group Meeting, are advising their own Government in various aspects of health care, and therefore could be the ones to motivate such an activity and find local possibilities to have it started.   As the major cost of a cytology laboratory is not the equipment - microscopes being available even in the least equipped countries - but the running cost(personnel, materials, etc.) this does not represent a real impediment for Health Authorities.

It is not the intention of the author to advertise mass screening programmes in all EM countries at this stage of development of medical care.   The screening should be organized only in those countries where the required infrastructure for treatment of CCU (surgery and radiotherapy - both local and external) is available.   Even in those countries, instead of mass screening, it is much better to do an epidemiologically oriented screening.

Although the characteristics defining the "high risk group" are clearly established for CCU, it is quite difficult to apply these characteristics to a certain population and to identify the individual belonging really to high risk groups.   With the disadvantage of covering only the young age group, it is recommended by WHO to screen the female population attending family planning clinics and maternal and child clinics. The author's opinion is that such clinics could be used in defining the individuals at high risk.   If the midwives, nurses or other medical personnel working at such clinics are properly instructed in how to investigate the factors involved in CCU risk, they could identify the persons to whom priority should be given for screening.

As regards the organization of cytology laboratories and the recommendations for screening, the author refers to the Walton report (Wa 1) where good information is available.

IV   IMPROVEMENT OF CCU REGISTRATION

This needs in the first place interest and motivation at the level where the registration is made.   Only when such conditions are fulfilled will the persons in charge of registry find the best methods applicable to local conditions to collect all cancer cases (in this particular case CCU) from the specialists in the area covered by the registry.   No Cancer Registry in this world can accurately record all cases if it is not actively involved in searching for cases at the places where these could be found.   Waiting at the Cancer Institute for cancer cases to be reported means having always incomplete data!

V   STAGING OF CCU

The staging of CCU seems to be a problem in many EM countries.   The author of this paper hopes that the present Group Meeting will manage to produce adequate recommendations concerning the staging procedures in order to standardize as much as possible these procedures throughout the Region and decrease the actual percentage of the undefined stage.

2.   Better treatment and follow-up of CCU cases

It is not the author's intention to make recommendations concerning the methods of treatment to be applied.   This subject will be largely debated during the Group Meeting by more competent specialists.   Again it seems necessary to have a more unified approach with regard to treatment as was mentioned for staging.

(i)   Patient follow-up is another direction where physician and patient behaviour has to be changed.   From both a more active position is needed till this "tradition" of having no follow-up can be forgotten.   Systems for attracting the patient to attend the follow-up clinic should be adapted to specific local conditions.   In some cases the cost of transport could be reimbursed, in others free medicine given, etc.   Of course the patients' motivation for follow-up is a very important factor which should be largely used during the hospitalization for treatment or during the period when she is attending radiotherapy as an out-patient.   This method has not been largely used in EM countries and a start should be made.

(ii) Improving the follow-up will allow also to have better data on CCU mortality, almost non-existent today in EM countries, and to produce relevant survival curves as adequate measurement of the efficacy of treatment.

We have stressed here ideas which could be implemented without expensive means but with devotion, persistence and active participation of cancer specialist to a public health activity outside his operating theatre or consultation office in the Radiological Department.   It is clear that to reach the stage when such specialists will appear in EM countries, something has to be changed in the actual methods of training.   If the professor of today realized that it is his reponsibility to produce such specialists we could hope that in the not very distant future the cancer specialist will really be public health oriented and motivated and some of the ideas mentioned above will find their way to practical implementation.

Another fact has to be stressed before ending these suggestions for improving the control of CCU in EM Region – the participation of the population to all public health activities is the main solution which could lead to real efficacy. There is yet much to be done in EM countries   finding proper methods to motivate the population to fight communicable diseases like malaria, schistosomiasis, enteric diseases or the environmental pollution produced by human and animal residues.   It is known that changing traditional behaviour of the human population is not an easy task, and in this context motivation of health authorities and the health profession at large is equally important.

In a narrow field, like the one of CCU prevention, health education could be easily applied - although important social, and cultural taboos will have to be modified in order to change the understanding of the collectivities which are supposed to cooperate actively with health authorities in defending their own health.

TABLE I - GENERAL INFORMATION ABOUT CANCER OF THE CERVIX UTERI IN THE EASTERN MEDITERRANEAN COUNTRIES

Area country	Alexandria Egypt	Baghdad Iraq	Nicosia Cyprus	Damascus Syria	Karachi Pakistan	Kuwait Kuwait	Omdurman Sudan	Teheran Iran	Tripoli Libya	Tunis Tunisia
Population	2.2	2.0mil	0.65mil	1.5mil.	4.0mil.	0.9mil	0.4mil	3.5mil	0.4mil	5.6mil
Screening programme	No	No	No	No	No	No	No	--	No	No
a) relat. family planning	No	No	No	No	No	No	No	--	No	Yes
b) spec. CCU detection	No	No	No	No	No	--	No	--	No	No
c) population screened	--	less1%	--	--	--	--	nil	--	nil	--
d) p.c. patients coming from screen.	--	10 %	--	none	none	--	none	8%	none	--
CCU cases 1971 - 1975	419	323	86	183	366	64	35	557	68	365
1971	81	-	32	32	74	19	6	145	13	94
1972	73	88	15	41	64	18	8	111	15	87
1973	47	86	16	40	69	12	4	140	13	76
1974	41	73	11	36	85	15	7	59	11	108
1975	177	76	12	34	74	--	10	102	16	--
p.c. of CCU cases from the area	--	--	90%	--	--	--	20%(?)	--	95-97%	--
Average amount nb. CCU/year	84	81	17	37	73	16	7	111	14	91
Crude incidence	3.8	4.0	2.6	2.5	1.8	1.8	1.8(9.0)	3.2	3.5	1.6
Incidence for population over 20y	7.3	8.1	4.0	5.7	3.7	3.4	3.5(17.5)	6.5	6.7	3.3
Incid. for fem. population " 20y	14.7	16.3	7.8	11.6	7.8	7.9	7.1(35.5)	13.3	14.3	6.5

Observation:-signifies no information; the crude incidence and incidence for population over 20y were calculated on the available information and are only an indication.

TABLE II - DISTRIBUTION BY STAGE OF CCU CASES DIAGNOSED AND TREATED IN TEN EM COUNTRIES DURING
THE PERIOD 1970 - 1975

STAGE	Alexandria (Egypt)		Baghdad (Iraq)		Nicosia (Cyprus)		Damascus (Syria)		Karachi (Pakistan)		Kuwait (Kuwait)		Omdurman (Sudan)		Teheran (Iran)		Tripoli (Libya)		Tunis (Tunisia)		Total	
	abs.	p.c.	abs.	p.c.	abs.	p.c.	abs	p.c.	abs.	p.c.	abs.	p.c.	abs.	p.c.	abs.	p.c.	abs.	p.c.	abs.	p.c.	abs.	p.c.
Stage I	16	3.8	37	11.4	24	27.9	26	14.2	69	18.8	8	12.5	2	5.7	152	27.3	5	7.3	70	19.2	409	16.6
Stage II	25	6.0	167	51.7	27	31.4	57	31.1	112	30.6	31	48.4	3	8.6	157	28.2	10	14.7	82	22.5	671	27.2
Stage III	227	54.2	76	23.6	31	36.0	61	33.3	114	31.1	17	26.6	14	40.0	150	26.9	15	22.1	143	39.2	848	34.4
Stage IV	12	2.9	43	13.3	1	1.2	39	21.4	28	7.6	6	9.4	16	45.7	62	11.1	10	14.7	55	15.1	272	11.0
Undefin.	139	33.1	--	--	3	3.5	--	--	43	11.9	2	3.1	--	--	36	6.5	28	41.2	15	4.0	266	10.8
Total	419	100.1	323	100.0	86	100.0	183	100.0	366	100.0	64	100.0	35	100.0	557	100.0	68	100.0	365	100.0	2466	100.0

TABLE III - EVOLUTION OF THE DETECTION OF CCU STAGE I & II
IN EM COUNTRIES DURING THE PERIOD 1970 - 1975

(Ratio: $\dfrac{\text{Nb. cases Stg. I \& II x 100}}{\text{Total cases}}$)

	1971	1972	1973	1974 .	1975	Average 1971-75
Alexandria	11.1	9.6	17.0	17.1	5.6	9.8
Baghdad	-	38.0	64.0	68.5	63.2	63.2
Cyprus	66.7	53.1	62.5	63.6	58.3	59.3
Damascus	43.8	46.3	45.0	44.4	47.1	45.4
Karachi	43.2	42.2	50.7	47.6	51.4	49.5
Kuwait	57.9	72.2	41.7	73.3	--	60.9
Omdurman	0	0	0	28.6	30.0	14.3
Teheran	49.0	52.3	53.6	61.0	67.6	55.5
Tripoli	-	-	-	-	-	22.05
Tunis	40.5	34.5	50.0	42.6	-	41.6

- = No information

TABLE IV   -   DISTRIBUTION BY STAGE OF CCU CASES FOR WHICH HOSPITAL RECORD FORMS HAVE BEEN ANALYZED

STAGE	Alexandria abs. %		Cyprus abs. %		Damascus abs. %		Karachi abs. %		Kuwait abs. %		Omdurman abs. %		Teheran abs. %		Tripoli abs. %		Total abs. %	
Stage 0	--	--	--	--	--	--	--	--	--	--	--	--	23	6.0	3	4.2	26	5.7
Stage I	7	14.0	16	32.0	5	14.7	20	19.6	8	15.7	2	14.1	19	38.0	5	7.0	82	18.0
Stage II	24	48.0	18	36.0	11	32.3	52	51.0	21	41.2	12	24.5	5	10.0	11	15.5	154	31.8
Stage III	24	48.0	18	36.0	11	32.3	52	51.0	21	41.2	12	24.5	5	10.0	15	21.2	117	25.6
Stage IV	6	12.0	2	4.0	6	17.7	2	2.0	8	15.7	14	28.6	1	2.0	7	9.8	46	10.1
Undefined	1	2.0	--	--	--	--	--	--	--	--	--	--	--	--	30	42.3	31	6.8
Total	50	100.0	50	100.0	34	100.0	101	100.0	51	100.0	49	100.0	50	100.0	71	100.0	456	100.0

TABLE V - DISTRIBUTION BY AGE GROUP OF CCU CASES FOR WHICH HOSPITAL RECORD FORMS HAVE BEEN ANALYZED

Age Group Years	STAGE O			STAGE I			STAGE II			STAGE III			STAGE IV			UNDEFINED			T O T A L		
	Abs.	%	cumm.%	Abs.	%	cumm.%	Abs.	%	cumm.%	Abs.	%	cumm.%	Abs.	%	cumm.%	Abs.	%	cumm.%	Abs.	%	cumm.%
21-30	8	30.8	30.8	8	9.8	9.8	5	3.2	3.2	1	0.8	0.8	1	2.2	2.2	3	10.0	10.0	26	5.7	5.7
31-40	15	57.7	88.5	29	35.4	45.2	35	22.8	26.0	17	14.5	15.3	11	24.0	26.2	8	26.7	36.7	115	25.3	31.0
41-50	3	11.5	100.0	22	26.8	72.0	63	40.9	66.9	42	35.9	51.2	10	21.7	47.9	8	26.7	63.4	148	32.5	63.5
51-60	0	--	--	15	18.3	90.3	35	22.7	84.6	30	25.7	76.9	10	21.7	69.6	5	16.6	80.0	95	20.9	84.4
over 61	0	--	--	7	8.5	98.8	16	10.4	100.0	27	23.1	100.0	14	30.4	100.0	6	20.0	100.0	70	15.4	99.8
Unspec.	0	--	--	1	1.2	100.0	--	--	--	--	--	--	--	--	--	--	--	--	1	0.2	--
Total	26	100.0	--	82	100.0	--	154	100.0	--	117	100.0	--	46	100.0	--	30	100.0	--	455	100.0	--

TABLE VI - AGE AT MENARCHE FIRST MARRIAGE AND FIRST PREGNANCY FOR CCU CASES FOR WHICH HOSPITAL RECORD FORM
WERE ANALYZED

AGE AT MENARCHE				AGE AT FIRST MARRIAGE				AGE AT FIRST PREGNANCY			
Age group	abs.	%	cumm. %	Age group	abs.	%	cumm. %	Age group	abs.	%	cumm. %
10-11 y	14	6.0	6.0	less than 14y	42	14.7	14.7	less than 15y	20	7.2	7.2
12-13 y	105	44.9	50.9	15 - 17 y	111	38.8	53.5	16 - 18 y	109	39.4	46.6
14-15 y	108	46.1	97.0	18 - 20 y	96	33.6	87.1	19 - 21 y	83	30.0	76.6
16 + y	7	3.0	100.0	21 - 23 y	19	6.7	93.8	22 - 25 y	46	16.6	93.2
Total	234	100.0	--	over 24 y	17	6.0	99.8	26 - 30 y	11	4.0	97.2
				unmarried	1	0.2	--				
				Total	286	100.0	--	over 31 y	5	1.8	99.0
								non pregn.	3	1.0	--
								Total	277	100.0	--

TABLE VII   -   TREATMENT PROCEDURES USED IN EASTERN MEDITERRANEAN COUNTRIES IN CCU AS
DESCRIBED BY SPECIALISTS INTERVIEWED

STAGE	Alexandria	Baghdad	Cyprus	Damascus	Karachi	Kuwait	Omdurman	Teheran	Tripoli	Tunis
I	Wertheim operation + External radiother.	Wertheim operation	Intracav. Rtherapy (Cs137) to pt A+B Wertheim operation External Rtherapy 4-6 wks lat.	Intracav. Rtherapy	Surgery	No surgery Intracav. External Rtherapy	Wertheim operation	Radical hysterectomy with pelvic nodes removal	Surgery	Intracav. Rtherapy (Jr95) + oolpohys- teroatte- nectomy Ext.Rther.
II	Wertheim operation + External Rtherapy	External Rtherapy (preoper.) + Wertheim operation (6wks lat.)	Intracav. Rtherapy + Wertheim (2wks lat.) + Ext.Rther. (4-6 wks later)	Intracav. Rtherapy	Intracav. + External Rtherapy	Surgery after Intracav. Rtherapy & followed by Ext. Rther.	Wertheim operation Ext.Rther. when para- meter in- volved	Intracav. + External Rtherapy	Radiothe- rapy (unspecif.)	same as above
III	Intracav. rtherapy.	External Rtherapy	Intracav. +External Rtherapy	Intracav. Rtherapy.	External Rtherapy sometimes combined with In- tracav. Rtherapy	Intracav. + External Rtherapy + Chemothe- rapy	External Rtherapy	Intracav. + External Rtherapy	Radio- therapy (unspecif.)	I-non urinary involvement same as adv II-urinary in- volvement Ext.Rther. Pelvectomy if impossible Coo.+Ext. Rtherapy
IV	Palliative treatment	Pallat. treatment	Intracav, +External Rtherapy	None or External Rtherapy in cases with hae- morrhagia	External Rtherapy	Excentra- tion, pal- liative diversion No intracav. Radiotherapy Ext. Radioth palliative, chemotherapy	External Rtherapy + Palliative treatment	Intracav. + External Rtherapy	Palliative + Chemothe- rapy	I-Intrapelvic metast.same as Stage III with urinary involvement II-Extrapelvic involvement palliative surgery and medical treatment

TABLE VIII - METHODS OF TREATMENT USED FOR CCU CASES FOR WHICH HOSPITAL RECORD FORMS WERE ANALYZED

Method of Treatment	Stage I		Stage II		Stage III		Stage IV		Undefined Stage	
	abs.	%	abs.	%	abs.	%	abs.	%	abs.	%
Surgery alone	12	14.6	3	1.9	1	0.8	0	--	0	--
Ext. Rtherapy alone	0	--	35	22.8	73	62.4	26	56.5	3	10.0
Ext.+Local Rtherapy	24	29.3	85	55.2	32	27.4	1	2.2	0	--
Rtherapy unspec.	6	7.3	1	0.6	0	--	3	6.5	27	90.0
Surg.+Ext.Rtherapy	21	25.6	13	8.5	5	4.3	0	--	0	--
Loc.Rther.+Surg.+ Ext. Rtherapy	18	22.0	16	10.4	4	3.4	0	--	0	--
Palliative treatment	0	--	0	--	1	0.9	13	28.3	0	--
No treatment	0	--	0	--	1	0.8	3	6.5	0	--
Non-specif.	1	1.2	1	0.6	0	--	0	--	0	--
Total	82		154	100.0	117	100.0	46	100.0	30	100.0

TABLE IX - RESULTS OF THE TREATMENT AT DISCHARGE FOR CCU CASES FOR
WHICH HOSPITAL RECORD FORMS WERE ANALYZED

| RESULTS	Stage I	Stage II	Stage III	Stage IV	Undef. Stage
	abs. %	abs. %	abs. %	abs. %	abs. %
No cancer	45 88.2	89 74.8	45 51.1	10 25.6	-- --
Residual cancer	6 11.8	30 25.2	43 48.9	29 74.4	-- --
No informat.	31 --	35 --	29 --	7 --	30 --
Total cases	82(51)	154(119)	117(88)	46(39)	30 --

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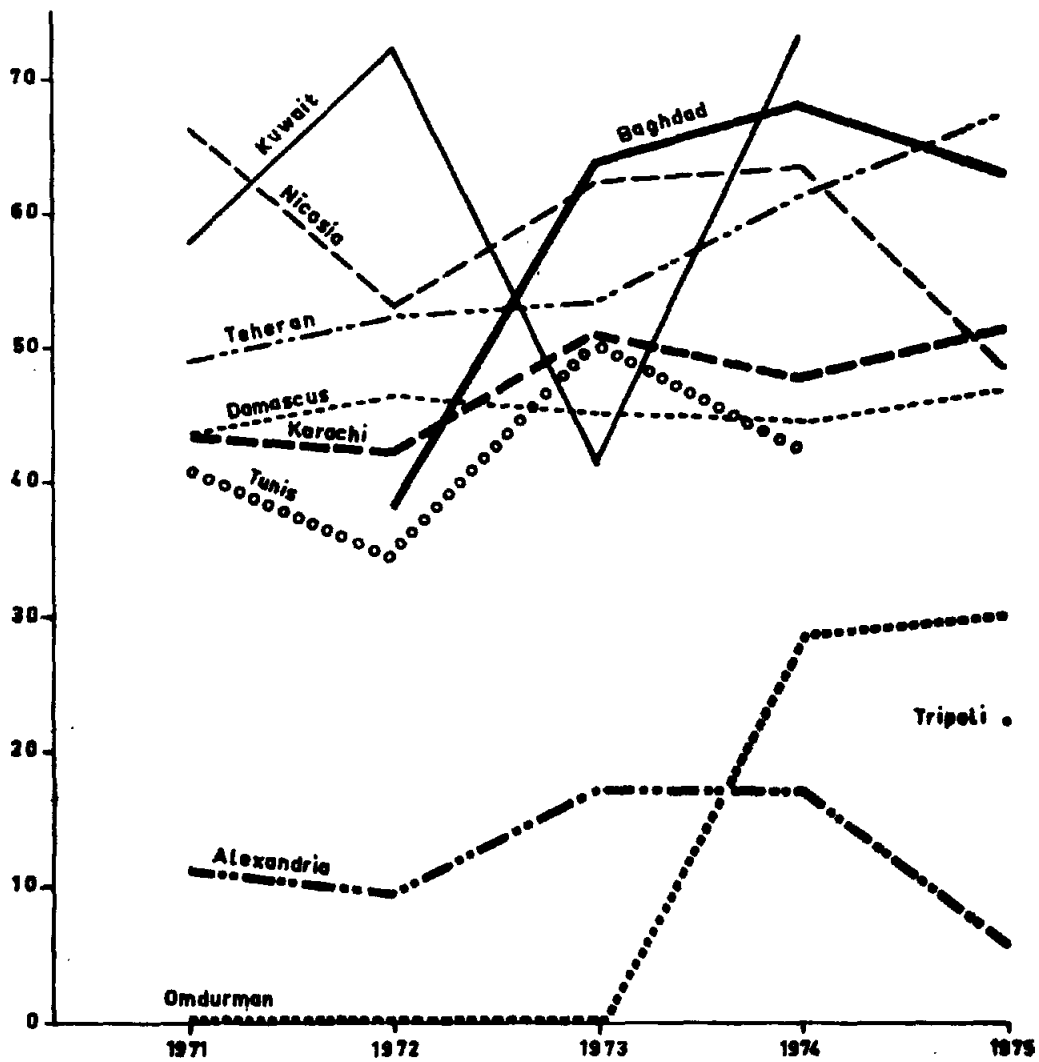   pp. 1003-1033.

DISTRIBUTION OF THE CANCER CERVIX UTERI BY STAGE
IN TEN EASTERN MEDITERRANEAN COUNTRIES
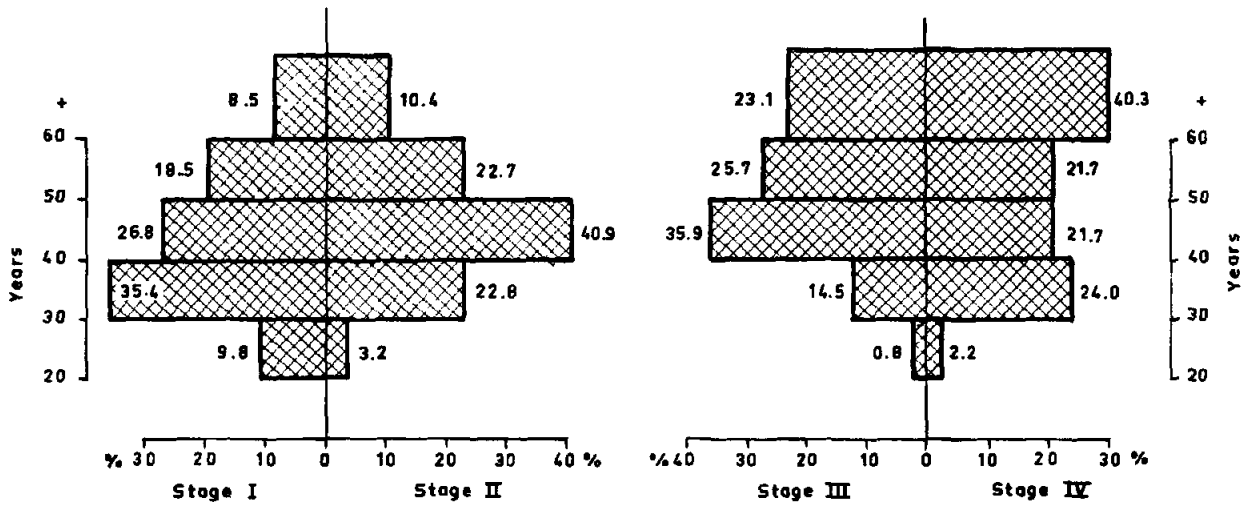1971 – 1975
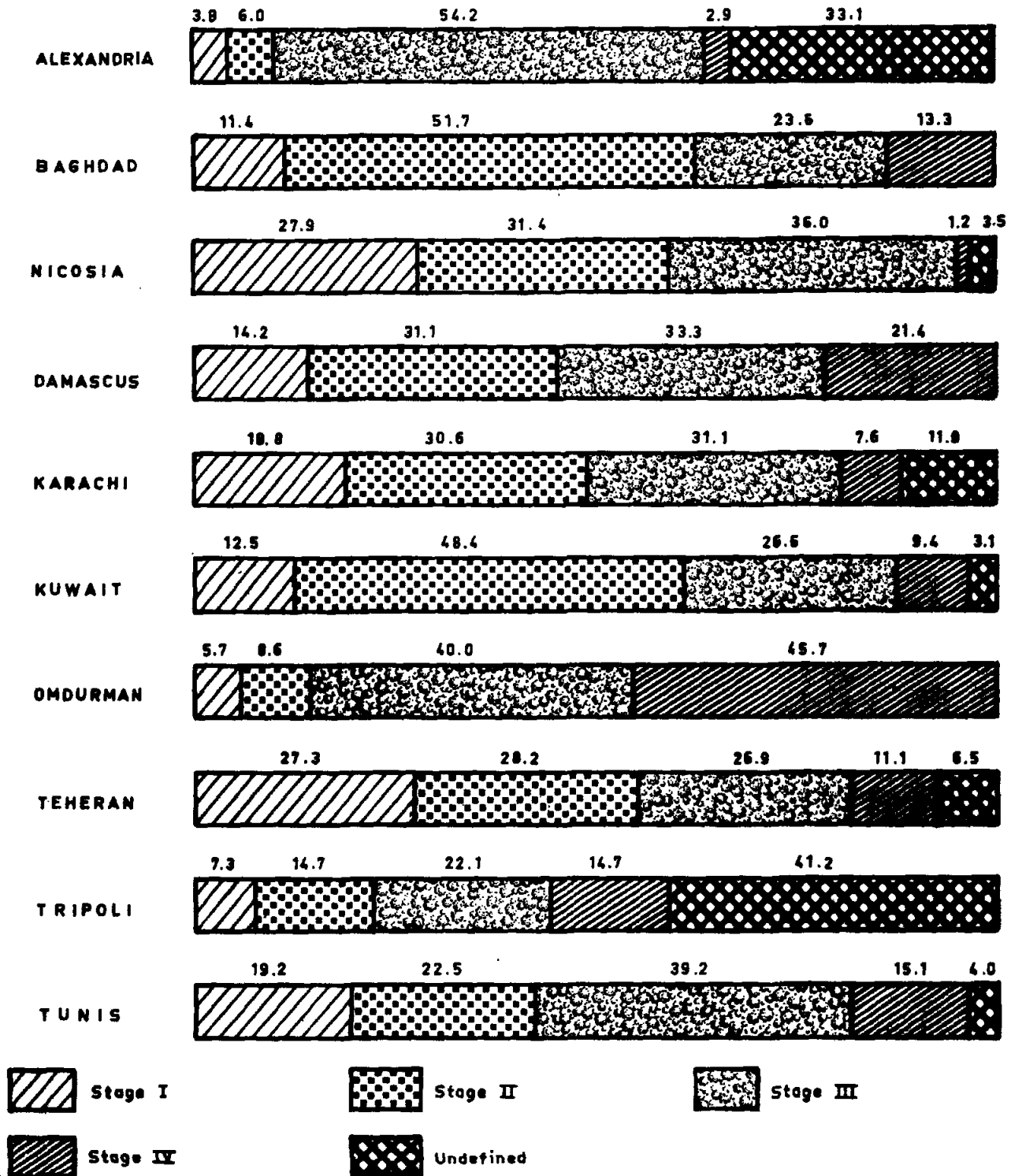
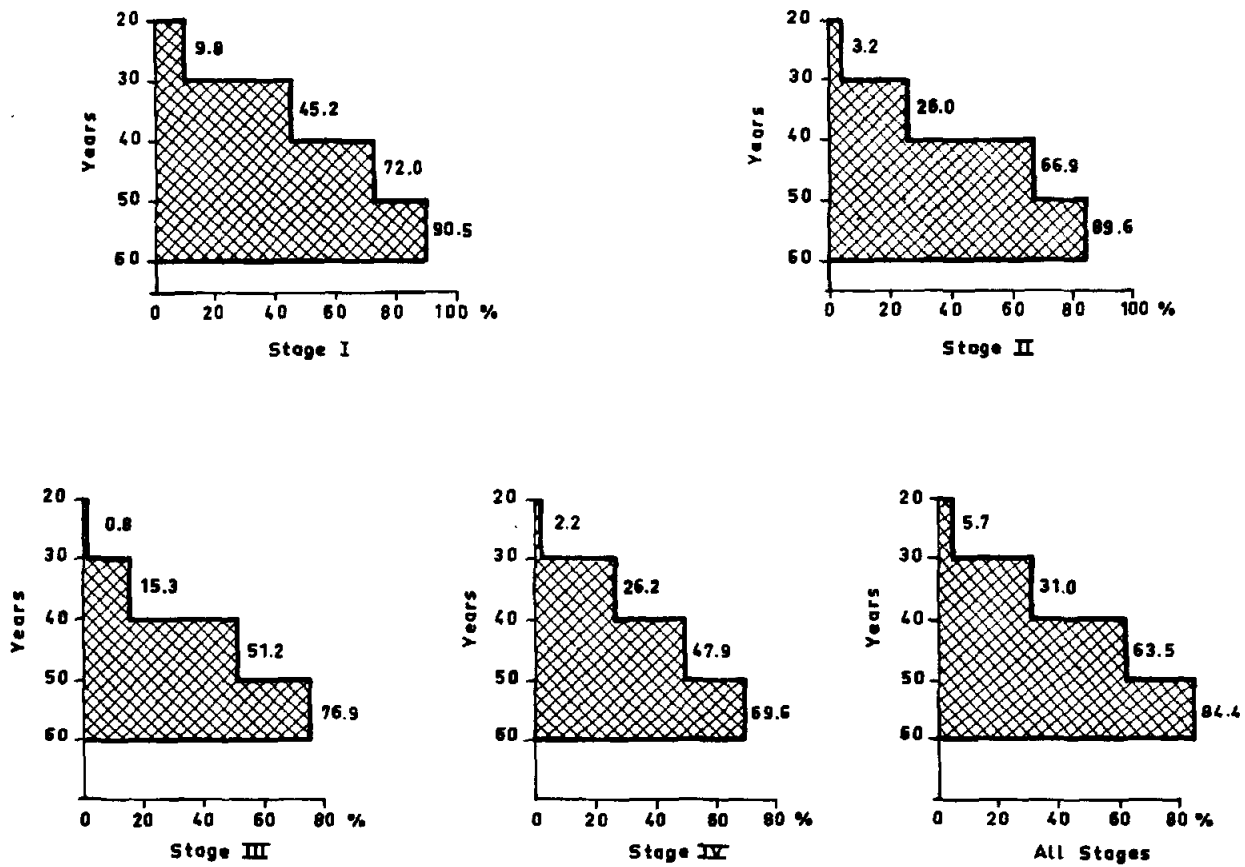# THE HIGHEST AND LOWEST PERCENTAGES OF CCU BY STAGE IN TEN EMR COUNTRIES
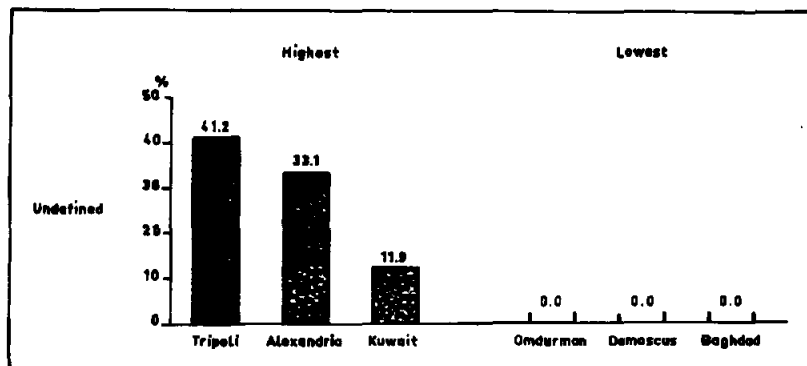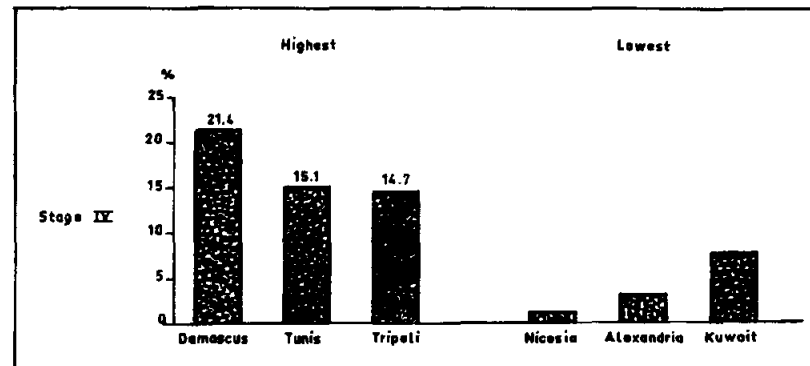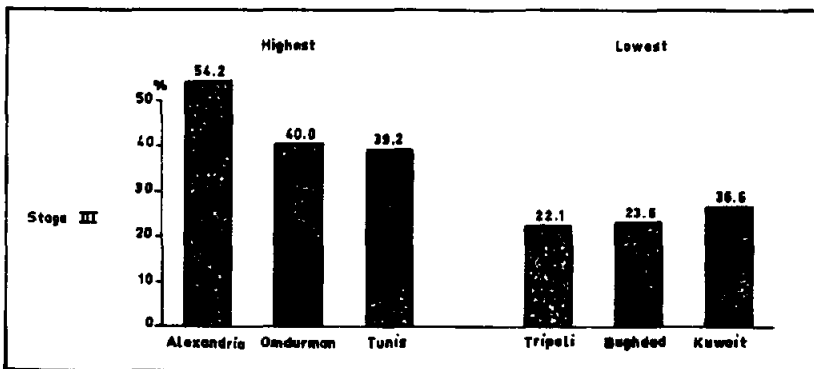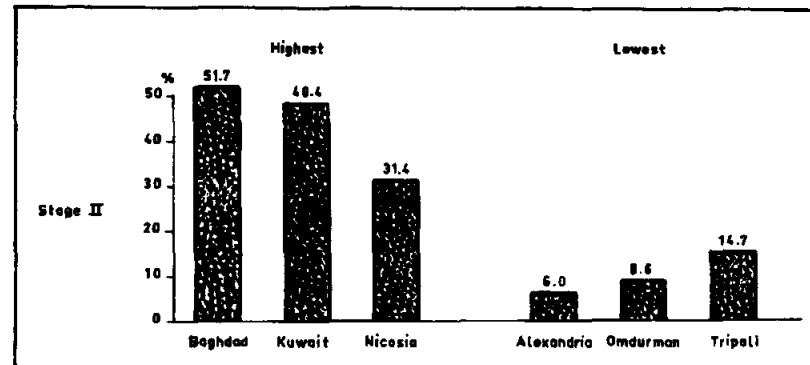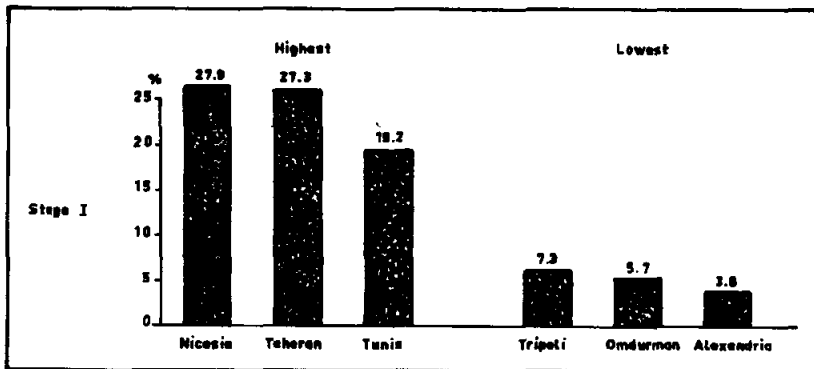
TRENDS IN DETECTION OF STAGE I + II OF CANCER
CERVIX UTERI (% FROM ALL CASES BY YEAR , 1971 – 1975)
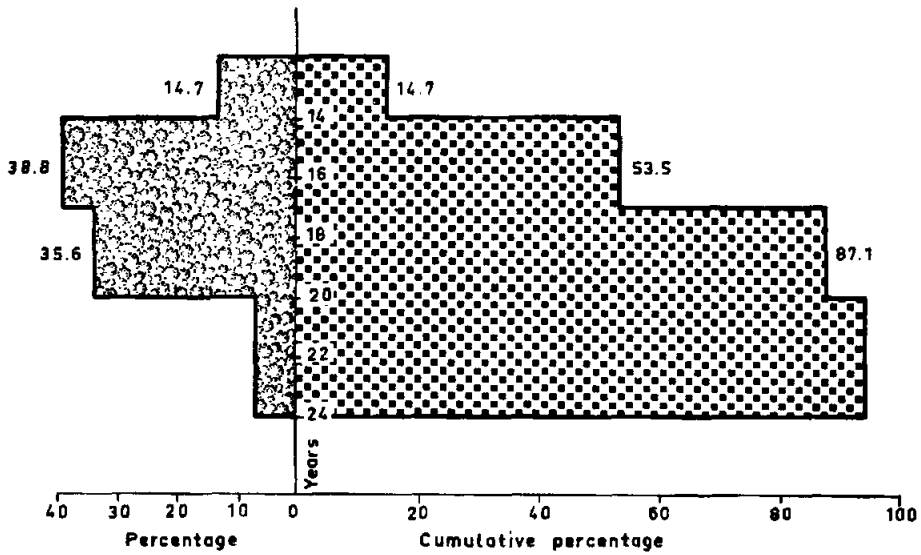IN TEN EASTERN MEDITERRANEAN COUNTRIES

AGE DISTRIBUTION (IN PERCENT) OF CCU CASES PER STAGE

Stage I — Stage II — Stage III — Stage IV

CUMULATIVE PERCENTAGE OF CCU CASES PER AGE AND STAGE

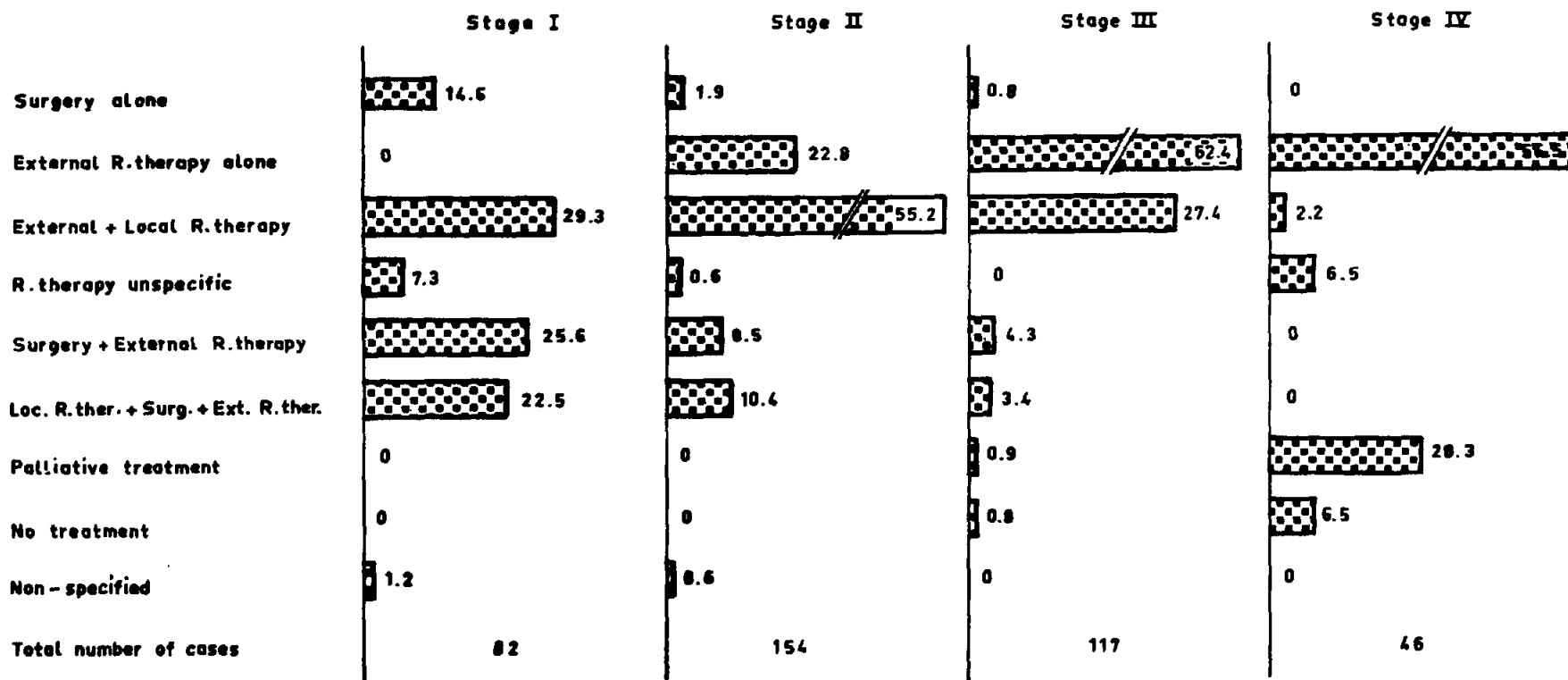Stage I — Stage II — Stage III — Stage IV — All Stages

AGE AT FIRST MARRIAGE FOR ALL CCU CASES WHERE
DATA WERE RECORDED (192 CASES)

AGE AT FIRST PREGNANCY FOR ALL CCU CASES WHERE
DATA WERE RECORDED (184 CASES)
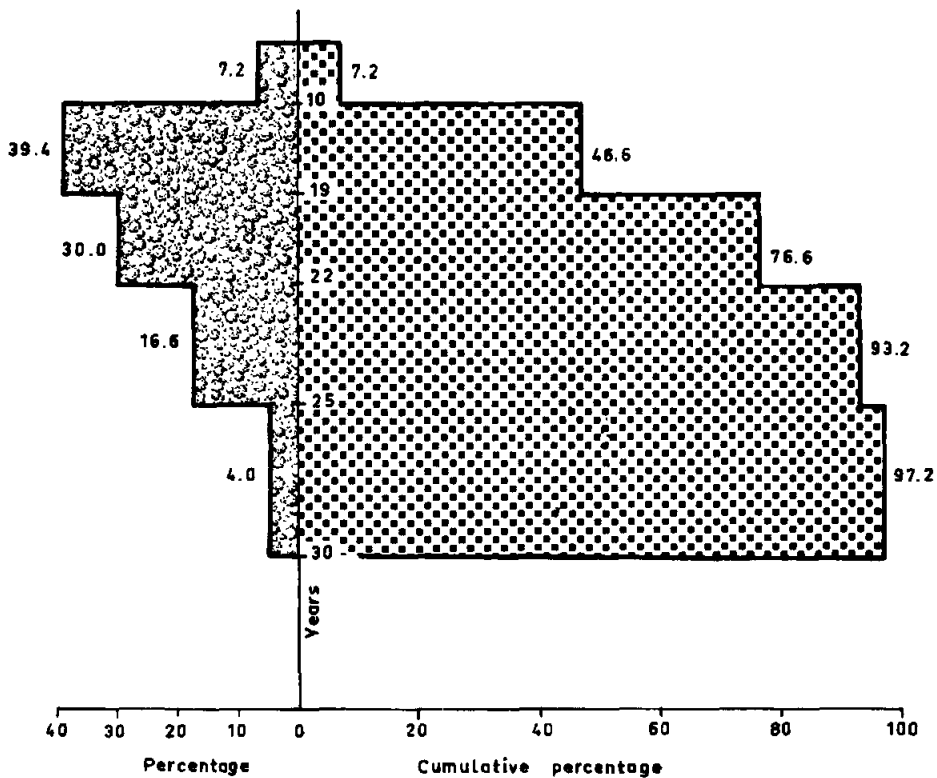
METHODS OF TREATMENT USED FOR CCU CASES FOR WHICH HOSPITAL RECORD FORMS WERE ANALYZED

	Stage I	Stage II	Stage III	Stage IV
Surgery alone	14.6	1.9	0.8	0
External R.therapy alone	0	22.8	62.4	84.8
External + Local R.therapy	29.3	55.2	27.4	2.2
R.therapy unspecific	7.3	0.6	0	6.5
Surgery + External R.therapy	25.6	8.5	4.3	0
Loc. R.ther. + Surg. + Ext. R.ther.	22.5	10.4	3.4	0
Palliative treatment	0	0	0.9	28.3
No treatment	0	0	0.8	6.5
Non - specified	1.2	8.6	0	0
Total number of cases	82	154	117	46

CANCER AT DISCHARGE AFTER TREATMENT
IN CCU CASES FOR WHICH HOSPITAL RECORD
FORMS WERE ANALYZED