Journal of Health, Medicine and Nursing
ISSN 2422-8419 An International Peer-reviewed Journal
Vol.23, 2016

Knowledge Translation in Emergency Medicine among Intern Doctors In Karbala Hospitals

Saleem Atia Joher
M.B.CH.B/ Diploma in Medical Education

Professor,Yousif Abdul Raheem
MBCHB\ FICMS\CM, Al Kindy College of Medicine

Assist Professor,Wijdan Akram Hussein
MBCHB\ FICMS\CM, Al Kindy College of Medicine

Abstract:-
Background: Knowledge translation (KT) describes any process that contributes to the effective and timely incorporation of evidence-based information into the practices of health professionals in such a way as to affect optimal health care outcomes and maximize the potential of the health care system. Emergency medicine offers a truly unique educational experience for medical students.
The aim of this study: is to establish the extent to which newly graduated doctor in a medical program can translate their own knowledge to emergency practice.
Method and Results: A descriptive cross sectional study conducted during the period from the first of January to the last day of September 2013 in Karbala Teaching Hospitals. The sample is composed of 49 Intern doctors (newly graduated) in Karbala teaching hospitals. The questionnaire consisted of two main domains, with 13 items. Section one (chick list) was designed to explore doctors' performance. The second section was designed to asses perceptions of doctors about emergency KT.
Statistical Analysis
Data was analyzed by Minitab 13.1 software was used for data entry and analysis.
P-value ≤ 0.05 considered as significant.
Results:
Majority complete test with high score evidence. But reversed to that the majority (83.67%) show low evidences to call protocol, and about half of doctors (51.02%) failed to take consent. The majority of doctors (87.76%) did not incorporate guidelines and their implementation in clinical practice, and (69.39%) thought there are barriers to incorporate EBM.
Conclusions and Recommendations; Most of candidate show high technical tasks regarding pass exam corresponding to that, the majority show low evidences to call protocol, and instead of that they follow traditional procedures that learned in emergency rooms from older doctors (Role Model). While most of candidates agree about the benefit of K.T to improve medical emergency service.
Current study revealed a lack of awareness of benefit toward Continuous Medical Education.
Extra research projects can be designed around the K.T to determine the most effective ways to adhere doctor's optimal skills and ensure that they become efficient practitioners of evidence-based medicine (EM).
Key wards: Knowledge translation, emergency medicine, Intern doctors

1. Introduction:

1.1 Emergency Medicine is a field of practice based on the knowledge and skills required for the prevention, diagnosis, and management of the acute and urgent aspects of illness and injury affecting patients of all age groups with a full spectrum of undifferentiated physical and behavioral disorders. It is a specialty in which time is critical [(1)]. Practicing emergency medicine has always been challenging due to:

- Patients arrive at all hours of the day and night.
- The range of problems emergency physicians encounter is incredibly broad.
- The consequences of error are high.

Despite the fact that the most common problems posed by patients presenting to emergency rooms are encountered daily around the world, are often and practice variation is impressive, the gap between publics need and systems capacity to meet it has grown so wide that hospital-based emergency care is at the "breaking point." So there is the need to advance the quality, safety, and efficiency of emergency care through research, coupled with rapid translation of new knowledge to bedside care [(2)].
Studies conducted in the United States and The Netherlands demonstrate that 30%–40% of care given to patients is not based on current evidence and that 20% of care is either unnecessary or potentially harmful. There are

numerous theories explaining these findings and why medical professionals are reluctant to accept the most current medical evidence.

1.2 In terms of practice, most Iraqi emergency cases responded that they would seek emergency care in a hospital (84.8–90.0%) [3].The emergency medical infrastructure is still in the primary stages in the country, although last years have shown significant improvement. Iraqi Emergency Medicine Working Group (EMWG) comprised of officials from Ministry of Health (MOH) and the Ministry of Higher Education (MOHE), practicing physicians, and members of the Iraqi Medical Specialty Society. Its goal is to help support the development of emergency policy that will provide a framework for the practice of emergency medicine in Iraq. [4]

Iraq currently has about 229 hospitals on 2010 which rose to 231 hospitals on 2011and continuing to raise, each with some form of emergency department [5].

Hospital-based emergency medical care is the final destination for most patients experiencing traumatic or medical emergencies and the IMC/USAID has also focused on educating doctors across Iraq on emergency medical skills at this level. At the beginning of 2008, the IMC sponsored the first formal lectures in emergency medicine ever given in Iraq, as part of a now annual continuing medical education program [6].

Although the last year has seen significant progress in Iraqi emergency medical care, the country still has system wide deficiencies needing immediate interventions on numerous levels. First, there is a general lack of education in the general public in regards to medical emergencies. This spans many levels including how to prevent the leading causes of avertable emergency morbidity and mortality (e.g., avoidable accidents, heart attacks, etc.); how to quickly recognize medical emergencies in the community; how to provide community first aid; and, how to access emergency medical services [4].

1.3 Knowledge translation:

Knowledge translation (KT) describes any process that contributes to the effective and timely incorporation of evidence-based information into the practices of health professionals in such a way as to affect optimal health care outcomes and maximize the potential of the health care system[6]. KT skills should be appreciated and utilized by medical students, residents, and postgraduate physicians. Medical students are still learning the basics, and the bulk of evidence-based medicine (EBM) skills (critical appraisal and information mastery) would be taught during the undergraduate medical education period. During professional practice, physicians must keep up with changes in practice and regularly apply critical appraisal skills to their reading of the current medical literature in their specialty [1].

KT is a term that describes activities or processes that facilitate the transfer of high-quality evidence from research into effective changes in health policy and clinical practice [1]. It contributes to the effective and timely incorporation of evidence-based information into the practices of health professionals in such a way as to affect optimal health care outcomes and maximize the potential of the health care system. [7].

Demonstration of improved patient outcomes associated with better guideline adherence, the most effective translation and implementation of treatment guidelines occur through the collaborative integration of health care providers and administrators [8].

Aims of study

1. To establish the extent to which newly graduated doctor in a medical program can translate their own knowledge to emergency practice.
2. To show the perception of intern doctors regarding to patient health care outcome.
3. To illustrate barriers that prevents EBM incorporation in practice.

2. Methodology

2.1 Study design: Descriptive cross sectional study was used to assess perceptions of intern doctors (newly graduated) and their ability of transferring their knowledge to practice in emergency units.

2.2 Settings*:* The study was done in Karbala Teaching Hospitals, (Imam Al-Husain Medical City Teaching hospital), (Pediatrics Teaching Hospital), (Maternity Teaching Hospital).

2.3 Duration: the collection of data was conducted during the period from first of January to the last day of September 2013 in Karbala Teaching Hospitals, (Imam Al-Husain Medical City Teaching hospital), (Pediatrics Teaching Hospital), (Maternity Teaching Hospital).

2.4 Sample: the sample size of this study was 49 out of 54 of newly graduated doctors participated in the study respond (90.7%) which is convenient sample.

2.5 Ethical consideration: The study protocol as well as the questionnaire was approved by ethical and scientific committee of the Al kindy college of Medicine, Baghdad University and facilitation letter from Karbala Directorate of Health was obtained with

Complete confidentiality was guaranteed to the participant were no name contain .Ethical issue was considered from scientific and ethical committee in Karbala Medical Administration.

2.6 Data collection: The questionnaire was distributed to the doctors after consent was sought and obtained from head master of all different hospitals where the doctors presented and head master of health sector. Prior to the study, participants were given a brief introduction to the purpose of the study, after which their consent was sought and obtained. The questionnaire consisted of two main domains, with 14 items. The section one (check list) was adopted from the modification of the screening skill Questionnaire is of Technician Basic Practical Skills Examination Sheets, Basic Practical Skills Examination Sheets New York State Department of Health \ Bureau of Emergency Medical Services \ to be used for all courses testing on or after December 20, 2012[(9)]. Designed to explore doctors' performance related to emergency patients' health care [(10)], which consist of 7 items;

1. Take consent of patient.
2. Exposed whole the abdomen.
3. Observe the abdomen.
4. Palpated the entire of the abdomen.
5. Reported the finding.
6. Call protocol accordingly.
7. Finish the test with five minute.

Each statement is whether doctors do their job in grading of evidences. Response to each item was coded and scored as evidences' in Low 1, Medium 2, and High 3 evidences.

2nd part is the perception Questionnaire was prepared and modified a research questions from, Evidence-based Emergency Medicine[(11)], Graduate Medical Education and Knowledge[(1)], White Paper on Academic Emergency Medicine in India[(12)]. The second section was designed to asses perceptions of doctors about medical emergency knowledge translation which consisted of 7 items.

1. Does Medical College Incorporate a research (EBM?
2. Do you think that the Incorporation of a research (EBM) improve eventual uptake and patient care?
3. Do you implement the guidelines in clinical practice?
4. Do active CME formats (intervention) improve knowledge uptake and retention (outcome) compared to passive formats (Lectures)?
5. Do think mandatory CME (intervention) have a larger effect size (outcome) compared to voluntary CME?
6. Do you think there are barriers to incorporation of EBM to practice?
7. If Q6 yes depict some of these barriers.

For each statement check whether student adopts each of Knowledge translated to practices. Responsive scored was (1) all ways, (2) some time, and (3) never consequently. Then a last question is illustrated to obtained any barriers to EBM. The content of the questionnaire was validated after interviews and discussions with experts in the field, and it was modified where necessary.

2.7 Statistical Analysis: Data was analyzed by Minitab 13.1 software. Descriptive statistic, frequency, percentage, represented in tables. Inferential statistic was done using Chi-square (X^2) test of association. A P-value ≤ 0.05 was considered as statistically significant.

3. Results and discussion:

Study of participants' Knowledge Translation concerning the various aspects of evidences implementation, there are many areas where the Knowledge Translation was highly evidences especially regarding finishing the test with in time, exposed abdomen, and observe abdomen. While there are other areas where the Knowledge Translation showed low evidences, particularly concerning the call protocols, take consents.

From technical points candidates show high evidences regarding clinical skills that need to pass exams like exposed, observe, the abdomen and finishing the test with in time. While when began to deal with approach to patients skills like (take consents), and documentation (report finding), call protocols, candidates show low to moderate evidence levels

3.1 Distribution of Intern doctors regarding, gender:

A Total number of 49 intern doctors from Karbala Teaching Hospitals, Sixteen of them were male 32.65%, and 33 of them were female 67.35%. As shown in table1.

3.1.1 Items influence of knowledge transferring to emergency practices:

The majority 83.67% show low evidences to call protocol, and instead of that they follow traditional procedures that learned in emergency rooms from previous doctors as a Role model (learning on site). According to other studies conducted in the United States and the Netherlands demonstrate that 30%–40% of care given to patients is not based on current evidence and that 20% of care is either unnecessary or potentially harmful [(1)].

3.1.2: Gender distribution of KT in EM among Intern Doctor in Karbala Teaching Hospitals

The females participants have been showed low evidences (42.86%) about take consent while males were (8.16%) with p-value =0.008, report finding that females (32.65%) while males (4.08%) with p-value (0.050). p-value with 0.05 or less significant. As shown in table.3.

3.2: Doctors` perceptions regarding transferring knowledge to emergency practices.

the various aspects of action, there are many areas needs improvement especially regarding practicing emergency physicians Incorporation of a research (EBM) strategy in graduate medical education training to improve eventual uptake and patient care (outcomes) and practicing emergency clinical practice guidelines and their implementation strategies (intervention) improve eventual uptake and patient care (outcomes).So clinical practice guidelines are commonly regarded as useful tools for quality improvement. However, their impact on clinical practice is not optimal. Several reviews have shown that guidelines have only been moderately effective in changing the process of care, and that there is much room for improvement. For instance, general practitioners in the Netherlands do not prescribe drugs according to the national guidelines in about one third of cases, and this figure has stayed fairly constant during the last few years[(6)].

Furthermore about fifty percent accepted that Medical college Incorporate a research (EBM) strategy in graduate medical education training to bridge the gap between the best evidence and optimal patient care and practicing emergency clinical practice guidelines and their implementation strategies (intervention) to improve eventual uptake and patient care (outcomes), and there is a significant misconception regarding of knowledge translation in emergency medicine and trauma to that seventy five percent did not incorporated EBM, while Barry M. et al, found the Medical students are still learning the basics. While the bulk of evidence-based medicine skills (critical appraisal and information mastery) would be taught during the undergraduate medical education period. [(1)]

The most of participants refuse to attend a mandatory CME (intervention) in order to have a larger effect size (outcome) compared to voluntary CME, further more 45.5%of female said never, and (18.75%) of male said never, this may due to social aspect that female tend to less mobile. At the 2007 Academic Emergency Medicine Consensus Conference on knowledge translation (KT) in emergency medicine (EM). The objective was to develop a research strategy that incorporates KT into EM graduate medical education to bridge the gap between the best evidence and optimal patient care, the incorporation of the plan were the identification and mechanism for recruitment of the stake holders (both individuals and organizations) that would be expected to have an interest in contributing to the process [(13)]. The KT domain has emerged largely from the observation that there is a gap, and in some instances a chasm, between what is known from high-quality clinical research and what is consistently done in clinical practice [(14)].

Candidates (69.39%) thought that many barriers to incorporated EBM in emergency medicine like:

- Over loaded patients and loss of control.
- Traditional management strategies (Role module).
- Absence of guide lines and protocols.
- Administration uncooperative.

Physician adherence is critical in translating knowledge into improved outcomes, however, a variety of barriers undermine this process. Lack of awareness and lack of familiarity affect physician knowledge of a guideline. In terms of physician attitudes, lack of agreement, self-efficacy, outcome expectancy, and the inertia of previous practice are also potential barriers. Despite adequate knowledge and attitudes, external barriers can affect a physician's ability [(14)].

3.3 Demographic distribution of EBM perceptions

Females participants have been advised always (51.02%) about importance of EBM while males were (24.49%). Toward implementation of guide line that's females (57.14%) thought never, corresponding to males (30.61%). Female participants show a significant finding that 15 out of 33 females (45.4%) said never for mandatory CME, while 3 out of 15 males (18.75%) said never. Corresponding to always 8 out of 16 males (50%), while 9 out of 33 females (27.27%) said always. as in table 5

Barrier of study:

1. Survey conducting was with difficult because it happened at overcrowded emergency units since there were no or little chances to speek with candidates and the difficult situations in emergency rooms.

2. The subject is new one, so that, there was too few researches in this topic and lack of previous study in my subject in around countries.

Conclusions:

1. From technical points candidates show high evidences regarding clinical skills that need to pass exams, While when participants begin deal with approach skills to patients (take consents), and documentation (report finding), call protocols candidate show low to moderate evidence levels.
2. The majority show low evidences to call protocol, and instead of that they follow traditional procedures(Role Module) that learned in emergency rooms from previous doctors (learning in site).
3. In spite of the perception doctors about the importance of implementation guide line in practice, most of doctors did not incorporated EBM in to practice.
4. Regarding Medical college Incorporation of (EBM) strategy in graduate medical education (GME) training, there is a significant misconception perception regarding of knowledge translation in emergency medicine.
5. Most of doctors a illustrated variety of barriers that prevent of giving good practice outcome to patients.

Recommendations:

1. Extra research projects can be designed around the K.T to determine the most effective ways to adhere doctors' optimal skills and ensure that they become efficient practitioners of evidence-based EM.
2. Research can be directed toward barrier of good practice in emergency medicine.
3. The deficiencies in emergency care cannot be denied so the Iraqi strides is done in emergency and trauma care will require a concerted effort by society and the medical community to achieve the goal of providing excellent emergency care to all.

References:

1. Barry M. Diner, MD, et al\ Graduate Medical Education and Knowledge Translation Role Models, Information Pipelines, and Practice Change Thresholds\ACADEMIC EMERGENCY MEDICINE 2007;14:1008–1014 ۞ 2007by the Society for Academic Emergency Medicine, doi: 10.1197/j.aem.2007.07.003
2. Iraqi community members' knowledge, attitude and practice of emergency medical care: assessing civilian emergency medicine in an area of conflict, Medicine, Conflict and Survival, 27:3, 151-164 University of California, Los Angeles (UCLA)] . http://dx.doi.org/10.1080/13623699.2011.631750. day of access 2\8\2013.
3. Patrick Kelly Shanovich\ Iraqi community members' knowledge, attitude and practice of emergency medical care\ This article was downloaded by: [University of California, Los Angeles (UCLA)] On: 29 February2012,At:14:10\ Publisher Routledge. http://www.tandfonline.com/loi/fmcs20. Day of access 26\7\2013
4. Iraqi-Emergency Medical Care\ Development Program\ International Medical Corps (IMC) June 30, 2009. Director of EMCD 1919 Santa Monica Blvd, Ste 300 \Santa Monica, CA 90404\ www.imcworldwide.org\ Day of access 22\6\2013
5. Annual Report Of Ministry Of Health \ Iraq – 2011\. ((*this without kurdustan hospitals*)).
6. Eddy S. Lang, MD and colleague\Executive Summary Knowledge Translation in Emergency Medicine \ ACAD EMERG MED _ November 2007, Vol. 14, No. 11.
7. Dawn Stacey, Michael Hopkins, et al\ knowledge translation to fitness trainers: A systematic review Dawn Stacey\ © 2010 Stacey et al; licensee Bio Med Central Ltd, (http://creativecommons.org/licenses/by/2.0).
8. Andra L. Blomkalns, MD, Matthew T. Roe, MD, MHS, et al\ Guideline Implementation Research\ ACADEMIC EMERGENCY MEDICINE 2007; 14:949–954 2007 by the Society for Academic Emergency Medicine\ doi : 10.1197 /j. aem . 2007.
9. Emergency Medical Technician. Basic. Practical Skills Examination Sheets \ New York State Department of Health\ Updated to meet the new National Education Standards. To be used for all courses testing on or after December 20, 2012. Day of access 11\5\2013
10. EMERGENCY MEDICAL TECHNICIAN – BASIC PRACTICAL SKILLS EXAMINATION REPORT State Form 54502 (R / 1-11)\ INDIANA DEPARTMENT OF HOMELAND SECURITY EMS CERTIFICATION 302 West Washington Street, Room E-239 Indianapolis, IN 46204 1-800-666-7784 day of access on 17\5\2013.
11. BRIAN H. ROWE MD, Evidence-based Emergency Medicine \ \ University of Alberta, Edmonton, Alberta, Canada \ This edition first published 2009, C 2009 by Blackwell Publishing Ltd

12. AK Das*, SB Gupta**, SR Joshim et al \ White Paper on Academic Emergency Medicine in India\ JAPI • VOL. 56 • OCTOBER 2008.
13. Eddy S. Lang, MD et al\ Development of the Academic Emergency Medicine Consensus Conference Project on Knowledge Translation\ © 2007 by the Society for Academic Emergency Medicine, ISSN 1069-6563doi: 10.1197/j.aem.2007.07.002 PII ISSN 1069-6563583.
14. *Michael D. Cabana, MD, MPH*\ Cynthia S. Rand, PhD, et al, Why Don't Physicians Follow Clinical Practice Guidelines\ *JAMA. 1999; 282:1458-1465* www.jama.com. Day of access 8\8\2013.

Table 1: Distribution of Intern doctors regarding, gender, in Karbala Teaching Hospitals.

Student	Male	Female	Total
NO	16	33	49
%	32.65	67.35	100%

Table 2: Items influence of knowledge transferring to emergency practices.

Items of KT	Low score		Mid score		High score	
	NO	%	NO	%	NO	%
Take consent	25	51.02	14	28.57	10	20.41
Exposed abdomen.	0	0	12	24.49	37	75.51
Observe abdomen.	1	2.04	14	28.57	34	69,39
Palpate abdomen.	0	0	22	44.9	27	55.1
Report finds.	18	36.73	22	44.9	9	18.37
Call protocol	41	83.67	6	12.24	2	4.04
Finish 5 minutes	4	8.16	6	12.24	39	79.59

.

Table3: Gender distribution of KT in EM among Intern Doctor in Karbala Teaching Hospitals

Question	Low		Mid		High		P-value
Q1. Tack consent	F No, %	M no,%	F no,%	M no, %	F no,%	M no,%	
	21	4	9	5	3	7	0.008
	42.86	8.16	18.37	10.20	6.12	14.29	
Q2. Expose Abdomen.	0	0	7	5	26	11	0.444
	0	0	14.19	10.20	53.06	22.45	
Q3. Observe Abdomen.	1	0	8	6	24	10	Invalid
	2.04	0	16.33	12.24	48.98	20.41	
Q4. Palpation Abdomen	0	0	14	8	19	8	0.617
	0	0	28.57	16.33	38.78	16.33	
Q5. Report Finding	16	2	12	10	5	4	0.050
	32.65	4.08	24.49	20.41	10.20	8.16	
Q6. Call protocol	30	11	2	4	1	1	invalid
	61.22	22.45	4.08	8.16	2.04	2.04	
Q7. Finish time	3	1	4	2	26	13	0.944
	6.12	2.04	8.16	4.08	53.06	32.65	

Table 4: Doctors` perceptions regarding transferring knowledge to emergency practices.

Q	All ways		Some time		Never	
	NO	%	NO	%	NO	%
Med. College	24	48.98	10	20.41	15	30.61
Think value of incorporation	37	75.51	10	20.41	2	4.08
DO you incorporate	4	8.16	2	4.08	43	87.76
Active formats	28	57.14	18	36.73	3	6.12
Mandatory CME	17	34.69	14	28.57	18	36.73
Barriers present	34	69.39	13	26.53	2	4.08

Table 5: Demographic distribution of EBM perceptions among Intern Doctor in Karbala Teaching Hospitals

Question	Allways		Some time		Never		p-value
	F No, %	M no,%	F no,%	M no, %	F no,%	M no,%	
1. **Med. college teach EBM**	16	8	6	4	11	4	0.781
	32.65%	16.33%	12.24%	8.16%	22.45%	8.16%	
2. .**Important Guide Line Implementation**	25	12	6	4	2	0	Invalid
	51.02%	24.49%	12,24%	8,16%	4.08%	0%	
3. **Implementation of Guide Line**	3	1	2	0	28	15	Invalid
	6.12%	2.04%	4.08	0%	57.14%	30.61%	
4. **Active teaching methods better than traditional**	19	9	12	6	2	1	Invalid
	38.78%	18.37%	24.49	12.24%	4.08%	2.02%	
5.Mandatory attendance CME	9	8	9	5	15	3	0.153
	18.37%	16.33%	18.37%	10.2%	30.61%	6.12%	
6. Barriers of evidence	20	14	12	1	1	1	Invalid
	40.82%	8.57%	24.49%	2.04%	2.04%	2.04%	