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Report on the

Expert meeting on scaling-up cancer care in the Eastern Mediterranean Region

Cairo, Egypt
21–22 July 2014



World Health
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Regional Office for the Eastern Mediterranean

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1. INTRODUCTION

Cancer is the fourth leading cause of death in the World Health Organization (WHO) Eastern Mediterranean Region. Cancer incidence is expected to almost double in the next two decades, from an estimated 456 000 new cases in 2010 to nearly 861 000 in 2030, the highest relative increase among all WHO regions. These estimates are based on the effect of population growth and ageing, but the additional effect of increasing exposure to cancer risk factors, such as smoking, unhealthy diet and physical inactivity, as well as environmental pollution, will lead to an even bigger rise in the burden of cancer.

The Regional meeting on cancer control and research priorities, held in Doha, Qatar, from 20 to 22 October 2013, in collaboration with the WHO International Agency for Research on Cancer (IARC), focused on three themes: strengthening cancer registration and surveillance, carrying out priority research on cancer causation in collaboration with IARC in order to strengthen prevention efforts, and improving screening and early detection of priority cancers.

One third of cancers in the developing world, in particular childhood cancers, are curable if treated early, promptly and according to evidence-based approaches. However, in the face of increasing cancer burden, the development of cancer care and treatment in most countries in the Region has been based on sporadic investments, initiatives and actions rather than on a planned and resource-linked cancer care strategy as part of a national cancer control programme. In many instances, both the scientific evidence-base for such investments and the evaluation of implemented programmes is lacking.

There is thus a need to chart a clear way forward for scaling-up cancer care, including diagnosis, treatment and palliation, in the Region. An expert meeting was therefore convened on 21–22 July 2014 in Cairo, Egypt, to plan a programme of work with a focus on increasing access to evidence-based and quality cancer care, developing human resources and implementing evidence-based approaches in practice, and increasing access to essential medicines and technologies.

The objectives of the meeting were to:

- review regional status and key areas related to cancer care, and identify gaps, challenges and opportunities for strengthening such care
- review international and regional experiences and best practices in cancer care and draw lessons learnt for the Eastern Mediterranean Region
- review and further develop a regional framework, with a set of strategic interventions and a monitoring, evaluation and reporting scheme, to strengthen cancer care in the Eastern Mediterranean Region.

In relation to the objectives of the meeting, the following documents were provided to participants: a situation analysis of cancer care in the Eastern Mediterranean Region; working papers on key issues in cancer care; and a draft regional framework, with a set of strategic interventions and monitoring indicators, for strengthening cancer care in the Region.

Twelve international and regional technical experts from Belgium, Canada, Egypt, India, Kuwait, Lebanon, Spain and the United Kingdom participated in the meeting, along with staff from the WHO Regional Office for the Eastern Mediterranean, the International Atomic Energy Agency (IAEA) and IARC. The meeting was organized around thematic areas with presentations by authors of the working papers followed by plenary discussions. The meeting programme and list of participants are included in Annexes 1 and 2, respectively.

Dr Ala Alwan, WHO Regional Director for the Eastern Mediterranean, in his opening address, welcomed participants and observed that the area of cancer care had been largely neglected in public health in the Region and had not received the needed attention from WHO. However, with the increasing cancer burden in the Region, cancer care was of major concern to all countries and was now a priority for WHO. Dr Alwan pointed out that all countries, including high-income countries, had gaps in access to treatment and quality care. Policy-makers were looking for concrete advice on how to address these gaps and meet the increasing needs and demands for cancer care, he said.

Dr Alwan explained that the meeting was a starting point for examining and scaling-up cancer care, in particular access to cancer treatment. It would focus on identifying regional challenges, key issues and priorities, reviewing international and regional experiences, and discussing possible solutions. The meeting was the start of consultations, expected to last several months, to prepare technical advice for policy-makers and the concerned ministries of health in the Region. Such advice was likely to be of interest to countries in other regions, he noted.

Dr Alwan suggested that the first step should be the identification of key gaps and issues, which should be prioritised for action. He outlined an important range of issues: increasing public awareness of cancer and encouraging the early seeking of medical attention for suspected cancer; strengthening basic cancer care in primary health care, with the focus on recognition of signs and symptoms and prompt referral; organizing secondary and tertiary services for cancer that ensure coordinated care across the various levels and equitable access; improving access to essential medicines and technologies for cancer while reducing inappropriate use of both; strengthening multidisciplinary human resources for cancer care, and research into implementation barriers and the effectiveness of new treatment regimens. For all this, financing needed to be adequate and equitable, and, in general, the donor approach was to be avoided except as a stop-gap, he said. Instead there should be national ownership with international technical collaboration.

Dr Alwan emphasized that the WHO programme of work in cancer care was a cross-departmental initiative that included the departments of noncommunicable diseases and mental health, and health systems development. The Regional Director concluded by saying

that WHO recognized that in order to make the required progress there was a need to work in collaboration with stakeholders beyond the ministries of health and to engage international partners such as IAEA, IARC, the International Network for Cancer Treatment (INCTR) and the Union for International Cancer Control (UICC).

Dr Samer Jabbour, Director, Noncommunicable Diseases and Mental Health, WHO Regional Office for the Eastern Mediterranean, presented the objectives and discussed the expected outcomes of the meeting, including a regional framework for strengthening cancer care and treatment, with strategic interventions and monitoring indicators. Dr Jabbour noted that the meeting was part of a broader WHO initiative to scale-up care and treatment for all noncommunicable diseases in the Region. The outcomes of the meeting would be presented to the Regional meeting to strengthening the integration and management of noncommunicable diseases in primary health care, organized by the Regional Office, in September 2014.

2. THE GLOBAL AND REGIONAL SITUATION

2.1 Issues in scaling-up cancer care in low- and middle-income countries

Dr Ian Magrath

Central to scaling-up cancer care and treatment in low- and middle-income countries is the need to: educate the public and health professionals in primary care to better recognize signs and symptoms of cancer leading to early diagnosis; facilitate access to accurate diagnosis and proper assessment of extent of disease; and ensure that decisions on treatment are made after multidisciplinary consultations, and that appropriate follow-up is carried out. Access to medical, surgical and radiation oncologists is also essential. These specialists require education, including periodic upgrading of their skills, and the ability to consult with specialists from other disciplines. In addition, the necessary medications need to be made available, with implementation research to confirm their applicability in the range of circumstances in the Region. Moreover, all these issues need to be considered according to the geographical distribution of the population. Economic considerations will loom large in relation to these issues. Not only is there a cost in terms of diagnosis, treatment and follow-up, and the training of health personnel, there is a loss to the economy from the non-productivity of cancer patients. It will also be important to budget for implementation research.

2.2 Key issues, gaps and challenges in the Eastern Mediterranean Region

Professor Sherif Omar

In the Region, there is a need to build the basic infrastructure for cancer care in Group 3 countries and to address the current gaps in care at the secondary and tertiary levels in Group 1 and 2 countries. In Group 2 and 3 countries, there is now significant pressure on tertiary care hospitals because secondary care facilities are not adequately prepared to meet demands for diagnosis and treatment. However, there are experiences in the Region that show that small cancer centres that are geographically distributed outside the metropolises can undertake

the diagnostic, early treatment and follow-up load that would otherwise need to be met by tertiary cancer centres. There is also an important role for the civil society and nongovernmental organizations in the support of and/or provision of cancer care services.

2.3 Current status of cancer care in Eastern Mediterranean Region

Dr Ibtihal Fadhil

Dr Fadhil reviewed the regional epidemiology of cancer based on GLOBOCAN 2012 and other sources, and presented the status of structural resources for cancer treatment and care in the Region based on a synthesis of the findings of the imPACT assessment missions, conducted in eight countries, and a rapid assessment survey completed by cancer focal points in other countries using the national cancer control programme questionnaire. The epidemiological data shows that breast cancer has the highest incidence and accounts for most deaths due to cancer. This is followed by colorectal, lung and liver cancer. A challenge in all countries is the late presentation of cancer. For example, over 70% of breast cancer presents in advanced stages at diagnosis.

There are significant variations in the availability of basic infrastructure and multidisciplinary human resources across and within the different countries of the Region and important deficiencies in comparison with international benchmarks. For example, while IAEA recommends one radiotherapy machine per 500 cancer patients/year, the corresponding figures in the Region are one radiotherapy machine per 291–11034 cancer patients/year. Furthermore, in comparison with the international recommendation of one oncologist per 160–200 new cancer cases, Group 3 countries have on average one oncologist for over 2000 new cases. This is a major challenge as, with the rising burden of cancer, the Region will need 3220 medical and 2570 radiation oncologists by 2030.

Discussion

The importance of cancer care and treatment within national cancer control programmes needs to be re-enforced in discussion with countries. While many countries have such programmes, care has been a weaker component due to lack of advocacy and champions, in addition to limited resources and health system weaknesses. The national cancer care programme instrument is still a useful tool but needs to become more technical and practical with time-bound actions supported by commitments and budgets. There is also a need to inform and educate policy-makers about the cancer care situation and priorities for action, as they are not always well informed.

Ministries of health may not have the leverage to impact policies and practices in other subnational health systems that provide cancer care services, such as those belonging to ministries of higher education, the army/security sector and nongovernmental organizations. These need to be involved and integrated in a national strategy for scaling-up cancer care. The regulatory and stewardship role of the ministry of health is thus important.

For the purpose of analysing the cancer care situation and developing the right approaches to improvement, it is not sufficient to think of the three groups of countries. Within Group 2 and Group 3 countries, various population groups have differential access to cancer care services, with the urban and better-off populations commonly having more access to better quality services. It is thus important to consider different scenarios of care, and devise corresponding models, rather than only considering groups of countries.

Efforts to improve early detection of cancer in the Region must consider the current gaps in the availability of resources and facilities, especially in rural areas, to deal with detected/suspected cases. A useful approach to improving cancer care is to follow the path of the patient in the cancer care continuum and address the gaps encountered at every step. There is often a misuse of resources on excessive investigations such as unnecessary imaging/tumour marker investigations.

Health systems in the Region were established to address maternal and child conditions and are not yet well oriented to deal with noncommunicable diseases which have traditionally been relegated to tertiary care. Primary health care has a role in cancer care but providers need training. There is commonly a lack of input and referral back from specialists to primary care providers. The growing private sector in some countries is competing with the public sector for qualified personnel and patient care, adopting a business model. Private care is more expensive than public cancer care and is unregulated. There is a need to integrate the private sector within a broader national strategy for cancer care, with a potential role for health insurance, while keeping the regulatory role with the government sector.

3. ACCESS TO CANCER CARE

3.1 Financing cancer care

Dr Paul Sebastian and Professor Nagi El Saghir

Cancer care is expensive; costs continue to increase and there is ongoing debate on how to reduce it. The rising costs are related to an increasing number of cancers in an ageing population, increased and longer survival, higher expectations of people with cancer, and the rising costs of therapy, imaging and medicines. The development of newer very expensive technologies, especially for imaging, and newer targeted drugs with marginal benefit to the patient, has significantly increased the cost of care for individual patients. The major portion of cancer care expenses is for treatment of advanced metastatic disease and for end of life care, where very little benefit is obtained considering the costs involved. With rising costs, cancer care will increasingly become unaffordable, even in high-income countries.

In most low- and middle-income countries, public health spending for cancer care is low, with out-of-pocket expenses accounting for more than 75%, most of it channelled to private health care providers. With comprehensive government funding for cancer very rare, universal health care largely absent, and very few voluntary and social health insurance schemes to support cancer care, many patients from the lower socioeconomic strata are pushed into catastrophic poverty. This not only affects them and their families but also the

welfare and education of several generations of their families. Rural population groups are among the most vulnerable.

The first step to making cancer care more affordable is for governments to declare cancer a public health priority and to take a national policy decision to ensure cancer care access to all. Public health expenditure should be increased to provide high quality curative services combined with cost-effective preventive and promote interventions at the primary care level. This will reduce out-of-pocket expenses and will have a direct impact on poverty reduction. Easily accessible cancer-specific cashless welfare schemes can cover the entire cost of diagnosis and treatment, including transportation and accommodation, especially for the poor, the disadvantaged, women, children and the elderly. This will also improve patient compliance to treatment and follow-up.

Secondary and tertiary cancer care should be well integrated with primary care. The costs of secondary and tertiary care should be contained so that government expenditure on primary care is not compromised. Regulation of private health care providers is also essential. Increasing public expenditure on health should be coupled with active efforts to reduce the cost of treatment. End of life care with hospitalization and chemotherapy drugs is expensive and often ineffective, while home based palliative care provides better overall care and provides symptom relief at a fraction of the cost achieved by chemotherapy. Medical imaging costs have increased significantly without any reduction in mortality in advanced disease. Hence, there is an urgent need to limit imaging to situations where there is strong evidence of benefit.

The high cost of many cancer drugs, and the increase in price of these drugs over time, has made cancer treatment unaffordable for many people. The introduction of newer targeted agents, most of them with questionable or marginal benefit, has more than doubled the cost of cancer care. Public expenditure on drugs should be not only on the basis of robust evidence of clinical effectiveness and safety, but should also be based on a cost-effectiveness analysis that informs policy on national health care plans. Evidence-based management guidelines for the treatment of common cancers should be developed at the national level, as well as guidelines on providing free or subsidized treatment through public hospitals based on economic need. Generic drugs should be used whenever available if public money is being used to finance their purchase. Governments must maintain an essential list of medicines for cancer treatment, and the prices of these drugs should be regulated. Innovative approaches to reduce the cost of treatment should be explored and could include hypofractionation and single fractionation in radiotherapy, repurposing of drugs, metronomic therapy and the use of integrative medicine for supportive care and palliation.

Affordable measures in cancer prevention and cancer screening would reduce the burden of cancer and reduce the cost of cancer care. These could include tobacco control efforts such as banning the sale of tobacco products to school children, increasing taxes on tobacco, alcohol and unhealthy food products, and raising awareness on the harmful effects of tobacco use. Increasing taxes not only reduces consumption but can also generate additional revenue that can be used for cancer control activities.

Discussion

Vertical investment in cancer is important to improve basic infrastructure and quality of cancer care, taking account of, and building on, existing structures. With vertical investment in cancer services, shortages in human resources become more obvious and need to be addressed concomitantly. However, broader health system gaps need to be addressed as well and there is a need to balance vertical and horizontal system investments. A real commitment of resources is needed from governments, highlighting the importance of political will.

Financing of cancer care in low-income countries may be donor driven which may not be directed at the most critical gaps. There is thus a need to develop new guides for international cooperation in this area. Additional innovative options for financing cancer care need to be considered. A regional and/or national fund for cancer care can be considered, but its feasibility and sustainability need to be studied carefully. Community-based financing can also be considered. In some countries, a minimum co-payment of US\$ 1 for accessing cancer care services has generated substantial resources to finance the development of cancer services.

Many options to reduce the cost of cancer care, such as using quality generic drugs, bulk purchasing of patent drugs, establishing a national network of pharmacies, treatment with single or hypofraction radiotherapy, and application of evidence-based care, are under-utilized and need to be explored. To minimize costs in the long term, it is necessary to invest in preventive services, cancer registries, low-cost technology, increasing training opportunities, and home-based palliative care. Investment in palliative care can have significant returns in reducing the cost of hospitalization and therapy. In India, data has shown that a palliative care investment of US\$ 20/patient/month has been very cost-effective.

An analysis of current cancer care investment and expenditure in various countries is needed to rationalize and guide future investments, as the situation is quite different in countries with a large public health sector compared to countries with a dominant or burgeoning private sector. Tools such as health technology assessment can be useful to help rationalize investment. Noncommunicable diseases-specific health accounts provide crucial data to guide policy and investments. A study carried out in Morocco found that, of the four main groups of noncommunicable diseases, cancer accounted for 31% of spending, of which a third was out-of-pocket. Countries often need such country-specific data to guide policy, investment and service delivery.

3.2 Organization of cancer care

Dr Rengaswamy Sankaranarayanan and Professor Sherif Omar

Comprehensive cancer control is achieved through an integrated set of activities involving primary prevention, early detection, diagnosis, treatment, rehabilitation and follow-up, palliative care, research and cancer registration delivered at the primary, secondary and tertiary levels. A well-developed government health service with adequately trained human resources is essential to achieve these objectives.

Primary care provides the base of the health care system and there is an increasing trend to integrate certain basic cancer services at this level, including cancer awareness programmes and counselling on primary prevention for the public, clinical suspicion and early detection of common cancers, appropriate referral of suspicious and detected cancers to secondary/tertiary centres, follow-up care of treated cancers and palliative care. To achieve this, investment is needed in training, printed manuals, consumables and equipment, as well as additional space and human resources, along with the integration of cancer care with other services for noncommunicable diseases. Some countries have adopted the model of having nurses and/or medical officers dedicated to noncommunicable diseases.

There is evidence from countries on the feasibility and beneficial impact of strengthening cancer interventions in primary care. For example, in Thailand, cervical cancer screening using visual inspection with acetic acid and treatment of lesions with cryotherapy or cytology screening have been introduced in primary health care centres. The introduction of colorectal cancer screening using faecal immunochemical tests in primary care in a province of Thailand led to early detection of colorectal cancer in the province and is therefore being scaled-up countrywide.

Secondary care is delivered at the district level in county/district hospitals and may be the referral point for diagnosis and simple surgery. From this level referral may occur to tertiary care. Secondary care includes facilities for diagnosis of common cancers including X-rays, ultrasound, diagnostic endoscopy services, basic pathology services including cytology, core and open biopsies, facilities for common surgical procedures, day care chemotherapy services for administration of simple chemotherapy, follow-up care of patients treated at tertiary hospitals, long term follow-up and palliative care.

Definitive cancer treatment should be carried out in tertiary centres, which ideally should be comprehensive cancer centres that treat patients in an evidence-based manner in multidisciplinary clinics staffed by surgeons, radiation oncologists and medical oncologists, supported by well-developed clinical laboratory, imaging, cytopathology and supportive services. Patients requiring multidisciplinary care, complex ablative and reconstructive surgery, radiation treatment, combination and high dose chemotherapy, bone marrow transplantation and radio iodine therapy are treated at tertiary centres. Tertiary care is typically offered in large multi-specialty hospitals, university hospitals with specialized oncology units, and comprehensive cancer centres. Such centres can be of a free-standing or a matrix structure. Comprehensive cancer centres can also have hospital-based and population-based cancer registries and engage in cancer research (basic, translational, clinical and epidemiological).

Tertiary and secondary centres should function in a hub and spoke model with a tertiary centre for every five or six secondary centres, and seamless referral and telemedicine connectivity. The way forward should be the strengthening of primary and secondary levels of care along with tertiary care institutions. The infrastructure in district hospitals should be strengthened by setting up dedicated cancer units to provide facilities for diagnosis of common cancers, administration of simple chemotherapy, post-treatment care and follow-up,

and palliative care. Primary and secondary care doctors and nurses should be given adequate training in carrying out their assigned tasks. Nongovernmental organizations can provide complementary services providing extra resources for advocacy, training and policy development.

Discussion

Policy-makers need clear guidance on organizing cancer care services at the national level that take account of existing resources and structures, with planning for the short, medium and long term. WHO needs to be able to provide such guidance based on international and regional experiences and best practices, and based on a comprehensive situation analysis in the Region building on the rapid analysis prepared for the meeting. While there are important regional experiences in planning and organizing cancer services, the achievements of these services have not been evaluated. This should be a priority for these countries and will provide lessons learnt for other countries in the Region.

Vertical investments in cancer services need to be balanced between tertiary care, which typically receives the bulk of investment, and secondary care. Weakness in secondary care in the Region increase pressures on tertiary care institutions with attendant delays in diagnosis and treatment due to longer waiting times. Strengthening secondary care will help triage the large number of people with suspected disease, such as breast lumps, and free-up tertiary care institutions to do what they do best: multidisciplinary, skilled cancer care. Another possible downside of investment in tertiary care at the expense of other levels of care is neglect of prevention and early detection which are important in light of the late presentation of many cancers. Health system interventions to incentivize cancer care at the primary and secondary levels are needed.

However, primary health care services are already overwhelmed with patient load and packages of services. Strengthening cancer care at this level should not mean adding more demands without adding more people and resources. Moreover, it may not be possible to depend on secondary care institutions to provide the link to tertiary care, especially when widely dispersed across large areas and where there is a question about the quality of secondary care services. Small centres at the governorate level can provide surgery, radiotherapy and chemotherapy, and can refer to the tertiary level if necessary. They can also mobilize community and private sector financial resources for cancer care.

Re-organization of cancer care services may be necessary to ensure integrated service delivery at different levels. Patients treated at tertiary care centres need to be followed up in primary care. Both tertiary and secondary care should support primary care. At the level of tertiary care, a network of national comprehensive and provisional cancer care centres is needed. Comprehensive cancer centres require the support of a general hospital, for example to treat complications of cancer therapy. Private services should also be integrated. However, the traditional thinking about the three levels (primary, secondary, and tertiary) of cancer services itself needs to be challenged in favour of a merged comprehensive model.

There are different models of organizing health services for noncommunicable diseases in the Region that need to be analysed and their relevance for cancer care considered. For example, Kuwait utilizes the model of polyclinics as part of a health services package. These can support certain components of basic cancer care at the primary care level. Not all cancer services are needed, or should be provided, in each country and thus opportunities for regional or subregional integration should be considered. An example is proton therapy. WHO is in a position to make recommendations about and facilitate such integration.

Maintaining quality in cancer care throughout the different levels of services is an important challenge. It is necessary to train care providers and support them by making the necessary finance available. Doctors specifically have to be adequately trained so that they have confidence in what they do. Leadership is important in ensuring high standards of care. There is also a need to reduce the delay between suspicion of a cancer, its diagnosis, staging and treatment. Unnecessary barriers are sometimes introduced between the patient and physician by secretarial or administrative staff, for instance appointment systems may be barriers to prompt diagnosis and treatment. Monitoring of the processes of cancer care is needed to reduce delays.

4. HUMAN RESOURCES FOR CANCER CARE

Professor Anthony Miller and Professor Nagi El Saghir

Inadequate staffing and human resources programmes are major roadblocks to cancer care. A cancer care unit is of no value unless there are dedicated care providers to ensure effective cancer care. Ideally, cancer services should be delivered by a team comprised of pharmacists, oncology nurses, junior doctors, medical assistants, social workers and, of course, specialist cancer doctors, including surgical, radiation and medical oncologists. It can be difficult or impossible to create such teams when there is no oncologist to take a leading role, thus training more oncologists must be one of the highest priorities.

Unfortunately, most countries in the Region are facing major challenges related to shortages of a well-trained workforce, in particular oncology nurses, radiation oncologists, and medical or paediatric oncologists. Among the major challenges are the absence of, or inadequate, training facilities and programmes in most countries to respond to national needs, the migration of trained human resources (the “brain drain”), unequal distribution of human resources across countries and underinvestment in human resource development.

A whole range of people must to be considered such as various specialties of physician, ranging from primary care to the various oncology disciplines, nurses for both patient care and service delivery (including chemotherapy), and lay volunteers who can provide many useful services including patient support, education and transport. As much as possible, training should be provided at the national level. Foreign experts can be involved by providing reorientation and short training courses on specific topics that need to be reinforced/strengthened, and especially to “train the trainers”. There is a need for continuing medical education for all care providers to improve their skills, performances and the quality of care.

Discussion

The majority of countries in the Region are challenged by important shortages in the workforce for cancer care. There are problems in workforce production, training and continuous education, retention and distribution. While the problems are known, which are common to human resources for health in general, the right solutions have yet to be found. Countries need to have a national strategy for human resources for cancer to address shortages in the medium and long term. Careful planning should be based on future cancer burden and international recommendations and benchmarks. Such planning is especially important in countries where a comprehensive approach is not feasible and short-term solutions are needed.

Considering the large gaps in most countries, it is important to consider innovative approaches such as bridging programmes and multipurpose oncologists (who can provide basic radiotherapy and cancer chemotherapy). Short (3–6 months) training programmes directed at nurses to develop oncology skills have been used in some countries. WHO experiences in supporting diabetes nursing training programmes could be considered.

In light of shortages, the oncologist should be thought of as a leader of a team. While the oncologist initiates treatment, assistants undertake tasks under supervision during the remainder of treatment and follow-up. WHO should consider developing a model list of what cancer care services can be delivered by different providers. Clinical oncologists can be trained to be “primary practitioners” in cancer care, covering both medical and radiation oncology at a general level.

Some technical areas need specific attention. Medical physicists are needed in radiotherapy, but some may only need training to the level required for the tasks they will undertake, such as field delineation. Medical engineers are needed to protect capital investment in technology, maintain equipment, and reduce downtime and reliance on foreign expertise. Specialists may not need training in the whole spectrum of cancer care, and in some instances apprenticeships will suffice, with provision of a certificate of competence, resulting in the availability of teams of specialists and assistants to provide care. This can be done, for example, for mid-level providers devising care plans for individual patients.

The model of 3–6 month training of internal medicine specialists in specific areas such as cardiovascular diseases, which is used in some countries, can be extended to cancer. In Oman, providers from satellite clinics can come to centres in the capital to undergo 1–3 months training and this model can be used to support cancer care at the periphery. The applicability of the different models to address shortages needs to be carefully studied before implementation, and evaluated when implemented.

Although the ideal would be to provide all necessary training at the national level (as it is good for health care within a country), training abroad may be unavoidable when new technologies are introduced. WHO should explore and facilitate opportunities for regional or

subregional cooperation in human resource development for cancer care. Centres of excellence in cancer care, research and training can be engaged for this purpose.

There is a concern that with the current weaknesses in primary health care in the Region, primary care providers need significant training to be able to shoulder more responsibilities for cancer care. Short training courses and continuing professional development may not be adequate. Certificate programmes can be used to create the needed incentives.

At the village (community) level, lay people can be trained to carry out basic cancer services. For example women can be trained in early detection of breast cancer and can educate their peers about breast self-examination and early diagnosis of cancer. Such women are often well-accepted when visiting homes as they come from the same community, especially if given recognition as “volunteers”. The role of nongovernmental organizations is also important. There is a need for a regional/national inventory of organizations working in this area.

5. ACCESS TO ESSENTIAL MEDICINES AND TECHNOLOGIES FOR CANCER CARE

Dr Marthe Everard and Dr Jane Robertson (Access to essential medicines), Dr Rolando Camacho and Dr Adham Ismail (Access to essential technologies)

Essential medicines and technologies are an important element in the continuum of cancer care. Treatment regimens can be multiple and complex and side-effects may occur. Proper use of essential medicines and utilization of health technologies in cancer care requires the education of medical doctors, nurses, pharmacists and other health care providers. Improper use results in incorrect diagnosis and ineffective treatment. Lapses in treatment, due to patient factors, inadequate funds, supply system failures or other problems, may lead to disability or death. Effective treatment also depends on patients being actively involved and well informed about their treatment and on a functioning continuum of cancer care and support.

Access to newly developed medicines and technologies presents political, social, ethical and economic challenges. Drug prices may vary enormously within and between countries, up to 10 times. Some pharmaceutical companies in low- and middle-income countries charge higher prices than in high-income countries. Corruption within the health system is common: high import and “other” duties are often charged, which may be higher than the cost of drugs themselves, in many countries that struggle to secure access to the most basic essential medicines and technologies for common cancers.

Chemotherapy administration is often confined to oncologists, or doctors supervised by oncologists, but the limited number of centres where chemotherapy is offered leads to many patients not being treated or even diagnosed as suffering from cancer; the majority die anyway if adequate and effective treatment cannot be given.

Access to essential medicines and technologies is assessed by considering the availability and affordability of essential medicines and technologies, while “equitable” access to essential medicines and technologies is assessed by looking at who pays and who benefits. This reflects the principle that health care should be provided according to need and financed according to the ability to pay. From a public health perspective, this is a fundamental principle when considering public-private roles. WHO has formulated a four-part strategy to guide and coordinate action on access to essential medicines and technologies that can be used for cancer medicines and technologies: (1) rational selection and use/utilization of medicines and technologies; (2) affordable prices; (3) sustainable financing; and (4) reliable health care, supply, distribution and maintenance systems.

The method of identifying essential medicines also needs consideration since most chemotherapy regimens entail the use of multiple drugs. Surveys of the use of lists of essential medicines and the advantages they bring should be considered. WHO is in the process of revising the WHO model lists of essential medicines in preparation for the meeting of the WHO Expert Committee on Selection and Use of Essential Medicines in April 2015. Cancer medicines are in a complementary list as they take special skills to deliver safely and to monitor side effects and complications. Decisions to include drugs are based on a number of issues: the threshold of benefit, the level of care required to use a medicine and the resources needed for such use. Previously, decisions on what medicines to include were based on expert review of submissions. The whole list is now being revisited based on an approach that is more proactive, transparent and evidence-based. Discussions of essential cancer medicine must consider the costs, their indications (radical/palliative/supportive roles), and the policies on treatment regimens to be used. While curative or adjuvant chemotherapy regimens may consider multiple drugs, palliative chemotherapy mostly makes use of single drugs in order to minimize the side effects. Facilities may be required to monitor the use of the drug.

As for technologies, a resolution by the World Health Assembly in May 2013 provides useful guidance. There is a need to define essential services that are affordable and sustainable based on identification and quantification of the resources needed to perform the procedure. There is under-coverage of radiotherapy in the low- and middle-income countries in the Region. Positron emission tomography, computed tomography and magnetic resonance imaging are expensive investigations, and of limited benefit, but are in over-supply in some countries. The need for radiotherapy increases as countries move to cure from palliation. IARC is now evaluating needs related to cancer stage and load. There is also a need for a balance between concentration and geographical distribution. In considering a new technology, its life cycle must be considered: how long it will last, when it will become obsolete and how easy it will be to dispose of the waste (such as spent cobalt sources).

Discussion

There are international experiences in improving access to medicines in low- and middle-income countries from other regions that should be considered. Examples include regional procurement and distribution, generic substitution and use, compulsory licensing and

rationale use of medicines. Many countries in the Region are “price takers” rather than “price negotiators”. However, there are useful regional experiences in negotiating the prices of medicines, such as with asthma and hepatitis medicines. Selection of cancer medicines should differentiate between curative versus palliative indications, and should take account of changing prices and changing clinical practices. Evaluation of treatment regimens of chemotherapeutic agents should consider both benefits in terms of survival and safety precautions. Obviously, expensive regimens with little impact should be avoided. When guidelines are used, which specify medicine(s) to be used for a specific indication, the list of essential medicines may have limited value. When generic medicines are used, their quality must be assured as there are some concerns among both the public and specialists.

There is a need to consider development of an “essential technology list” for cancer in the same way that an essential medicines list for cancer exists. Clear criteria must be used to select technologies. Bidding procedures must be well developed, suppliers and machines well selected, disposal of waste after expiration planned, and maintenance included in contracts. In some countries, there is an oversupply of cancer technology, but this does not necessarily mean improved treatment outcomes, which should be the focus. Facility accreditation can provide an incentive to rationalize services and improve outcomes. There is concern that donor-driven technology investments are often patchy; there is a need to focus on national ownership with international collaboration.

6. EVIDENCE-BASED GUIDELINES FOR CANCER CARE

Professor Anthony Miller and Professor Hussein Khaled

Evidence-based cancer care guidelines can be categorized into three levels: level 1 based upon randomized controlled trials, level 2 comprised of various forms of observational investigations, and level 3 based upon expert opinion. Advances in cancer care that have occurred in developed countries have largely followed from the introduction of new types of therapy following randomized trials. These include new forms of chemotherapy, almost invariably with two or more drugs in combination to avoid drug resistance, new forms of hormone therapy and new approaches to radiation therapy. Randomized controlled trials are now the norm for the introduction of new therapy. Few such investigations are performed at the population level, especially in the Eastern Mediterranean Region, and those that are done tend to be supported by the pharmaceutical industry, evaluating medications that may be out of reach for many health care budgets. In practice, many established treatment regimens for localized and locoregional cancer involve surgery and radiotherapy, and are at best based on level 2 evidence, and some only on level 3. As this evidence is derived largely from observational studies in developed countries, the extent to which this knowledge is applicable in the Region tends to only be supported by the opinion of regional experts (level 3 evidence).

Internationally, there have been a number of attempts to introduce guidelines for treatments that are evidence-based. In the United Kingdom, this is spearheaded by the National Institute for Clinical Excellence (NICE). In the United States of America, several organizations are performing this activity. In Canada, standards are promoted by provincial

cancer agencies, with some attempt to produce national consistency. In the Eastern Mediterranean Region, given the large differences in treatment availability and stage at presentation in different countries, national standards would seem to be desirable. While the majority of countries report having evidence-based clinical guidelines for treatment of various cancers, most of the available guidelines are, however, adapted from international guidelines. Deriving the evidence requires research, and it is important that this type of research should be conducted at population level within the Region, as far as possible divorced from pressure (or temptations) from the pharmaceutical industry. It is important to distinguish between efficacy studies performed in ideal circumstances, often with highly selected populations, and effectiveness studies designed to evaluate the results of treatment applied at the local level. It is the latter type of research that is often needed in order to be certain that regimens evaluated in trials in high-income countries can be translated into effectiveness at the country or regional level.

Discussion

Evidence-based guidelines should be considered in the broader context of evidence-based and quality cancer care. International benchmarks for cancer care should be followed: one month from suspicion to diagnosis and one month from diagnosis to initiation of treatment. WHO has only referral guidelines for breast and cervical cancer. Rather than develop new guidelines for the Region, which would be costly and lengthy, the focus should be on adapting evidence-based guidelines for priority cancers developed in other settings. A priority is to start by evaluating what is available now. Guidelines should be based upon evidence, but if such evidence is not strong, it becomes a priority to evaluate them within the context in which they are used. There is a need for public financing of studies to generate evidence of effectiveness of cancer guidelines at the population level in the Region. There is also a need to consider the cost-effectiveness of different approaches and guidelines to care. The methodology for this is available and should be adapted to different country situations.

A priority regional research agenda for cancer care needs to be identified in collaboration with higher education institutions, researchers and research networks, such as the regional network of research on breast cancer that is ongoing in four countries in the Region in collaboration with IARC, to shape and implement this agenda. Important research priorities include: implementation research such as on adapting international guidelines for cancer diagnosis and treatment to the regional context and available resources, and on improving current practices of cancer diagnosis and treatment; cost-effectiveness studies; and patterns of care studies based upon suitable outcome indicators. Such research requires considerable investment by countries, including in the capacity-development of researchers, if needed. The model of innovation grants can be used to stimulate research in priority areas. Research can be cross-country and WHO can play a facilitating role. Mixed research methods, including qualitative approaches and health services research, need to be utilized to answer priority questions. International collaboration, as has been done with the Disease Control Priorities Network in the area of economic evaluation for noncommunicable diseases, can support regional research.

7. PALLIATIVE CARE SERVICES

Dr Suresh Kumar and Dr Khalid Al Saleh

Palliative care relieves suffering and improves the quality of life of people living and dying with chronic and incurable illness. It addresses the physical (including pain relief), psychological, social and spiritual needs of people with terminal conditions and their families, and extends, if necessary, to support in bereavement. Pain is experienced by 88% of patients requiring palliative care, while 63% have constipation. Palliative care is needed for all cancers, as well as for a number of other diseases, and 26% of all patients requiring palliative care have cancer. It improves the quality of life for cancer sufferers, other patients dying of chronic diseases, the elderly terminally ill and people living with HIV/AIDS. It aims to relieve suffering and hence is patient-centred and not disease-focused. Interventions for prevention and palliative care, the two ends of the spectrum of care have common ground for all noncommunicable diseases. The success of a palliative care programme, in terms of quality and coverage, depends on the meaningful involvement of the maximum number of stakeholders, since the problems of the patient are multiple and include addressing physical, psychosocial, emotional and spiritual needs. For instance, definitive cancer treatment, such as short courses of radiotherapy, is essential to relieve pain from bone metastases and symptoms of raised intracranial tension following brain metastases, while short courses of chemotherapy may be used to relieve pressure symptoms from large tumours or to relieve symptoms of superior mediastinal obstruction.

Given the consequences of the late presentation of cancer in all countries of the Eastern Mediterranean Region, palliative care is of paramount importance in the Region. Unfortunately, this need for palliative care is largely unaddressed. Among the most common barriers are: a lack of awareness of the “human right to a peaceful death”; the limited number and quality of palliative care programmes; and policies or attitudes among health care providers that restrict access to opioids, mainly because of over-concern about drug abuse. Policies regarding who can prescribe opioids, the duration of prescriptions and the attitudes of health care workers towards the administration of opioids need to be better documented in order to identify obstacles and develop approaches to overcoming them. While most countries in the Region report having recently-established palliative care units and inpatient beds, there is a need to sustain these services and expand them to include a home care approach. Palliative care needs to be planned and organized at the national level to provide the needed services, which are often based on community volunteers supported by primary care workers. Primary care practitioners should know how to provide palliative care, and when to seek help from specialists in the discipline.

Discussion

The definition and scope of palliative care has changed over the years and now covers a broad scope of conditions beyond cancer and includes both palliative and supportive components. Primary health care, community volunteers and home carers form the basis for palliative care services in all countries. Engagement of nongovernmental organizations is also important. At the nodal level, there are different models for organizing palliative care

services: stand-alone centres; units for palliative care in cancer care centres; and units in matrix hospitals. The selection of the right model depends on the local context, but these models can also be complementary.

For people with cancer, palliative care needs to be considered and planned early on, in some cases as early as when diagnosis is made, and continued throughout the care cycle. Palliative care, when received, is often provided by oncologists, but these are not usually given proper training in this area. Thus people with cancer may not receive the full range of needed palliative care services such as those provided in stand-alone palliative care programmes. Cancer treatment itself has a role in palliation as complications of cancer such as obstructive masses can often be relieved by palliative radiation or chemotherapy, without the need for full courses. This area is under-addressed in palliative care documents.

There is a need to scale-up palliative care in the Region to address existing gaps. However, for the purpose of the current initiative to scale-up cancer care, the focus should be on scaling-up cancer-related palliative care. This includes general palliative care services, but also cancer-specific services such as radiotherapy or chemotherapy. WHO has an important role in supporting a public health approach to palliative care and strengthening capacity-building programmes, including the capacity of primary health care providers and community volunteers. The role of nongovernmental organizations is paramount in providing palliative care services and training programmes.

8. MONITORING CANCER CARE

Dr Rengaswamy Sankaranarayanan and Dr Ian Magrath

Cancer care can be monitored using structural, process and outcome measures. Structural indicators reflect the level of development of health services in a country and what is available in terms of health care infrastructure, such as institutions and organized services, and human and other resources, including technologies and medicines, to deliver cancer care, as well as trends in improving the structural components over time. Examples include the number of cancer hospital beds, the number of cancer care providers available and the availability of evidence-based management and cancer monitoring guidelines.

Process indicators refer to the efficiency of cancer services such as in referral, early detection, treatment and follow-up care, and the coverage of such services. Examples include efficiency of early diagnosis, referral proportion, time from first symptom to treatment, percentage of treatment complications, percentage treated by guidelines, percentage defaulting from treatment, and costs of completing treatment regimens. Waiting time from first referral to a specialist consultation (< 31 days) and time from diagnosis until initiation of treatment (< 31 days) are used as sensitive health system efficiency indicators in European countries such as the United Kingdom. Carefully chosen process measures, such as patient waiting times for care and treatment completion rates, may prove important predictors of outcome.

Outcome indicators refer to changes in health outcomes as a result of cancer care in terms of risk, incidence, case fatality rate (proportion of diagnosed cases dying from disease), survival, mortality, symptoms, suffering and quality of life. Examples include percentage with residual disease, percentage developing recurrence, deaths due to treatment, five-year survival, mortality and cost-effectiveness. The socioeconomic and cultural characteristics of the population will affect outcome indicators. Outcome measures may therefore be affected by factors not under the control of health services such as beliefs, socioeconomic and cultural characteristics of populations, and health care-seeking behaviours. Both process and outcome measures can provide valid information about cancer care, if appropriately used.

The three sets of indicators are derived from appropriate databases including those developed for: administrative purposes, population-based cancer registries, mortality/vital statistics, insurance, service delivery, screening programmes, hospital-based information systems, cross-sectional surveys and medical audits. The ability to perform record linkage, which requires collection and secure storage of personal identification information, is vital.

Discussion

There was consensus on the importance of developing monitoring indicators for cancer care. However, there is a wide range of indicators that can be used. The challenge is to develop a set of indicators, or a composite measure, that is feasible to collect in various health systems (core indicators) and sensitive enough to capture various aspects of cancer care. Such indicators can be included in the list of core indicators for the Eastern Mediterranean Region, which is currently being finalized in consultation with countries. Selection of cancer care indicators must be based on a rigorous process and clear criteria, as has been done for the list of core indicators. Accurate data from a population-based cancer registry are needed to monitor cancer care. Trends over time for many monitoring indicators, such as changes in stage distribution, case-fatality and patient satisfaction, will need to be evaluated to assess the effectiveness of cancer care programmes and interventions. The untoward effects of cancer care need to be monitored too. For instance, the safety of treatment can be measured in terms of trends in adverse events. Over-diagnosis from screening and subsequent over-treatment is also important, though such cases are currently not individually identifiable.

In terms of outcome indicators, trends in mortality have to be interpreted in relation to trends in incidence. A surrogate for survival is the mortality/incidence ratio. It may be difficult, however, to distinguish the impact of prevention, screening and treatment. Many countries of the Region have important gaps in reporting mortality statistics, therefore it is difficult to rely on mortality as an outcome indicator and other indicators may need to be used. Where accurate death registration and mortality statistics are missing, alternatives such as verbal autopsy can be used. For many cancers the fact of death may suffice, and that can be determined from home visits. A useful outcome indicator is relative survival, which is observed survival relative to that expected from all causes of a comparable group of people free of cancer. For palliative care, the number of cancer patients covered, receiving oral morphine and per capita national consumption of oral morphine are useful indicators.

9. STRATEGIC FRAMEWORK FOR SCALING-UP CANCER CARE

Participants reviewed a draft regional framework for scaling-up cancer care in the Eastern Mediterranean Region. The framework included strategic interventions to be implemented by countries and corresponding monitoring indicators. There was consensus that this was very useful as a guide for countries, but it was felt that the framework needed to be developed further to reflect an emphasis on core interventions and indicators. In addition to the framework, participants felt that there was a need to develop manuals of care in various areas, with implementation guides on how to implement the various strategic interventions. An example given was the development of a manual for addressing basic cancer care issues in primary health care.

10. NEXT STEPS AND ACTION POINTS

The meeting achieved its objectives of reviewing the regional situation of cancer care and the obstacles and challenges to its scaling-up, identifying key issues and questions that are important for policy-makers in the Eastern Mediterranean Region, drawing lessons from international and regional experiences in cancer care, and developing a draft regional strategic framework for scaling-up cancer care in the Region. As this was the first meeting of its kind to focus on cancer care in the Region, there was consensus on the need for more work in this area.

The following next steps and action points were agreed upon:

- A full report of the meeting should be done to ensure that the discussions are documented for future reference and use.
- A roadmap for Member States to scale-up cancer care in the Eastern Mediterranean Region should be developed. Further work should focus on elaborating on the key issues and challenges, synthesizing country experiences and best practices, and developing concrete guidance for policy-makers, including policy options and priority interventions in the short and longer term, in the following priority areas (tracks), with focal points (named in brackets) to lead the work with expected deliverables and timelines: organization of cancer care (Rengaswamy Sankaranarayanan, Sameen Siddiqi); financing of cancer care (Paul Sabastian, Awad Mataria); human resources for cancer care (Anthony Miller and Paul Sabastian); evidence-based guidelines and feasible breast cancer management guidelines (Anthony Miller); essential medicines for cancer care (Richard Laing, Marthe Everard); essential technologies for cancer care (Adham Ismail and Rolando Camacho); cancer-specific palliative care services (Suresh Kumar, Khalid Al Saleh); health information and monitoring of cancer care (Ian Magrath and Rengaswamy Sankaranarayanan); and priority research for cancer care (Kalid Al Salah and Hussein Khaled).
- For each track, the working paper developed for the expert meeting will be further elaborated along the following lines: key issues and challenges based on an analysis of the situation and literature and a review of the evidence; summary of the relevant experiences and best practices (international and regional); and policy guidance

including options, the way forward and next steps (including, as appropriate, steps for Member States and WHO).

- WHO will engage a broader network of international and regional experts and practitioners in the various tracks.
- WHO will work with colleagues in the various tracks to further develop the regional framework presented during the expert meeting, including the strategic interventions and monitoring scheme.
- Where feasible, manuals or implementation guides for implementing the strategic interventions will be developed, starting with implementing basic cancer care in primary health care.
- WHO will recruit a focal person to facilitate and coordinate the work and day-to-day follow-up.

Annex 1**PROGRAMME****Monday 21 July 2014**

- 09:00–09:15 Introductory remarks
Dr Ala Alwan
- 09:15–09:20 Objectives and expected outcomes
Dr Samer Jabbour
- 09:20–09:35 Issues in scaling-up cancer care in low- and middle-income countries
Dr Ian Magrath
- 09:35–09:45 Keys issues, gaps and challenges in cancer care in the Eastern Mediterranean Region
Prof Sherif Omar
- 09:45–09:55 Current status of cancer care in the Eastern Mediterranean Region
Dr Ibtihal Fadhil
- 09:55–10:35 Discussion
- 10:30–11:45 **Session 1. Access to cancer care (1)**
Dr Paul Sebastian and Professor Richard Sullivan (recorded)
Discussion
- 11:45–14:00 **Session 2. Access to cancer care (2)**
Dr Rengaswamy Sankaranarayanan and Dr Sherif Omar
Discussion
- 14:00–15:45 **Session 3. Human resources for cancer care**
Dr Anthony Miller and Dr Nagi El Saghir
Discussion
- 15:45–17:00 **Session 4. Access to essential medicines for cancer care**
Dr Ian Magrath and Dr Marthe Everard
Discussion
- Session 5. Access to essential technologies for cancer care**
Dr Rolando Camacho and Dr Adham Ismail
Discussion

Tuesday, 22 July 2014

- 09:15–10:45 **Session 6. Evidence-based cancer care**
Dr Anthony Miller and Dr Hussain Khalid
Discussion
- 10:45–12:00 **Session 7. Palliative care**
Dr Suresh Kumar and Dr Khalid Al Saleh
Discussion
- 12:00–14:00 **Session 8. Monitoring cancer care**
Dr Ian Magrath and Dr Rengaswamy Sankaranarayanan
Discussion
- 14:00–15:30 **Session 9. Closing session**
Preparations for the high level ministerial meeting
Dr Ibtihal Fadhil
Next steps and action points
Dr Samer Jabbour
Wrap up and closing remarks
Dr Ala Alwan

Annex 2

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