

Curriculum Vitae

1) Personal data:

Name: Prof. Zeinelabdin Abdelrahim Karrar

Date of Birth: 1.1.1947

Nationality : Sudanese

Marital Status: Married with three children

2) Qualifications:

1. MB.BS University of Khartoum (1971)

distinguished under-graduate record.

2. Postgraduate :

- Membership of the Royal College of Physicians (M.R.C.P)U.K (1975)

- Diploma in Child Health (D.C.H) University of London (1975)

- Diploma in Tropical Child Health (D.T.C.H) University of Liverpool, School of Tropical Medicine and Hygiene (1976)

3) Fellowships and Awards:

1. Fellow of the Royal College of Physicians (F.R.C.P) London (1989).

2. Fellow of the Royal College of Paediatrics and Child Health (F.R.C.P.C.H) U.K (1998).

3. Prof Ahmed Mohamed El Hassan University Award for distinguished contribution to medical education and research (U of K) 2010

4- University of Khartoum Award for Contribution to Teaching and medical education (2016)

5-Federal Ministry of health recognition of contribution to Child Health in Sudan (2017)

4) Academic Posts:

- Professor of Paediatrics and Child Health. U. of Khartoum (since 1995).
- Associate Professor of Paediatrics and Child Health. U of Khartoum (1990).
- Associate Professor of Paediatrics and Child Health U of Riyadh (Saudi Arabia) (1981-1987)
- Assistant Professor of Paediatrics and Child Health. U of Khartoum (June 1976-80).
- Teaching Assistant Dept. of Paediatrics and Child Health (1974 - 1976) on scholarships training in U.K (February 1974 - June 1976).

5) Administrative Posts :

- Deputy VC Nile University (June 2020 to date)
- Advisor to Dean for Graduate Studies and Research Nile College (June 2018 to date)
- President of Sudan Medical Council second tenure (January 2014–June 2018)
- President of Sudan Medical Council first tenure (January 2009 – to December 2013)
- Dean of Graduate College University of Khartoum (June 2000 –April 2008)
- Director of Educational Centre for Health Professions, U of Khartoum (1994 - June 2000)

- Head of Department of Paediatrics and Child Health U of Khartoum (April 1991-February 1994)

6) Clinical Experience

- Senior consultant and head of gastroenterology unit at Jafaar Ibn Auf Specialty Children Hospital (2004-2009)
- Senior Consultant Paediatrician Jafar Ibn Auf tertiary care Children Hospital (2000-2004)
- Senior Consultant Paediatrician & Head of university section Khartoum Teaching Hospital since 1994 to 2000)
- Consultant Paediatrician & Head of university section Khartoum North & AlSafia Teaching Hospitals (1987-1994)
- Consultant Paediatrician & head of unit Al Shumaisi Maternity & Children Hospital & King Khalid Teaching Hospital 1980-1987 (these are the teaching Hospitals of King Saud University, Riyadh, Saudi Arabia. (1980 to 1986)
- Consultant Paediatrician Soba University Hospital, Khartoum 1976-1980.
- Registrar/SHO The Royal Victoria Infirmary, Princess Mary Maternity Hospital & Gateshead Hospital, February 1974 - September 1975 (These are the teaching hospitals of University of Newcastle upon Tyne U K)
- Registrar of Paediatrics Khartoum Teaching Hospital 1973 - 1974.
- Medical Officer Al Obeid district hospital September 1972 - February 1973.
- House Officer September 1971-Sept 1972:

Three month clinical rotations in Medicine, Obstetrics and Gynaecology in Khartoum Teaching Hospital September 1971 -June 1972. Surgery in Elobeid Teaching June-Sept 1972

7) Training Courses

- W.H.O / UNICEF training course for senior teachers of Paediatrics & Child Health:- Institute of Child Health, University of London March - November 1978:

(Five month in U K: advances in child health, curriculum planning, Three months East Africa & India: field training on maternal and child health, nutrition, tuberculosis and community practices.)

 - Advances in Reproductive Health & Administration of Family Health Programs, John Hopkins University, Baltimore, Maryland, U.S.A. February 1979 (6 weeks)
 - Paediatric Gastroenterology training, University of Newcastle, U K: June-August 1988.
 - Integrated Management of Childhood Illness (I.M.C.I) training course (2 weeks) (W.H.O) Katmandu, Nepal: September 1997.
 - I.M.C.I training course for Consultants on Adaptation & Administration. W.H.O Geneva November 1998.
 - Training on Quality Assurance in hospitals, Kuala Lumpur, Malasya: April 2001

8) Experience in Medical Education: :

8-1 Training courses:

- Integrated teaching and the credit hours system., E.D.C Khartoum / W.H.O 1976.
- Curriculum Planning, teaching methods & evaluation (4weeks) King Saud University February 1982.

- Assessment of clinical and practical skills, King Saud University / Dundee University. Riyadh January 1984.
- Community-based education and problem based learning, Suez Canal University, Egypt, December 1987.
- Summer course on: learning through problems .New methods of students assessment and skills training. University of Limburg, Maastricht, the Netherlands, 16 - 29 June 1990.
- Medical Education in the Tropics design, diagnosis & direction. London school of Tropical Medicine and Hygiene, September 1993.

8-2 M Education Workshops:

Facilitator Medical Education computing courses. University of Riyadh ,1984

- Medial curriculum review workshops , University of Riyadh ,1984
- Organizer & facilitator in all medical education workshops conducted in Khartoum University, 1987 to 2001.
- Workshops on standards & accreditation of medical schools, Sudan Medical Council 2005-2007
- Curriculum planning. Nile Medical College. April 2008 Facilitator)
- Students' assessment. Nile Medical College. August 2008 Facilitator)
- Participant all medical education workshops conducted in King Saud University, 1981 to 1987
- **MCQ Item writing or & and psychometric analysis.** SMC/Prof James Ware. April 2009 Third International Conference of Medical Education, Khartoum November 2009 (Member of organizing committee)
- Training of trainers workshop on accreditation of medical schools. WFME in collaboration with Sudan Medical Council. Third International Conference of Medical Education, Khartoum November 2009 (Member of organizing committee/ facilitator)
- Training of trainers workshop on MCQ Item writing and psychometric analysis. Sudan Medical Council./Prof James Ware. Third International Conference of Medical Education, Khartoum November 2009 (**Member of organizing committee/ facilitator**)
- Workshop on assessment and standard setting of OSCE Examination. AMEE Conference. Glasgow 4-8 September 2010
- Training of trainer's workshop on professionalism in medical practice. Sudan Medical Council. Khartoum.2-4 December 2010 (**Head of organizing committee and main facilitator**) **presented a lecture on teaching of professionalism medical schools and graduate medical programs in Sudan.**
- National Consensus /advocacy workshop on accreditation standards in Pharmacy and dental schools in Sudan. SMC Khartoum January 2011. **Presentation on accreditation parameters and SMC experience in Medical schools (organizer and facilitator)**
- Consultation meeting for establishing Afghanistan Medical Council Kabul 2011(**WHO regional consultant**)**presented**
- **Sudan Medical Council experience**
- Training Workshop for assessors in accreditation for pharmacy and dental schools . March 2011 (**organizer and main facilitator**)

- Workshop on: Review and modernization of curricula in medical schools: Social accountability and responsiveness to community and health system needs Khartoum (**21-22 September2011** (who/open university-UK/F MOH/MOHE/SMC). Khartoum. (**head of organizing committee and Facilitator**) Consultants: Prof Janet Grant/ Prof Life Christensen
- Sustainability of accreditation of medical/Pharmacy and dental schools in Sudan: Capacity building in accreditation (SMC/WHO/WFME) . Khartoum 24-26september 2011 (**head of organizing committee and Facilitator**) : Prof Janet Grant/ Prof Life Christensen
- Inter-country consultation meeting for Eastern Mediterranean region (EMR)/WHO on accreditation of medical health professions in EMR. Tunis-Tunisia, 22-25 November 2011 (Consultant and facilitator) **Presented Sudan Medical Council on accreditation of Medical, Pharmacy and Dental schools**
- Sudanese association of Obstetricians twenty fifth conference. Khartoum 16-19 February 2012, **Presented a plenary lecture on ethical principles and good medical practice in relation to HIV**
- First International conference on health of Khartoum College of Medical Sciences, Khartoum 24- 27 February 2012. **Presented a plenary lecture on: Issues in teaching and training of professionalism and social accountability in Sudanese medical schools**
- Workshop on Professionalism (pre-conference training) International Conference on Assessment and Evaluation , Khartoum Sudan, 18 February 2012
- Workshop on consensus building on teaching modules on communication, medical ethics and professional behavior for Faculties of medicine in Sudan. 31 March 2012
- Workshop on accreditation (WFME/AMEEMER) Ibn Aljazar faculty of medicine. Sousse University, Tunisia 2-6 November2012 (consultant/facilitator)
- AMEEMR regional conference and regional committee meeting Riyadh, Saudia Arabia , quality and accreditation group coordinator2013.
- AMEE workshops on social accountability of Medical schools(Prof Trevor Gibbs).EDC Khartoum 2-4 June 2014 (presented SMC experience with 4 medical shools)

8.3 Conferences &Visits:

- Sharing experiences on community oriented /problem based learning in EMRO: visits to Suez Canal University, Agha Khan University & Bagai College , Pakistan.1989
- World Summit on Medical Education, Edinburgh 8-12 August 1993 (faculty and country representative).
- Joint meeting of Regional Committee, Federation of Medical Education and Deans of medical schools, Al Ain, U.A.E, 9-11 April 1994 .
- First International Conference of Medical Education, Khartoum February 2005 (organizer)
- Second International Conference of Medical Education, Khartoum March 2007 (Member of organizing committee)
- Third International Conference of Medical Education, Khartoum November 2009 (Member of organizing committee)

- Sixth Scientific meeting of Union of Deans Of Arab Medical Schools. Khartoum, November 2009 (Member of organizing committee)
- AMEE 2010 Conference. Glasgow 4-8 September 2010
- Evaluation of Orotta mMedical School and external examiner to final year students. Asmara ,Eritrea 24-30 november 2010

9) Educational Development Center for Health Professions (EDC) Activities:

9-1 As Director of E.D.C-Khartoum the following was accomplished:

- The center was relocated in a new building with adequate administrative, educational and training space, more staff were recruited and new equipment & technological support was provided.
- Re-establishing relation with WHO EMRO and other regional educational institutions and the educational institute in Dundee- Scotland
- Reform of the curriculum of Faculty of Medicine, U of Khartoum was completed and endorsed by the faculty board.
- A number of medical education courses on curriculum planning ,teaching methods and evaluation were conducted .Participants included staff from medical schools all over Sudan. Courses were W.H.O. sponsored.
- Training courses for trainers in nursing & midwifery on teaching methods skills training & evaluation were conducted in collaboration with M.O.H.
- Curriculum documents were prepared and finalized in workshops for a number of newly established medical schools.
- Curriculum documents for nurses, medical assistants & midwifery cadres were reviewed and reformed in collaboration with M.O.H.
- Several workshops on medical education & partnership were conducted.
- Students learning were supported through provision of more video-television sets & videos, organized activities in the skills laboratory and preparing and publishing a student manual for skills.

9-2 Other contributions:

- Member of the executive committee of the Association of Medical Education in the Eastern Mediterranean Region (AMEEMER).
- Chairman & member of task force for curriculum planning for a number of newly established medical schools.
- Director & facilitator of workshop on curriculum reform, Sana'a University , April 1999.W.H.O assignment.
- Consultant for establishment of E.D.C at Abha University (S. Arabia) 1999. W.H.O assignment.

10) Contribution to Teaching & Training:

10-1 Teaching:

- Postgraduate students in M.D training program.
- Clinical teaching of undergraduate students & postgraduate registrars in paediatrics.

- Secretary of the department- in charge of time-table and rotations for 3 tenures.
- Co-coordinator of part Teaching of all spectrums of paediatrics and child health and primary care to fifth and final year students both in U of Khartoum & Riyadh.
- Teaching 1 & part two of the MD program 1988 - 91.
- Co-coordinator of the Newcastle link exchange program.
- Convener of MD degree committee 1991-94.
- Co-coordinator of Diploma of Medicine & Paediatrics program 1994.
- Co-coordinator & teaching in M.C.H component of Msc. Nutrition Ahfad University.
- Member of Higher Commission Of Sudan Medical Specializations Board (SMSB) since 2006
- Chairperson of pediatrics and Child Health (SMSB) (2004-2008)

10-2 Training:

- Training of registrars, house officers & young consultants. The unit is rated as one of the best training units, about 30 house officers & 18 to 20 registrars are trained yearly.
- Training of sisters & nurses.
- Training of trainers for A.R.I, CDD & IMCI programs of Primary Health Care .
- Co-ordinator of Arab Board Residency Program King Saud University 1984-1986.

10) Contribution to the University of Khartoum higher administration :

- Member of University of Khartoum Council (2001-2008) (2019 to date) .
- University Senate since 1991 to date
- University financial & Administrative committee (2000-2008, 2019- todate) .
- Committee for admission & tuition fees(2000-2008)..
- University appointment committee (2000-2008)
- University promotion committee (2000-2008).
- University planning council(2005-2008)
- University academic, cultural relations & research committee (2000-2008)
- The academic boards & **research** boards of a number of faculties and institutes.
- The committee for administrative decentralization of the university (2005-2008)
- The committee for review of the university present situation (academic, administrative & financial) 2005- 2008
- Member of the university committee for research strategy of University of Khartoum 2010
- Higher Education training committee (2000-2008).

Faculty of Medicine:

- Member of faculty of medicine Board since 1995 to date
- Member of faculty research committee since 1995.
- Member of faculty curriculum committee since 1995

- Member and secretary of curriculum reform committee
- Member of steering committee of Faculty of Medicine, UoF. Imperial college/UK collaboration (Hajar Initiative 2018) presented Child Health research priorities to forum

11) Contribution to the Ministry of Higher Education and Research :

- Chairperson of the committee for Medical and Health Sciences studies (April 2020 to date)
- Member of the committee for Medical and Health Sciences studies (2004 to April 2020)
- Representative of the committee for medical and health sciences in the Sudan Medical Council(2004-2008) (2020- to date)
- Member of the committee for medical and health sciences research (MOHE) 2004- to date)
- Member of university council- University of Khartoum 2019 to date)
- Member of university council- Ibn Sina University 2018 to date)
- Member of university council- Merawi U University 2019 to date)
- Member of university council- Ibn University (2019 to date)
- Member of university council- Azaem Alazhary University 2009- 2017)
- Member of university council- Al Ribat University (2004-2016)
- Founding board member and chairman of curriculum committee Nile College of Medicine and Health Sciences 2006
- Higher education; Committee for Centers of excellence (report)
- Sudan_USA universities collaboration forum (committee Chairman and finalization of document. Medical and Health sciences group chairperson and chair of consultation session(November 2018)
- Sudanese Egyptian Universities collaboration forum. Preparation and presentation of Medical and health Sciences research and medical education collaboration (March 2019)

12- Contribution to the Health System :

12-1 National committees:

- Member of the Ministerial Advisory Council (2019 to date)
- Chairperson Of the National Advisory Council on Paediatrics and Child Health (2020- to date)
- Member of the National Advisory Committee on the Paediatric & Child Health Specialty (1998 to date)
- Member Of Khartoum Teaching Hospital Board Of Governors (2021- to date)
- Member of Gafar Ibn Aouf Pediatric Specialties Hospital governors Board (2019- to date)
- Member of the Advisory Committee for the Minister of Health, Khartoum State (1990-2000)
- Member of the advisory committee for the first under-secretary of the federal ministry of health (2000 – to 2019)
- Member of the Advisory Group on the Health Sector for the Council of Ministers, Federal Government (2004-2019)
- Member of the committee for planning health services after the peace agreement with the south (2004- 2005)
- Member of the national committee for health manpower planning and training.(2004-2005)

- Member of the national committee on ethics and research in the health sector (2004- to date)
- Focal point and coordinator of the national program for development of medical education (W.H.O/M.O.H) 1994-2000.
- Focal point for introduction of I.M.C.I preservice-training to Medical Schools and para-medical training institutes (W.H.O/M.O.H) since 2000.
- Focal point for introduction of Diarrhoeal Diseases training to Medical Schools (MED.ED) (W.H.O/M.O.H) 1996-1998.
- Member of the advisory council for the Federal Minister of health FMOH, 2009 to date Member of the National Council For Coordination in the Health Sector 2009 to date
- Member of the advisory council on Accreditation of Health Institutions in Sudan FMOH since 2009- to date
- Member of **Joint Assessment of the National Strategy(JANS) team(National consultant)** assigned by WHO for Joint Assessment of Sudan Health Sector Strategic plan II (NHSSP II) 2012-2016. Khartoum 18-29 November 2012

12-2 National EPI program:

- **Member of the Regional Immunization Technical Advisory Group (RITAG) for WHO EMRO region**
- President of the National Immunization Technical Advisory Group (NITAG) since 2013 (Vice president of the National Immunization Technical Advisory Group (NITAG) since 2008)
- Chairman of the National Expert Committee for Poliomyelitis Eradication since 1999.
- National representative in the W.H.O Technical Advisory Group (TAG) WHO EPI Twenty-eighth inter-country meeting of the National EPI Managers 16-19 November 2014. Oman Jordan
- WHO NITAG chairpersons EMR inter-country meeting 20-21 November 2014. Oman Jordan (presented Sudan NITAG experience)
- WHO EPI Twenty-ninth inter-country meeting of the National EPI Managers and the Sixteenth Inter-country meeting on Measles/Rubella Control and Elimination 29 November- 4th December 2015. Oman Jordan (Chaired the meeting day 2 and 3)
- Workshop for priority countries in the Eastern Mediterranean Region for establishing and strengthening immunization in the second year of life and beyond. Beirut, Lebanon, 4-6 March 2019

12.3 Human Resources for Health:

- Member of the national committee for reform of nursing & midwifery training (The effort resulted in the Sudan Declaration document adopted jointly by M. of Higher Education, M.O.H & W.H.O) 2001.
- Member of the committee for job description & carrier structure for doctors 2001 And 2015
- Senior trainer & Director of training courses for trainers for P.H.C programs of C.D.D, A.R.I, I.M.C.I since 1990.
- Member of the Ministerial Committee for review of medical specialist training in Sudan (September 2007)

- Chairman of sub-committee on “ Job description and carrier pathway for specialists in the Health sector” , Mistrial review of Sudan Medical Council, April 2008.
- Member of the advisory council on house officers training for FMOH, 2008 to date

12.4 Child health:

- Chairman of adaptation group for I.M.C.I program.
- Member of the national alliance for fortification of bread (2000) and national advisory board to the nutrition program PHC.
- Member of the national task force for preparation of the Child Health Policy Document 2005 (collaborative effort with WHO Regional office EMRO)
- Member of the Regional committee for evaluation of IMCI pre-service training (EMRO) 2005-2006
- Member the advisory council to FMOH for Paediatrics and Child Health 2008to date
- Member of the committee for review of training and human resource planning in the health sector reporting to Ministerial Council. October 2010 (chairman of subcommittee on quality of HR in health)

13- Contribution to the Paediatric Specialty:

- President of the Sudanese Association of Paediatricians (July 2004 – 2006)
- Chairman of the Paediatric & Child Health post-graduate training Council in the Sudanese National Medical Specializations Board (2004 to June 2008)
- Member of the Sudan Medical Council (Paediatric Specialty) since 1987
- Member of the Council for Paediatrics and Child Health, Federal MOH (Advisory to under-secretary) since 1987
- Member of the Sudanese Association of Paediatricians since 1976.
- Secretary of the Sudanese Association of Paediatricians 1988-91.
- Academic secretary & editor of journal Sudanese Association of Paediatricians.
- President Elect of Sudanese Association of Paediatricians September 2001.
- Fellow of the Royal College of Paediatrics & Child Health (U.K)
- Examiner to Arab Board In Paediatrics .
- Examiner for the Arab Board & Diploma of Child Health (Yemen) 2002 ,2005
- Examiner to Royal College of Physicians and Surgeons of Pakistan (2005)
- External examiner Faculty of medicine U of Malawi, Blantyre 1999.
- External examiner to Sanaa Medical School ,Yemen , December 2002 , 2006.
- External examiner to a number of Sudanese Medical schools.
- Overseas sponsorer to a number of doctors training in paediatrics in UK & U.S.A
- Member of the International Paediatric Association.
- Member of the executive council of the Sudanese Association of Gastroenterology.
- Chairman Of the scientific committee of the 15th Pan Arab Conference for Paediatric Associations. Khartoum 11-15 November 2007 .

- Examiner for Final MD in Pediatrics and Child Health, Sudan Medical Specialization Board (SMSB) since 1995 to date
- Examiner to final Arab Board Examination for Pediatric specialty.
- Examiner to the MRCPCH for Rya College of Paediatrics and Child Health (UK)

14 Publications and scientific contributions :

14-1 Scientific papers:

1. Karrar Z A. Prenatal Mortality. Sudanese Journal of Paediatrics, supp.(1) 1977; 49-57.
2. Omer M I, Karrar Z A .The pattern of emergency admissions in Khartoum. Sudanese Journal of Paediatrics 1977; 2: 19-30.
3. Ahmed M M, Karrar Z A, Roberts C J. Drug metabolism in malnourished children: a study with antipyrin. Archives of Disease in Childhood 1979; 54 (4): 299-301.
4. Fedail S S, Karrar Z A, Harvey R F and Read. Serum Trypsin as a measure of pancreatic exocrine function in children with protein energy malnutrition. Lancet 1980; 2:374.
5. Karrar Z A, Omer M I O. Morbidity pattern among under-five children in a rural community in Sudan. Tropical & Geographical Medicine 1981; 33: 75-78.
6. Karrar Z A. Diphtheritic polyneuropathy in Sudanese children. Journal of Tropical Paediatrics 1981; 27 (1): 23-25.
7. Karrar Z A, Abdulla M A. Gastroenteritis among under-five children in Riyadh: a prospective analysis of 254 hospital admissions. Annals of Tropical Paediatrics 1981. 1: 119 - 22.
8. Karrar Z A, Elidrissy A T H, Adam K A & Arabi K. Cutis Laxa, intrauterine growth retardation and bilateral dislocation of the hips: a report of five cases. Skeletal Dysplasias: Progress in Clinical and Biological Research 1982; 104: 215-21
9. Karrar Z A et al .The Wrinkly Skin syndrome: a report of two siblings from Saudi Arabia. Clinical Genetics 1983; 23 :308-10.
10. Karrar Z A. Neonatal hepatitis and biliary atresia: a common aetiology ? Sudanese Journal of Paediatrics 1984; 3 :42-45 .
11. Elseed F, Karrar Z A. Congenital Afibrogenaemia in a Saudi family :a case report & family study .Acta Haematol. 1984; 71: 388-92 .
12. Abdulla M A, Jamgoum G, Karrar Z A et al .Seroepidemiology of Rubella in Riyadh: an adapted vaccination policy. British Journal of Epidemiology & Community Health 1984 ; 236-39.
13. Taha S A, Karrar Z A & Dost S. Transcutaneous bilirubin measurement in assessing neonatal jaundice among Saudi infants .Annals of Tropical Paediatrics 1984 ; 4:229-31 .
14. Karrar Z A. Cutis Laxa, ligamentous laxity and growth retardation .Paediatrics 1984; 5 :903.
15. Karrar Z A, Abdulla M A .Pyogenic liver abscess in children . Annals of Tropical Paediatrics 1985; 5 : 97-101.
16. Adam K A, Elseed F A, Karrar Z A & Gadir A A. a combind factor V and VIII deficiency: a family study .Scandinavian Journal of Haematology 1985; 34 : 401-405.

17. Karrar Z A, Al Arabi K, Adam K A & Elidrissy A T H. cutis Laxa, growth retardation and bilateral hip dislocation: a report of further four cases Saudi Medical Journal 1985; 6: 561-65.
18. Karrar Z A et al. Neonatal Jaundice among full term infants in Riyadh: a prospective analysis of 190 hospital admissions. East African Medical Journal 1985; 10: 62 - 66.
19. Abdulla M A, Karrar Z A et al. Cystic fibrosis in a Saudi child. Saudi Medical Journal 1986; 7: 189 - 92.
20. Elidrissy ATH, Abdulla M A, Alsidrani S, Karrar Z A et al. Level of vitamin D in female school children at different age groups in Saudi Arabia. In: Vitamin D, Walter de Gruyter, Berlin 1985 ;561-62.
21. Izz Eldin A S, Karrar Z A. H-type tracheo-Oesophageal fistula in a Saudi child. Annals of Saudi Medicine 1986; 6 (2) :129 - 33.
22. Abdulla M A, Stubbe P & Karrar Z A. Dangers of topical corticosteroids. Annals of Saudi Medicine 1986; 6:265 - 66.
23. Abdulla M A, Ashong E F, Al Habib S, Karrar Z A & Al Jishi N M .Fever in children. Annals of Tropical Paediatrics 1987; 7(3): 1232 - 27.
24. Karrar Z A et al. .Meningitis and septicaemia due to a multiply resistant strain of *Haemophilus influenzae* type B. Journal of infection 1987 ; 14: 61-65 .
25. Babiker M A, Patel P J, Karrar Z A & Hafeez M A. Comparison between serum ferritin and computed tomographic densities of liver, spleen , kidneys and pancreas in children with B thalassaemia major .Scandinavian Journal of Clinical Laboratory Investigations 1987; 47: 715 - 18.
26. Karrar Z A, Abdulla M A et al. Loperamide in acute diarrhoea in childhood results of a double-blind, placebo controlled clinical trial .Annals of Tropical Paediatrics 1987; 122 - 27.
27. Karrar Z A et al. Trans-cutaneous bilirubin measurement: Evaluation of the jaundice meter to screen for significant jaundice. Annals of Tropical Paediatrics 1988; 9: 59 - 61.
28. Behemuka M, Karrar Z A et al. Protean manifestations of Wilsons disease: a review of seven Saudi patients. Tropical Geographical Medicine 1988; 40:131 - 8.
29. Karrar Z A et al. Mortality among children with meningococcal disease: an analysis of deaths in the 1988 epidemic. Sudan Medical Journal 1990; 28:16:22.
30. Karrar Z A & Mabrouk A Z.Cutis Laxa, growth retardation and hip dislocation in a Sudanese child .Annals of Tropical Paediatrics 1991; 11:367 - 70.
31. Salih M, Ahmed H S, Karrar Z A et al. Features of meningococcal disease in a large epidemic. Scand. J Infect. Dis. 1991; 22: 161 - 70.
32. Karrar Z A, Patel J P & Abdurrahman M B. Hydrops of the gallbladder in a child with Wilsons disease: a rare association. Indian Paediatrics 1991; 28: 91 - 94.
33. Karrar Z A, Omer M I A. Training medical students and graduates in primary health care at community level Soba-Butri field training experience .Sudan Medical Journal 1992; 30(1): 93 - 95.
34. Musa A M, Yassin S & Karrar Z A. Training of medical students in health centers. Sudan Health Forum 1992; 47 - 53 (Arabic).
35. Karrar Z A et al. Street children in Khartoum: social and health profile. Children at RiskKaren Edborg & Per Egil Mjaavon (ed.). The Norwegian Centre for Child Research, Trondheim 1993; 150 - 53.

36. Ibrahim S & Karrar Z A .The pattern of childhood tuberculosis in Khartoum. Sudan Medical Journal 1993; 31(2):1 - 16.

37. Ibrahim S & Karrar Z A .The incidence and time trend of childhood immunizable diseases in hospitals in Khartoum. Sudan Medical Journal 1995

38. Mobashar B, Karrar Z A & A/Aziz M I Neonatal tetanus in a rural Sudanese community: A study of knowledge, attitudes & practices .Tropical Paediatrics 1996; 42: 110 - 12.

39. Ahmed I S, El Toum, Karrar Z A & Gebril A R. Knowledge, attitudes and practices of mothers regarding diarrhoeal diseases among children in a Sudanese rural community. East African Medical Journal 1995; 71(11): 716 - 19.

40. El Hag A I & Karrar Z A. Nutritional rickets among Sudanese children .Annals of Tropical Paediatrics 1995; 15: 69 - 76.

41. Karrar Z A & A/Rahim F. Prevalence and risk factors of parasitic infections among under-five Sudanese children. East African Medical Journal 1995 ; 72(2): 25 - 31.

42. Mustafa S I, Karrar Z A & Suliman G I.Cerial based oral rehydration solutions in Sudanese children: a comparative clinical trial of rice-based and sorghum-based oral rehydration solutions. Annals of Tropical Paediatrics 1995; 15: 313 - 19.

43. Muzamil Hussein A/Gadir, Abdel Rahman Eltom ,Zein Karrar & Ilham Sid Ahmed. Identifying at risk under-five children in Sudan .Eastern Mediterranean Health Journal 1995; 1: 38 - 46.

44. M S K Hashim, M A M Salih, A A Elhag, Karrar Z A et al. AIDS & HIV infection in Sudanese children: a clinical & epidemiological study. AIDS Patient Care and STDs 1997; 11(5): 331 - 37.

45. Hashim Elzein, Maurenn E Birmingham, Karrar Z A, A/Raouf El Hassan & Awad Omer. Poliomyelitis outbreak and subsequent progress towards poliomyelitis eradication in Sudan. The Lancet 1997; 350 (9079): 715 - 16.

46. M E Birmingham, Karrar Z A, A A El Hassan, & A Omer. Rehabilitation of the expanded Program for Immunization in Sudan following a poliomyelitis outbreak. Bulletin of the World Health Organization 1998; 76(4): 335 - 41.

47. Karrar Z A. Vitamin D deficiency rickets in the developing countries. Annals of Tropical Paediatrics;1999.. 18: 589 – 92

48. Ahmed Atif A, Osman Hani, Mansour Alawayha, Musa Hassan A, Ahmed Abdalla B, Karrar Zein, Hassan Sidahmed Hassan. Antimicrobial Resistances to Bacterial Isolates from Patients with Diarrhoea and Urinary Tract Infection in Sudan. American Journal of Tropical Medicine and Hygeine 2000; vol 63 (no 5- 6): 259-63

49. Abdelrahim O Mohamed Bekhieta Attalla Fathyia M K Bashir Fatima E Ahmed Ahmed M El Hassan Gafar Ibnauf Weiyin Jiang Luigi L Cavali-Sforza Zein al Abdin Karrar Muntaser Ibrahim . Relationship of the sickle cell gene to the ethnic and geographic groups populating the Sudan .Community Gene 2005 ; 9: 113-120

50. M Mohammed, Z.E.A. Karrar and S.H. El-Safi .Coeliac disease in Sudanese children with clinical features suggestive of the disease. Eastern Mediterranean Health Journal 2006 . Vol 12 , No 5 : 582-89

51 .Mahd A Altom, Omer Alagra, Zein A Karrar. Concepts and Policies of Graduate Studies. Proceedings of the Conference on : post-graduate training in The Sudan .University of Kartoum .13-15 March 2006 (arabic)

52. Zein A Karrar. Partnerships of Graduate College University of of Khartoum. Proceedings of the Conference on : post-graduate training in The Sudan .University of Kartoum .13-15 March 2006 (arabic)

53.Medani M Medani ,Zein A Karrar, Alrasheed MusaZeinab Altahir. Administration and Funding of Graduate College University of of Khartoum. Prceedings of the Conference on : post-graduate training in The Sudan .University of Kartoum .13-15 March 2006 (arabic)

54.Zulfiqar A , Asim Belgaumi , Mohammed Abdur Rab , Zein Karrar ,Mohamed Khashaba and Nezha Mouane . Child health and survival in the Eastern Mediterranean region . BMJ 2006 ; 333 : 839-842

55.Mohamed B Abdelrahim,Zein A Karrar, El tigani M A Ali. Spectrum of Renal bone Disease in Sudanese children with chronic Renal Failure. Sudan Medical Journal 2009;45(1):42-47

56. Zein A Karrar. Professionalism and Good medical Practice: The Role Of Sudan Medical Council. Sudan Medical Journal 2009: 45(2)

57 Zeinab Gaily, Zein Karrar: neonatal outcome of in vitro fertilization in Sudan

58 .Innam N Mohammed, Ali Arabi, A Baraka, Zein Karrar. Successful medical treatment of a large thoracic hydatid cyst in a child.Khartoum Medical Journal 2009, Vol 02 (2) : 219-221

59 Zein A Karrar. Paediatric training and practice in Sudan: the making of a paediatrician. .Sudanese Journal of Paediatrics and Child Health 2010;vol10: 7-9

60 Nahid S Zumrawi, Zein A Karrar, Ali M Arabi and Mohamed A Abdulla. Osteopetro-rickets: Case report and review of literature. Khartoum Medical Journal 2011; Vol: 3 (NO 6): 508-10

61- Claudi Di Blasi,Emanuela Bellafiore, Mustafa A M Salih, M Chiara Manzni, Maoia M Mukhtar, Zein A Karrar, Christopher A Walsh,Kevin P Campell, Renato Mantegazza,Lucia Murandi and Marina Mora. Variable disease severity in Saudi Arabian and Sudanese families with c.3924 + 2T} C mutation of LAMA2.BMC Research Notes; December 2011, 4; 534-16

62 Sudan Medical Council, editor. Teaching and assessing Professionalism-A guide to course development. Khartoum: Sudan Medical Council; 2011. 36 p.

63 Attalla B A, Karrar ZA, Ibnouf G, Mohamed A O, Abdelwahab , Nasir E M6, El Seed M AOutcome of cholelithiasis in Sudanese children with Sickle Cell Anaemia (SCA) after 13 years follow-up. African Health Sciences March 2013. Vol 13 Issue 1: 155-59

64 - Eltigani M.A,Amal H.A/Rahman, Zein A. Karrar. Sudanese Journal of Paediatrics 2012; vol12 (No 2): 52-59 -

65 - Badreldin Abass, Inaam N Mohamed, Maha Elseed, Zein A Karrar. Causes of uncontrolled Seizures among Sudanese children, KMJ 2014:07: 915-920

66 Inaam N. Mohamed, Maha A. Elseed, Ahlam A. Hamed, Manar E. Abdel-Rahman, Sarah M. El-Sadig, Ilham M. Omer, Abdelgadir H. Osman, Ammar E. Ahmed, Zein A. Karrar & Mustafa A. Salih. Prevalence of epilepsy in 74,949 school children in Khartoum State, Sudan. Journal of Paediatrics and International Child Health Volume 37, 2017 - Issue 3 Pages 188-192

67- Alex Adjagba a, Noni E. MacDonald b,†, Inmaculada Ortega-Pérez a, Philippe Duclos c, 2016 Global NITAG Network Meeting Participants 1. Strengthening and sustainability of national immunization technical advisory groups (NITAGs) globally: Lessons and recommendations from the founding meeting of the global NITAG network Vaccine 35 (2017) 3007–301167-

68 Mohamed IN, Karrar Z. Teaching methods and assessment of professionalism among undergraduate medical schools in Sudan. 2018;11(01):1454–9.

69- Zein A Karrar.(leading Article) Global trends in Quality Assurance in Medical Education: Implications and Challenges to Medical Education in Sudan. Khartoum Medical Journal (November 2018, vol11:3.158-23

70- Mohamed IN, Karrar Z. Perception of medical students and faculty on teaching of professionalism: challenges and suggestions for improvement. Khartoum Med J. 2019;12(2):1587–95.

71 - Boelen C* , Blouin D **, Gibbs T *** , Woppard R*and NITAG group 2018 Accrediting excellence for a medical school's impact on population health Excellence .(summited for publication)2019

14-2 Other Publications: Manuals and booklets:

- 1- Manual of Reproductive and child Health. Students manual for Ahfad University for Women. (Editor & author of section on child health) 1998.
- 2- The Book of Abstracts (2000) : Clinical M.D in Paediatrics & Child Health Thesis abstracts compilation 1976 - 2000.
- 3- The Book of Abstracts (2004) : Clinical M.D in Paediatrics & Child Health Thesis abstracts compilation 1976 – 2004 (2nd ed.)
- 4- Skills Laboratory students manual (E.D.C Khartoum) 2001.
- 5- National guidelines on standard case management in paediatric emergencies . FMOH 2004 (editor)
- 6- Proceedings of the workshop on : post-graduate training in The Sudan .University of Khartoum .13-15 March 2006 (editor)
- 7- Guidelines for Clinical OPD Teaching in IMCI Pre-service Training (author)
- 8- خلق الطبيب و واجبه The Doctors Ethics and Duties (booklet for Medical Students) 2009 (Arabic)
- 9- Sudan Medical Council Guide Booklets: SMC Profile
 - 1) Accreditation Policy, 2) Accreditation Standards,
 - 3) Self-Study Guide, 4) SMC Accreditation Procedures

14-3 W H O assignments reports on :

- 1) E.D.C Khartoum plan of action 1996 - 98.
- 2) Review of curriculae of Sudanese Medical Schools 1997.
- 3) Educational Training for Health Personnel 1998.
- 4) Partnership between MOH &medical schools in Sudan 1980
- 5) Establishment of an Educational Development Centre in Abha Medical School Saudia Arabia 1998.
- 6) First I.M.C.I National Course for senior academic professors and senior paediatricians ,Alexandria Egypt 1999
- 7) I.M.C.I Orientation &introduction (March 1990). First national course (November 1999). Adaptation Consensus Meeting (May 2001). Baghdad-Iraq
- 8) EMRO document on development and field testing of evaluation tool for IMCI pre-service training . (2005-2006)

- 9) Workshop on curriculum reform and innovative teaching. Faculty of Medicine and Health Sciences, University of Sanna, Yemen 29 June-6th July 2007
- 10) Reformed Curriculum Document of Faculty of Medicine and Health Sciences, University of Sanna, Yemen (co-author) December 2007
- 11) Teaching module in breast feeding and young infant feeding for medical schools and paramedical institutions in Sudan 2009.

15- Supervision of graduate students :

15-1 P.H.D & MD (by research):

1. Khairy N Efficacy & acceptability of (Gongulase) solution as home-made fluid in the management of children with diarrhoea. (co-supervisor (PHD) U of K 1998.
2. AlZubery L. Knowledge, attitudes & practices of Yemenis mothers towards children with diarrhoea and the quality of case management in health facilities in Sanaa. (M.D) U of Khartoum 2001.
3. Renas Fadallah Al Mubarak . Pneumonia Case Management in Children Under-five : A Study in First Referral Hospitals in Khartoum ,Sudan . M Sc Thesis in International Community Health . University of Oslo . June 2006 (Co-supervisor)
4. Salah Ahmed Eltayeb Elmalik. Childhood-onset hereditary peripheral neuropathy, cerebellar ataxia and spastic paraplegia in Sudanese and Saudi populations: A clinical, electrophysiological and genetic study. (PHD) University Of Khartoum. October 20012(co-supervisor)

15-2 Partial Fulfillment Thesis

15-2-1 Clinical M.D U of Khartoum:

1. Ibrahim S A: Glucose-based and Cereal-based O.R.S in the management of acute diarrhoea in children, 1989.
2. A/Rahim F: Parasitic infection among under-five children: a community based study, 1991.
3. Mubashar B: Neonatal tetanus in rural & displaced communities in Eastern Nile province, 1992.
4. Banaga A A: Street children in Khartoum: social. Nutritional & health profile, 1992.
5. Hassan S M H: Tetanus among Sudanese children: a hospital based study, 1993.
6. A/Rahman Y: H.I.V infection among high risk children in Juba , 1993 .
7. Suliman O: Acute phase reactants in children with severe PEM , 1994
8. Omer K: Non-febrile convulsions in Sudanese children: a hospital based study 1994.
9. Ishag D: Persistent diarrhoea among hospitalized children in Khartoum, 1994.
10. AL Beily S H: Nutritional status of primary school children in Khartoum state, 1995.
11. Suliman A K; Pattern, aetiology & outcome of congestive heart failure in infants and children, 1996.
12. Malik A A: Pattern of clinical presentation and viral isolates in under-five children with A.R.I in Khartoum state, 1997.
13. Abdulla A M: Anaemia in Sudanese newborns: Aetiology, risk factors and clinical presentation, 1997.
14. Hussein M D: Prevalence of tuberculosis infection among household contacts of smear positive adult tuberculous patients, 1999.
15. Elhag AM A: Tuberculosis in Sudanese children: a hospital based study, 2000.
16. Siddig I: Protocol management of acute diarrhoea in children with severe PEM, 2001.

17. Eltayeb M M: Lead poisoning & Toxicity among high-risk groups of children in Khartoum state, 2001.
18. Elmuntasir Taha : nutritional status of under-Five refugee children in Wad Shereef refugee camp-Kassala May 2002 .
19. Ahmed Abdulla : Otitis media in Sudanese children in Khartoum State : aetiology & correlates .May 2002 .
20. Ilham Mustafa : Coeliac disease in a high risk group of Sudanese children . October 2002
21. Amani Malik Amin Nabri .Rota Virus Diarrhoea in Children Admitted to Khartoum Children Emergency Hospital with Watery Diarrhoea . 2003
22. Amani Hussein Ahmed .Assessment of IQ in Epileptic Children and Psychological Impact on their Families .2003
23. Hatim Ali Ahmed Gindeel . Vertical Transmission of Hepatitis B in Omdurman Maternity Hospital . 2003
24. Amani Mohamed Modawi . Screening for Urinary Tract Infection in Asymptomatic Pre-school Children in Shaambat District . 2003
25. Khalid Yousif Ishag . Clinical Presentation and Management of Hemolytic Disease of the Newborn in Khartoum State .2004
26. Maha Mohamed Omer .Fever in Children Under-5 years : Causes. Knowledge ,Attitudes and Practice of mothers , nurses and doctors in Management of Acutely Febrile Children .2004
27. Zeinab Mohamed Gaily . Short-Term Outcome of In-Vitro Fertilization (IVF) Babies in Kartoum .2004
28. Mubarak A/rahman Mohamed . Mothers Perception , Knowledge and Practices regarding Childhood Malaria in Sudan .2004
29. Orainib Hamid El Rasheed .Psychological impact of chronic renal failure on Children and Their Families .2004
30. Mohamed Babiker A/Rahim .Spectrum of Renal Bone Disease in toun .20004
31. Mona E Abd Elrahman .Retinol level in children with bronchial asthma Khartoum Children Emergency Hospital . 2004
32. Azza Abdel Rahim Mohamed Prevalence of Micro-albuminuria & Retinopathy Among Adolescents With Insulin Dependent Diabetes Mellitus (IDDM) . October 2005
33. Amir Eltayeb Ismail .Prevalence of Intestinal Protozoa and parasites Infestations among Under-5 Children in Jebel Awlia Governrate , Khartoum State .2005
34. Salma Abdulla Ali . Pattern and Precipitating Factors of Psychological Disorders in Children and Adolesants in Khartoum State .2005
35. Pattern of renal disease among hospitalized children in Khartoum state .2005
36. Amani M Gindeel .Erythropoitin in Children with Chronic Renal Failure in Khartoum state . 2006
37. Magda I Mohamed .Iron Satus in Sever Protein Energy Malnutrition .2007
38. Lana Mahir A/Latif .Indications & Outcome of Upper and Lower GIT Endoscopy in Children . 2007
- 39- Gawahir A M Mukhtar .Clinical Presentation & Imaging Findings Among Children with Intracranial Space Occupying Lesions 2007 *Clinical*

15-2-2 M.D Sudan Medical Specialization Board:

- 1 – Sarah Hassan Eltahir. Knowledge and practice of young infant feeding by working mothers and it limitations In Omdurman locality- Sudan.June 2011
- 2- Abeer A/Rahman A Algirity. Feeding knowledge and practice among mothers of under-five malnourished children in Portsudan. September 2012-10-29

3- Somia Mohamed Ali Suliman. Thyroid hormone status in children with severe protein energy malnutrition admitted to Dr Gaffar Ibn Auf Hospital in Khartoum. September 2012

4 Sara Bushra Al Doumi. .Rota Virus Gastroenteritis: prevalence ad counseling Practices in Khartoum and Omdurman Hospitals for Children 2113

5- Badr EldinDifficult to control convulsions among children 2013

6- Fatima Yousif Alshareef. Aetiology, clinical presentation, presentation, management and complications of hydrocephalus in Sudanese children. June 2014

7- Ali Alsir Musa. Vitamin D level in children with type-1 Diabetes mellitus ant its effect on glycemic control 2015

8-Salma Mohamed AwadAlsharif: Eczema in infants and children children

Ongoing:

- Alnazir Mohamed Bilharzia among school children in Jabal Awlia locality- Khartoum state

15-3 MSc Medical Education

- Enam Nouer Aldayem Gashi 2017 : Teaching of Professionalism in Sudanese Faculties of medicine
- Ibtisam Faroug 2018 : Burnout, stress and fatigue among Pediatric Residents in specialty training in Sudan
- Hala Kamal 2018 Social accountability in Sudanese Faculties of medicine

Other research activities:

Head of Child Lung Project .EPI-Lab Sudan in collaboration with International Union Of Lung Disease and Tuberculosis (ITULD)

16) Conference presentations :

- Symposium on neonatal problems in the developing countries. Queen Charlotte hospital, London July 1997.
- X11 Congress of the Middle Eastern and Mediterranean Paediatric Societies, Khartoum 1997. (presented a paper)
- Sudanese Association of Paediatricians conferences, 1997, 1999 (presented a paper)
- Saudi Medical Conferences (1980, 1981, 1983, 1984, 1985-presented papers)
- The Second International Symposium of the International College of Paediatrics, Rhodes, Greece May1981.
- Third International Clinical Genetics Seminar on Skeletal Dysplasias, Greece 1983 (presented a paper)
- Sudanese Association of Paediatricians Conferences 1987, 1989, 1992 & 2000 (presented papers)
- International Symposium on Heat Related Disorders, Khartoum, 1988.
- XX Regional conference on Tuberculosis in the Middle East, Khartoum 1988.
- Meeting of the Arab Medical Associations, Khartoum, 1991 (presented a paper)
- Tropical Medicine Update, Liverpool School of Tropical Medicine, 1993.
- Conference on Children at Risk, Bergen, Norway, 1992.

- Medical Education Conferences & workshops (see section: 7)
- PHC & WHO workshops (see section: 10 & appendix)
- Regional conference on Impact of globalization on Higher & Research, Tunis November 2000.
- Pan Arab/African Gastroenterology Associations meeting, Khartoum, Feb. 2001.
- Quality control in Hospitals & Health services, Kuala Lumpur, Malaysia June 2001.
- Sudanese Association of Paediatricians 12th Conference .Khartoum 2001 (Presented a paper on Specialist Training in Sudan .)
- Meeting of Arab Paediatric Associations & Saudi Paediatric Conference Jeddah, Saudi Arabia, November 2001 (presented a paper on I. M.C.I pre-service training)
- The Second Meeting on the Genetics of Population of the Sudan & East Africa (presented a paper on :Genetic disorders in Sudan : a clinical perspective .) November 2002
- Sudan Association of Paediatricians 13th Conference .Khartoum July 2003 (presented a paper on Childhood Mortalities in Sudan)
- Academy of Medical Sciences and Technology First International Scientific Conference 2003 (presented a paper on PHC Training for Medical Students)
- First International Conference of Medical Education in Sudan,. EDC U of Khartoum 2004 (presented a paper :The impact of Educational Training Center U of Khartoum on Training of Different Health Cadres in Sudan .)
- Symposium on Undergraduate Medical Education in Sudan . Royal College of Physicians London , December 2004 (presented an invited paper on : Undergraduate Teaching : Present and Future Trends)
- Sudan Association of Paediatricians 14th Conference .Khartoum July 2005 (presented a paper on : Childhood Mortalities in Sudan and the Challenges of Health Services to Children in the South after the Peace Agreement)
- Workshop on: Post-graduate Training in The Sudan; University of Khartoum experience. Khartoum 13-15 March 2006 (Chairman of steering committee) (Presented paper on: Coordination between graduate college and other partners within and outside the University of Khartoum.
- Main contributor to two other presentations on Policy and concepts of graduate training
- Second International Conference of Medical Education . Khartoum February 2006 . (Organiser , presented a paper on : Medical Education in Sudan)
- 15th Pan Arab Conference for Paediatric Associations . Khartoum 11-15 November 2007 (Chairman of the Conference Scientific Committee ,Contributor to Three Scientific papers and Coordinator of a forum on : Promotion of Child Health in Sudan)
- Third International Conference of Medical Education, Khartoum November 2009 (Member of organizing committee) presented a paper on Accreditation of medical, dental and dental schools in Sudan)
- Sixth Scientific meeting of Union of Deans Of Arab Medical Schools. Khartoum, November 2009 (Member of organizing committee)

- Sudan_USA universities collaboration forum (committee Chairman and finalization of document. Medical and Health sciences group chairperson and chair of consultation session 2018(presented group concept paper)
- Faculty of Medicine, U of K. Imperial college UK collaboration (Hajar Initiative)2018 (Presented Child health concept paper)
- Sudanese Aegyptian Universities collaboration forum.(Preparation and presentation of Medical and health Sciences research and medical education collaboration)2019
- Regional & International Consultative Workshop for priority countries in the Eastern Mediterranean Region for establishing and strengthening immunization in the second year of life and beyond. Beirut, Lebanon, 4-6 March 2019. (Chairperson Day-1 Presentations &group work presentations)

17- Contribution to National and Regional Child Health programs:

17-1 WHO Child Health programs

- Member of consultation group on IMCI pre-service training, Geneva ,Feb. 1998.
- Member of consultation meeting on IMCI re-adaptation of the fever box, Geneva, Feb. 2001.
- Regional consultation meeting (EMRO), Morocco, October 1999.
- Plenary Presentation on (IMCI strategy as a tool to improve health services and medical students training in primary health care). Arab Pediatric Societies meeting, Jeddah, Saudi Arabia. November 2001.
- WHO EMR Task Force for development of evaluation tool for IMCI pre-service training .Cairo 9-12 April 2006 .Khartoum august 2006
- Field testing of IMCI pre-service training evaluation tool : Alexandria University 26 June- 2 July 2006. University of Khartoum 11-16 August 2006 .
- WHO Regional consultation (EMR) on IMCI Pre-service Training Evaluation . Cairo 26-29 August 2006 (Presentation of Sudan experience).
- WHO Temporary Adviser for Conduction of Workshop on curriculum reform , University of Sanna ,Yemen & Production of Curriculum Document for Medical & Health sciences Divisions May 2007
- WHO regional Consultation on Child Health Policy .Tunisia December 2006
- Regional Consultation on Teaching & Training of Breast Feeding Counseling in EMRO . Morocco May 2007
- WHO Regional Consultation on Scaling Up of IMCI in EMRO . Amman , WHO Jordan September 2007
- WHO Global Consultation on IMCI Training Approaches . Geneva November 2007
- Introduction of the Regional Package on Infant and Young Child Feeding. 11-17 April 2008, Amman, Jordan
- WHO Meeting of experts on standardized IMCI pre-service education package, Tehran, Islamic Republic of Iran. 26 July-1 August 2008
- WHO experts meeting for final country adaptation and conduction of the first national IMCI training course. Tripoly, Libya. November 2008
- Who consultant: Inter-country training on the regional guide of evaluation of IMCI pre-service education. Almansourah, Aegypt, 4-11June2009

- Who consultant: Inter-country training on the regional guide on the orientation and planning for IMCI pre-service education. Cairo, Egypt, 25-30 July 2009
- Who consultant: Evaluation of IMCI pre-service education in Gezira University using the regional guide of evaluation. Wad Medani, Sudan. 4-10 December 2009
- WHO/EMRO APW " Report on breast feeding and young infant feeding in medical schools in Sudan" .September 2009
- WHO consultant to: Regional IMCI Coordinators meeting. Sanaa-Yemen 6-9 December 2010 presented Sudan e country experience in Pre-service education of IMCI
- WHO regional consultant. Consultation for establishment of Afghanistan Medical Council. Kabul, June 2011
- WHO Consultant. IMCI pre-service education orientation and planning workshop for eight medical schools. Islamabad. Pakistan.10-14 October 2011
- WHO Consultant. Evaluation of IMCI pre-service education at Legat University of Medical and health Sciences. Jamshoro-Sindh. Pakistan
- APW on Creating and Sustaining a National Accreditation system for medical, pharmacy and dental schools in Sudan. 2010-2011
- WHO consultant Inter-country consultation meeting for Eastern Mediterranean region (EMR)/WHO on accreditation of medical health professions in EMR. Tunis-Tunisia, 22-25 November 2011
- WHO Consultant. Evaluation of IMCI pre-service education at faculty of Medicine. Africa International University. Khartoum Sudan. November 2011.....
- WHO consultant Regional consultation meeting for Eastern Mediterranean region (EMR) on updating regional guidelines on feeding infants and young children. Aswan. Egypt April 2012
- WHO/AMEEMER consultant/organizer workshop on accreditation of Medical schools in Tunisia. Sousse university .Tunisia 2-6 November 2012
- Member of Joint Assessment of the National Strategy (JANS) team assigned by WHO for Joint Assessment of Sudan Health Sector Strategic plan II (NHSSP II) 2012-2016. Khartoum 29 November 2012 (WHO national consultant)
- Consultant and chairman of technical task force for Global Fund/ Federal Ministry of health project on linking medical education to the health system and reform of medical school curricula to include social accountability and professionalism in their curricula and training. 2011-2013
- WHO temporary advisor. Global consultation on IMCI Pre-service Education. Geneva 2-4 December 2012.
- WHO temporary advisor. Global consultation on updates of Pneumonia and diarrhea management Geneva 5-6 December 2012.
- Preparatory meeting for high level consultation on reducing mortality from Pneumonia and Diarrhoea in EMR . Cairo December 2012
- High level meeting on reducing mortality from Pneumonia and Diarrhoea. Dubai 29-30 January 2013 (Advisor to WHO)

- AMEEMER Conference on Quality of Medical Education and Accreditation Riyadh,Saudia Arabia 4-8 February (presentation of QAAC group to executive committee meeting)
- Quasim Medical school external evaluation WFME/WHO/AMEEMR 2-4 February 2013 (Team Member)
- College of Medicine and Health Sciences Sultan Qaboos University SQU/CMHS Accreditation. Oman WFME/WHO/AMEEMR . 14-18 June 2013(Team Member)
- WHO/EMRO strengthening Medical Education in EM Region.26-29 November 2014. Cairo (presented SMC sudan experience in introducing Social Accountability in curricula of Medical Schools)
- ARADO Conference: 13th Arab Conference on New trends in Hospital Administration(migration of Health Workers In the Arab Region: Maximizing the Benefit and reducing the Risk.8-10 December 2014 Dubai .UAE (presented Sudan situation and perception as a source country. (Invited by The Arab Administrative Development Organization (ARADO)
- EMRO Inter-country Training of Trainers course on complementary feeding of children 6-24 months. Khartoum, Sudan. 23-27 August 2015 (Course Director)
- WHO EPI Twenty-ninth inter-country meeting of the National EPI Managers and the Sixteenth Inter-country meeting on Measles/Rubella Control and Elimination 29 November- 4th December 2015. Oman Jordan (Chaired the meeting day 2 and 3)
- EMRO Accreditation for Iraq medical schools. Amman- Jordon 2017
- Agence de Medicine Preventive(AMP.hpid)/SIVAC WHO Collaborating Centre. First meeting of the International NITAG Network Veryier-du- lac. France 11-12 may 2016. Representing National Immunization Expert Group (NITAG) in EMRO Sudan
- WHO HQ Geneva. Technical consultation on conducting paediatric death audits in health facilities in low and middle income countries; Geneva Switzerland 7-8 December 2016

WHO/HQ Strategic Advisory Group of Experts (SAGE) on immunization meeting. Geneva Switzerland 24-27 April 2017 co-opted member representing chair persons of National Immunization Expert Group (NITAG) in EMRO

- Workshop for priority countries in the Eastern Mediterranean Region for establishing and strengthening immunization in the second year of life and beyond.

Beirut, Lebanon, 4-6 March 2019

17-2 Integrated Management of Childhood Illness (I.M.C.I) local and EMR regional contribution and experience

Personal capacity building for leadership (WHO/UNICEF)

1. I.M.C.I standard case management course, Katmandu, Nepal, September 1977.
2. I.M.C.I training of consultants on Adaptation & Planning, Geneva, Nov. 1998.

Contribution to adaptation:

1. Chairman of the National Adaptation Group in Sudan (1996) for adapting training materials for doctors (English) and Medical assistants (Arabic version).
2. Chairman of the National Committee for introduction of IMCI training in Pre-service training in Medical & Health workers schools, 2000.
3. W.H.O Consultant for orientation & adaptation, Baghdad, Iraq, June 1999.

4. W.H.O Consultant for adaptation, Baghdad, Iraq, May 2001.

Contribution to Training:

1. Clinical instructor: first National IMCI course. Khartoum, December 1997.
2. Clinical instructor: first Regional IMCI course. Khartoum, March 1998.
3. Supervision of clinical instructors, second Regional Course. Khartoum Nov. 1998.
4. Course Director, Facilitators Training, Medani, July 1998.
5. Course Director, First Arabic course, Khartoum, March 1999.
6. Clinical Instructor & Trainer of Instructors, First National course ,Egypt, Alexandria Feb. March 1999.
- 12) Clinical instructor, First National course, Baghdad, Iraq, Oct.-November 1999.

19-3 Other contributions:

1. Member of the National IMCI Steering Committee.
2. National Focal Point for IMCI Pre-service Training.
3. Regional IMCI Consultant, EMRO since October 1998.
4. Member of consultation group on IMCI pre-service training, Geneva ,Feb. 1998.
5. Member of consultation meeting on IMCI re-adaptation of the fever box, Geneva, Feb. 2001.
6. Regional consultation meeting (EMRO), Morocco, October 1999.
7. Plenary Presentation on (IMCI strategy as a tool to improve health services and medical students training in primary health care). Arab Pediatric Societies meeting, Jeddah, Saudi Arabia. November 2001.
8. WHO EMR Task Force for development of evaluation tool for IMCI pre-service training .Cairo 9-12 April 2006 .Khartoum august 2006
9. Field testing of IMCI pre-service training evaluation tool : Alexandria University 26 June- 2 July 2006. University of Khartoum 11-16 August 2006 .
10. WHO Regional consultation (EMR) on IMCI Pre-service Training Evaluation . Cairo 26-29 August 2006 (Presentation of Sudan experience). Regional Consultation on Teaching & Training of Breast Feeding Counseling in EMRO . Morocco May 2007
11. WHO Meeting of experts on standardized IMCI pre-service education package, Tehran, Islamic Republic of Iran. 26 July-1 August 2008
12. WHO Regional Consultation on Scaling Up of IMCI in EMRO . Amman , Jordan September 2007
13. WHO Global Consultation on IMCI Training Approaches . Geneva November 2007
14. Introduction of the Regional Package on Infant and Young Child Feeding. 11-17 April 2008, Amman, Jordan
15. WHO Meeting of experts on standardized IMCI pre-service education package, Tehran, Islamic Republic of Iran. 26 July-1 August 2008
16. WHO experts meeting for final country adaptation and conduction of the first national IMCI training course. Tripoly, Libya. November 2008
17. Who consultant: Inter-country training on the regional guide of evaluation of IMCI pre-service education. Almansourah, Aegypt, 4-11June2009

18. Who consultant: Inter-country training on the regional guide on the orientation and planning for MCI pre-service education. Cairo, Agypt, 25-30July 2009
19. Who consultant: Evaluation of IMCI pre-service education in Gezera University using the regional guide of evaluation . Wad Medani, Sudan. 4-10 December 2009
20. WHO/EMRO APW " Report on breast feeding and young infant feeding in medical schools in Sudan" .September 2009
- 21 WHO consultant to: Regional IMCI Coordinators meeting. Sanaa-Yemen 6-9 December 2010 presented Sudan country experience in Pre-service education
- 22 WHO Consultant. IMCI pre-service education orientation and planning workshop for eight medical schools. Islamabad. Pakistan.10-14 October 2011
- 23 WHO Consultant. Evaluation of IMCI pre-service education at Legat University of Medical and Health Sciences. Jamshooro-Sindh. Pakistan.15-22 October 2011
- 24 APW on Creating ad Sustaining a National Accreditation system for medical, pharmacy and dental schools in Sudan. 2010-2011
- 25 WHO consultant Regional consultation meeting for Eastern Mediterranean region (EMR) on updating regional guidelines on feeding infants and young children .Aswan. Agypt.....2012
- 26 WHO Consultant. Evaluation of IMCI pre-service education at faculty of Medicine. Africa International University. Khartoum Sudan.
- 27 WHO temporary advisor. Global consultation on IMCI Pre-service Education. Geneva 2-4 December 2012.
- 28 WHO temporary advisor. Global consultation on updates of Pneumonia and diarrhea management Geneva 5-6 December 2012.

- **18- Sudan Medical Council 2009 to June 2018 :**

- **AS President of Sudan Medical Council 2009 to June 2018 :**

- An accreditation policy for Medical schools was endorsed and planned activities on: advocacy, training of assessors, and creating partnerships with medical schools and higher education were conducted in the form of a series of workshop and forms and meetings
- The first round of accreditation o Medical schools was conducted 2010-20012 and included 24 medical schools
- Policy and bylaws for accreditation of Pharmacy and dental schools was endorsed in 2011 advocacy workshops and training of assessors conducted
- Represented SMC in IAMRA general meeting and conference: Medical Regulations, Evaluating Risk and Reducing Harm to Patients. GMC-UK London9-12 September 2014
- SMC Update of Standards advocacy workshop November 2014
- WHO/EMRO strengthening Medical Education in EM Region.26-29 November 2014. Cairo (presented SMC sudan experience in introducing Social Accountability in curricula of Medical Schools)

- Sudanese Pediatrics Association conference 5-7 December 20014 Khartoum.(presentation the role and challenges to pediatricians in training young doctors on professionalism)
- SMC first Health Forum. 27-28 December 2014 Khartoum (presentation on medical professionalism and the role of consultants In nurturing professionalism).
- EMRO Inter-country Training of Trainers course on complementary feeding of children 6-24 months. Khartoum, Sudan. 23-27 August 2015 (Course Director)
- Headed Organization and conduction the following activities in 2015:
- SMC Local Workshops on Accreditation
- National Advocacy workshop of policy and standards of accreditation 2015
- National Advocacy and training workshop Self Study Guide June 2015
- Training of assessors on Updated Accreditation Guidelines 27-28 October 2015
- Assessment and evaluation visit for SMC pilot project on linking Medical Schools with the Health system through contextualizing Social accountability concept in their curricula and introducing Professionalism courses: Prof Janet Grant and Prof Jack Boulet evaluation visit 16-20 August 2015-
- An extremely positive report was received in October 2015 and availed Partners Federal Ministry of Health ,Global Fund, WHO and Ministry of Higher Education
- SMA-UK& Ireland Conference 19-21 December 2015 Khartoum(two presentations)
- SMC experience in Contextualizing Ethics Teaching
- SMC efforts in Teaching and Training of Professionalism Sudan Medical Council was mandated for accreditation of Medical in 2004 (14). An administrative structure was established, a policy document was passed, adapted national standards based on WFME standards for basic medical education and aligned with the “model College” standards were adopted. Plans and activities including wide advocacy , training of assessors and collaborative work with medical schools and health partners were executed including the first round of external evaluation of 22 medical schools out of 24 targeted
- Since 2009 the advocacy and training efforts were linked to WFME through participation of senior advisers in workshops and assessors training as well advice on suggested future plans.
- In 2013 Sudan Medical Council strategy targeted obtaining WFME recognition as a national accrediting body a prime goal and worked to fulfill the recognition criteria.
- Necessary WFME recognition criteria were fulfilled and SMC documents were edited, published and distributed including:
- SMC Profile
- Accreditation Policy
- Accreditation Standards
- Self-Study Guide
- SMC Accreditation Procedures
- **That was successfully attained on 5th of June 2018 , Sudan becoming the 9th country to achieve that worldwide and the first in Africa and the Middle East.**

- Two medical schools(Khartoum and Gezira) were accredited since then and the initial indicators of the positive impact of recognition were evident, a number of medical schools submitted their applications and self-study documents for starting the accreditation process by SMC, public debate on quality of medical education and the impact of accreditation on graduate outcome as well as support at higher legislative and executive levels were promising