

**MEDICAL PHYSICISTS IN THE MIDDLE EAST
QUALITY OF SERVICES AND
RECOMMENDATIONS FOR CERTIFICATION**

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Al-Khobar, Kingdom of Saudi Arabia



Syria

Lebanon

Palestine

Iraq

Iran

Jordan

Kuwait

Saudi Arabia

Bahrain

Qatar

Dubai

UAE

Oman

Yemen

ABBREVIATIONS

- ME: Middle East
- KSA: Kingdom of Saudi Arabia
- UAE: United Arab of Emirates

SOURCES OF DATA

- Questioners sent to the physicists working in the Middle East centers through MEFOMP secretary.
- A Manufacturer data base system.
- Internet search to hospitals/centers website pages.
- Personal communication with physicists.
 - Phone calls
 - E-mails
 - Interviews

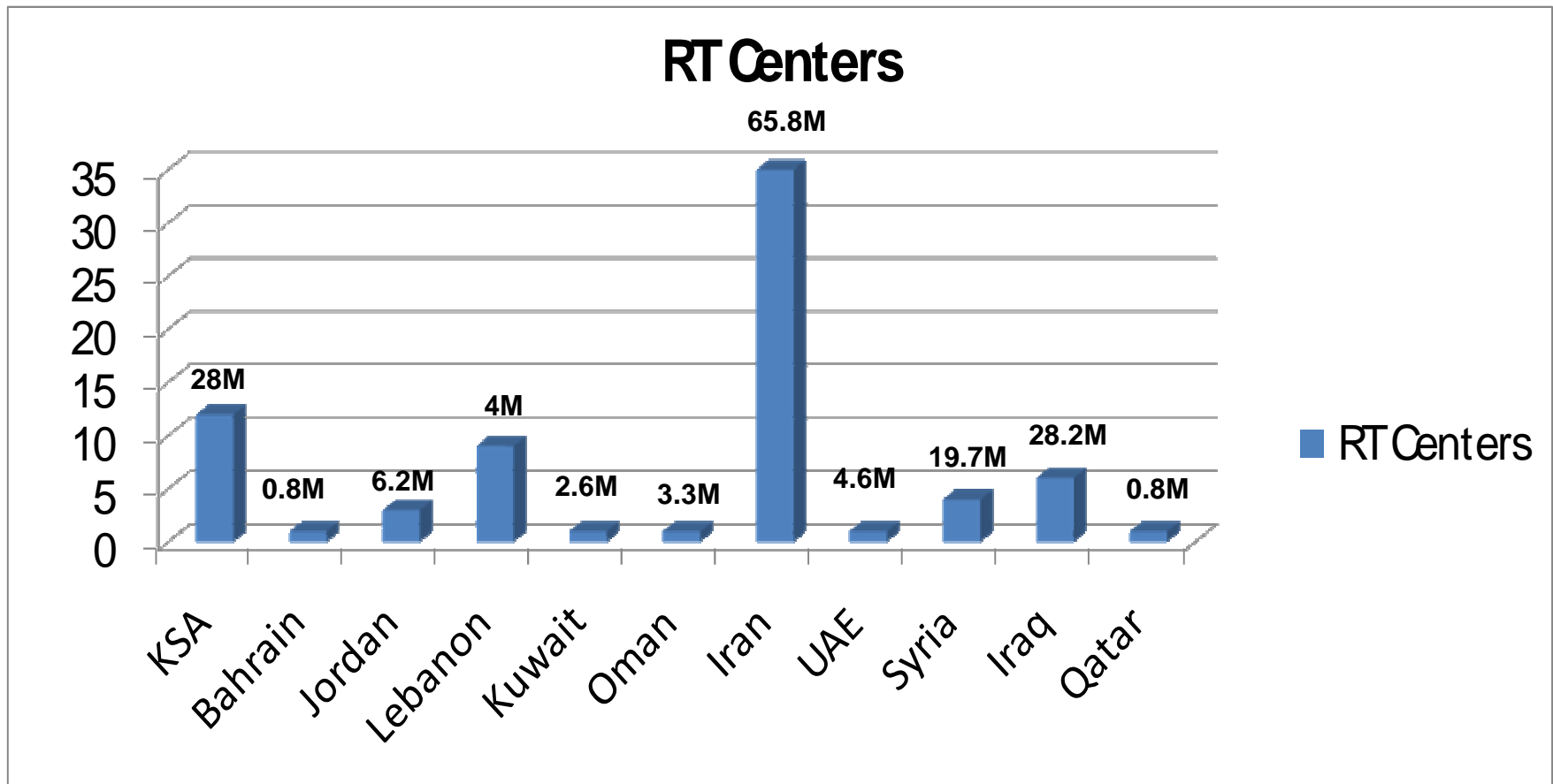
THE QUESTIONNAIRES

- *What are the number of radiotherapy centers at your country?*
- *What are the total number of Medical Physicists working at your country?*
- *Which Guidelines and protocols you follow at your centers?*
- *What criteria are there for the Medical Physicists employment?*
- *What Regulatory body /officials is licensing for Medical Physicists to practice at your country?*
- *Is there a residency program to qualify graduated Medical Physicists?*

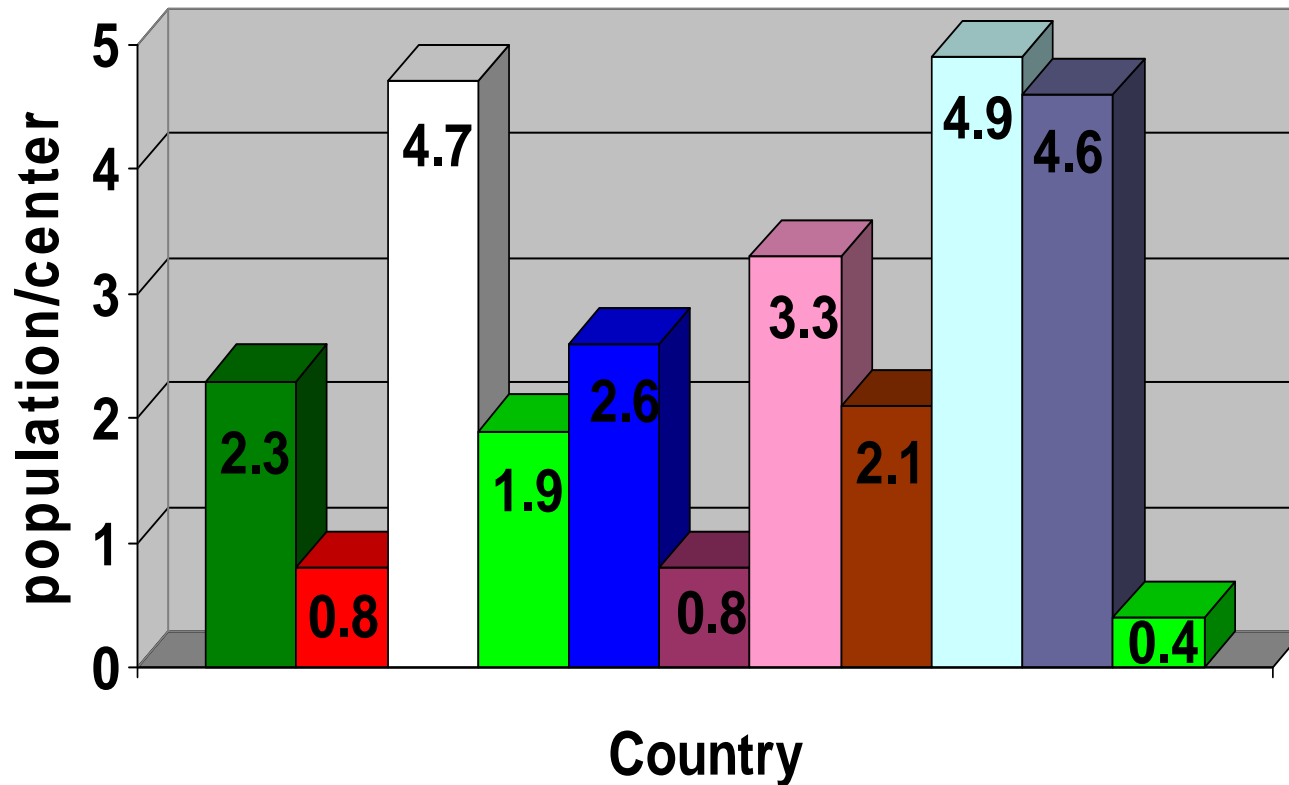
RESPONSES

- 40% only responded.
- Majority had uncertain or limited information to provide specially for the guidelines or protocols followed .
- Most they don't have a clear and definitive answers.
- There were no easy adequate information you may get from internet sites.

RADIOTHERAPY CENTERS IN THE MIDDLE EAST

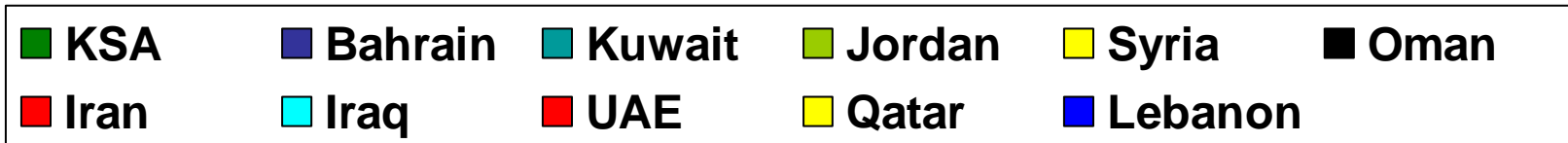
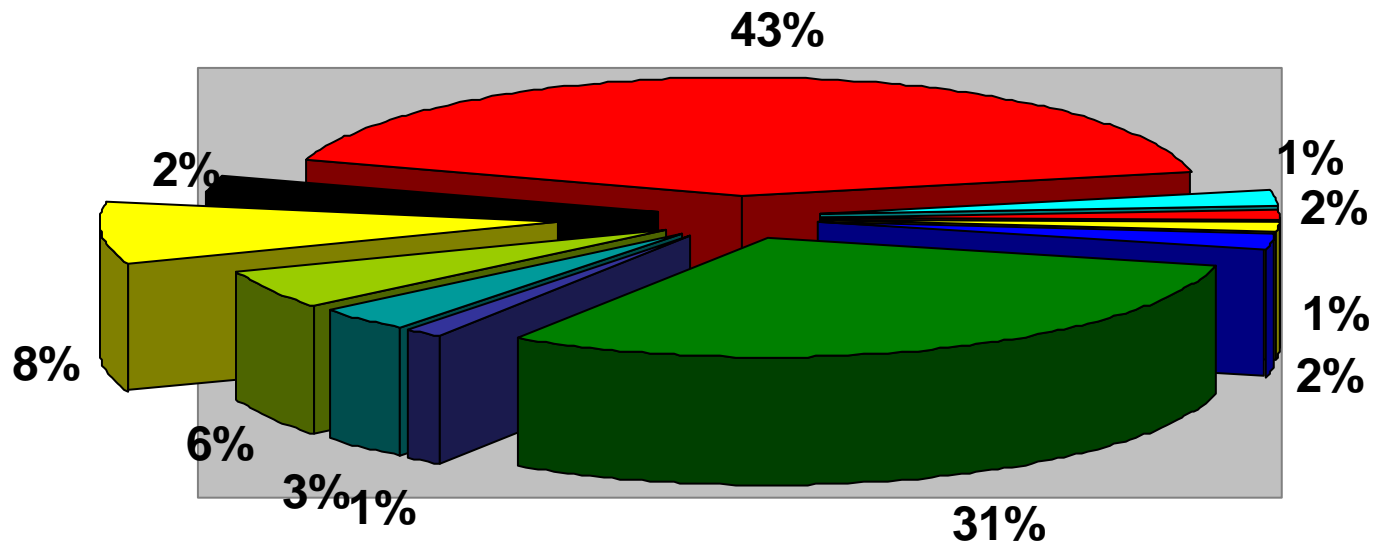


POPULATION / NUMBER OF CENTERS FOR EACH COUNTRY



KSA	Bahrain	Iraq	Iran	Kuwait	Qatar
Oman	Jordan	Syria	UAE	Lebanon	

Medical Physicists in the Middle East



INTERNATIONAL STANDARDS/GUIDELINES FOLLOWED BY ME CENTERS

Center	Country	Standards followed
KING FAISAL SPECIALIST HOSPITAL	KINGDOM OF SAUDI ARABIA KSA	IPEM
SAAD SPECIALIST HOSPITAL	KSA	IAEA, AAPM
ARAMCO HOSPITAL	KSA	AAPM
AL-AMAL SPECIALIST HOSPITAL	QATAR	IPEM
KUWAIT	KUWAIT	No Information
JORDAN	JORDAN	No Information
SALMANIYA MEDICAL COMPLEX	BAHRAIN	IAEA, AAPM
SYRIA	SYRIA	IAEA
RAFIK HARIRI UNIVERSITY HOSPITAL	LEBANON	AAPM
IRAQ	IRAQ	IPEM
SULTAN QABOOS UNIVERSITY HOSPITAL	OMAN	IAEA
TAWAM HOSPITAL AT AL-AIN	UAE	IAEA, ICRP, IPEM, AAPM
IRAN	IRAN	No Information

QUALIFICATION CRITERIA

University degree

- **M.Sc. or Ph.D.**
- **Some centers they are even employing B.SC. Holders.**
- **Years of experience and degree decides position.**

TRAINING FOR THE RESIDENCY PROGRAMS

- There is **no unified** residency program to certify the Medical Physicist graduates.
- Some centers follow independent residency program made to certify their new staff joining and could be in affiliation with other international institutions or known world wide centers, but not related to the regulatory authority of the country. Special Residency programs on an Individual Bases.
 - **King Faisal Specialist Hospital, AAPM Affiliation, in KSA.**
 - **Al Yarmouk University, Jordan**

TRAINING FOR THE RESIDENCY PROGRAMS (CONTINUE)

- **M.Sc. Degree in Medical Physics**
 - **King Fahad University for Petroleum and Minerals (KFUPM)**
KSA.
- **B.Sc. Degree in Medical Physics:**
 - **University of Bahrain (UOB)**
 - **Bahrain**

LICENSING / REGULATORY

- **KSA:** **King Abdul Aziz City for Sciences and Technology / Ministry of Health**
- **Bahrain:** **Licensure, Ministry of Health**
- **Kuwait:** **National Radiation Protection Regulatory**
- **Lebanon:** **National Atomic Energy Commission.**
- **Iraq:** **National Radiation Monitoring Authorities**
- **Iran:** **Iranian Atomic Energy Agency, Ministry of Health**
- **UAE:** **Ministry of Health**
- **Qatar:** **Ministry Of Health**
- **Oman:** **Ministry of Health**

CHALLENGES

- **Variability in the state of arts of the modalities**
 - **Some hospitals are well equipped with the latest state of arts e.g. IMRT, IGRT, TOMOTHERAPY, STRT.**
 - **Some centers are still with lower technology standard e.g. Co-60, 2D-planning,..etc**
- **Variability in practices within one country due to differences in the facilities, techniques and education background.**
- **Hospital /university interaction, most clinical centers are not attached to medical schools.**

CHALLENGES (CONTINUE)

- **Workload : Restricts the research and academic activities.**
- **Research labs & resources are normally limited, but started to grow up.**
- **Updated research supervisors.**
- **Limited Information exchange and networking among the Medical Physics hospital and research team.**

RECOMMENDATIONS

- To organize the Medical Physics practice in the Middle East, we need to start with a common baseline.
- Radiotherapy as 1st specialty that can be considered to start with.
- IAEA may be the convenient choice to adopt since most of ME countries are member in the IAEA .
- IAEA is convenient organization with facilities and prepared to support such ME programs.
- Under the umbrella of the MEFOMP, meetings may be organized to start the guidelines for standards of practice.
- [Network link](#)

WHAT ARE THE PROPOSE IAEA STANDARDS TO BE UNIFIED?

- **Linear accelerator QA protocols, and tolerances.**
- **Absolute dosimetry outputs of the linear accelerators.**
- **Standardizing the machine outputs with respect to IAEA measures, TLD service.**
- **Agree on a uniform Residency program based on minimum qualification, work service and academic activities.**

Thank you...