



# World Family Medicine Journal

*incorporating the Middle East Journal of Family Medicine*

ISSN 1839-0188

June 2015 - Volume 13, Issue 4



Knowledge, Attitude, Practice And Barriers Of Effective Communication Skills During Medical Consultation Among General Practitioners National Guard Primary Health Care Center, Riyadh, Saudi Arabia .... page 4

## From the Editor

---

### Chief Editor:

A. Abyad  
MD, MPH, AGSF, AFCHSE  
Email: aabyad@cyberia.net.lb

### Ethics Editor and Publisher

Lesley Pocock  
medi+WORLD International  
AUSTRALIA

### Email:

lesleypocock@mediworld.com.au

### Editorial enquiries:

aabyad@cyberia.net.lb

.....

This issue is a special issue this year that includes a large cross sectional study from Saudi Arabia, and another large revision of Major Social Impacts of a Vegetarian Diet on Vegetarians in Lebanon and a network paper on Role of Evidence-Based Public Health in Controlling Emerging Infectious Diseases

The cross sectional study from Riyadh attempt to assess barriers, practice attitude and knowledge of primary health care physicians about communication skills during medical consultations in primary health care centers in National Guard Hospital in Riyadh, Saudi Arabia. The study included seventy primary care physicians were answered a structured questionnaire about their knowledge, practice and barrier of effective communication skills during medical consultations. Survey of 70 PHC physicians showed 25(35.7%) resident, 28(40%) specialized. Majority of the physicians did receive some form of training for communication skills (85.7%), however, they did perceive lack of proper training (68.5%) as a barrier also. Common patient barrier to better communication with patients were different cultural norms from physicians or gender being different (51.4%). Practice score were significantly different for residents, staff physicians and specialists. Physicians who were confident of their communication skills and who made a conscious effort to apply the skills that they had learned were shown to score better on practicing these communication skills, Chi-sq 30.11 p value <0.001, and Chi-sq. 12.67 p value 0.002, respectively. The authors concluded that knowledge of communication skills can improve with training however having the knowledge does not affect the practice of communication skills unless the physician is self-confident and has the right attitude of consciously applying that knowledge in his/her practice and improvement comes with age and experience.

In the second paper the authors discussed the role of evidence-based public health in controlling emerging infectious diseases. Emerging infectious diseases are on the rise and pose a growing challenge to Health Care Providers around the world. They include infectious diseases that have not occurred in humans before, diseases that have occurred previously but affected only small numbers of people in isolated places such as AIDS and Ebola hemorrhagic fever or diseases that have occurred throughout human history but have only recently been recognized as distinct diseases due to an infectious agent, such as Lyme disease and gastric ulcers. The authors stressed that the best available evidence, moderated by patient circumstances and preferences, is applied to improve the quality of clinical judgments, to ensure Patient safety and facilitate cost-effective health care. Evidence-Based public health is defined as the development, implementation, and evaluation of effective programs and policies in public health through application of principles of scientific reasoning, including systematic uses of data and information systems, and appropriate use of behavioral science theory and program planning models.

The last paper is the second paper of a series in a previous study, the reasons for adopting a vegetarian diet in Lebanon and its health impact on preventing and curing their diseases was investigated. In this study, the researcher investigates some of the social effects of a vegetarian diet on the Lebanese vegetarians in some areas in Lebanon. The purpose of this research is to find out whether any type of vegetarianism could be easily accepted and adopted by the Lebanese market and society. This study researched the feasibility and social practicality of such a diet from a social perspective. A cross-sectional study of developmental research was used for this research which consisted of a quantitative approach that used a questionnaire filled by a random sample of respondents. The people surveyed, or the respondents, were individuals exposed (for any duration of time) to any type of vegetarian diet. The hypotheses were tested using frequency analysis, chart analysis and cross-tabulation

using the Statistical Package for the Social Sciences (SPSS). Based on the results of this research and the tested statistical hypotheses, the researcher believes that the social life of vegetarians in Lebanon is minimally affected and could actually have some positive impacts on others. Most vegetarians (semi-vegetarians having it easier and more common than vegans) could enjoy any social event or family meal.

.....

While all efforts have been made to ensure the accuracy of the information in this journal, opinions expressed are those of the authors and do not necessarily reflect the views of The Publishers, Editor or the Editorial Board. The publishers, Editor and Editorial Board cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; or the views and opinions expressed.

## 2 Editorial

---

### Original Contribution / Clinical Investigation

---

<-- Saudi Arabia -->

- 4 **Knowledge, Attitude, Practice And Barriers Of Effective Communication Skills During Medical Consultation Among General Practitioners National Guard Primary Health Care Center, Riyadh, Saudi Arabia**  
*Basmah Saleh Al-Zahrani, Maryam Fahad Al-Misfer, Ali Mohsen Al-Hazmi*

### Medicine and Society

---

<-- Lebanon -->

- 18 **Major Social Impacts of a Vegetarian Diet on Vegetarians in Lebanon**  
*Evelyne Girgis*

### International Health Affairs

---

<-- International -->

- 28 **Role of Evidence-Based Public Health in Controlling Emerging Infectious Diseases**  
*Tawfik A. M. Khoja, Waris Qidwai, Mohamed S. Hussein, Lesley Pocock*

### CME and Practice Tips

---

- 33 **Office Procedures**  
*medi+WORLD International*
-

# Knowledge, Attitude, Practice And Barriers Of Effective Communication Skills During Medical Consultation Among General Practitioners National Guard Primary Health Care Center, Riyadh, Saudi Arabia

**Basmah Saleh Al-Zahrani** (1)

**Maryam Fahad Al-Misfer** (2)

**Ali Mohsen Al-Hazmi** (3)

(1) Dr. Basmah Saleh Al-Zahrani, MMBS, SB-FM, AB-FM  
Senior registrar , Family Medicine Unit,  
King Khalid University Hospital  
Riyadh, Saudi Arabia

(2) Dr. Maryam Fahad Al-Misfer, MMBS, SB-FM, AB-FM  
Assistant trainer and Senior registrar  
Department of Family and Community Medicine,  
King Khalid University Hospital  
Riyadh, Saudi Arabia

(3) Dr. Ali Mohsen Al-Hazmi  
Consultant and Assistant professor  
Department of Family and Community Medicine,  
King Khalid University Hospital  
Riyadh, Saudi Arabia

## **Correspondence:**

Dr. Maryam Fahad Al-Misfer  
MMBS, SB-FM, AB-FM  
Assistant trainer and Senior registrar  
Department of Family and Community Medicine,  
King Khalid University Hospital  
Riyadh,  
Saudi Arabia

**Email:** mfalmisfer@yahoo.com

## Abstract

**Objectives:** To assess barriers, practice attitude and knowledge of primary health care physicians about communication skills during medical consultations in primary health care centers in National Guard Hospital in Riyadh, Saudi Arabia.

**Design:** Cross sectional study

**Methodology:** The study was conducted during the period from November 2009 till July 2010. Seventy primary care physicians answered a structured questionnaire about their knowledge, practice and barrier of effective communication skills during medical consultations.

**Results:** Survey of 70 PHC physicians showed 25(35.7%) residents, 28(40%) specialized. The majority of the physicians did receive some form of training for communication skills (85.7%), however, they did perceive lack of proper training (68.5%) as a barrier also. Common patient barriers to better communication with patients were different cultural norms from physicians or different gender (51.4%). A system related barrier noted by physicians was lack of time (82.8%). Mean score of practicing communication skills was 37.2/60 and mean knowledge score was 3.31/6 for the physicians in our study. No relationship between knowledge and practice was noted in our study but a positive correlation between age, years of experience and practicing communication skills was found ( F-statistic 5.6, p value 0.006). Practice scores were significantly different for residents, staff physicians and specialists. Physicians who were confident of their communication skills and who made a conscious effort to apply the skills that they had learned were shown to score better on practicing these communication skills, Chi-sq 30.11 p value <0.001, and Chi-sq. 12.67 p value 0.002, respectively.

**Conclusion:** Knowledge of communication skills can improve with training however having the knowledge does not affect the practice of communication skills unless the physician is self-confident and has the right attitude of consciously applying that knowledge in his/her practice and improvement comes with age and experience.

**Key words:** communication skills, barrier, practice, knowledge, attitude , primary health care physicians.

## Introduction

The expectations of the public from health care providers have increased over the last few decades and the majority are familiar with their rights in the health care system. As a consequence, it is of high priority that health care providers have effective communication skills. It has been well documented that the doctor-patient relationship is central to the delivery of high quality medical care. It has been shown to affect patient satisfaction, to decrease the use of pain killers, to shorten hospital stays, to improve recovery from surgery and a variety of other biological, psychological and social outcomes [1-4].

Good communication skills are integral to medical and other healthcare practice. Communication is important not only to professional-patient interaction but also within the healthcare team. The benefits of effective communication include good working relationships and increased patient satisfaction. Effective communication may increase patient understanding of treatment, improve compliance and lead to improved health outcomes. It can also make the professional-patient relationship a more equitable one. Undoubtedly however, there are barriers to effective communication ranging from personal attitudes,

to the limitations placed on doctors by the organizational structures in which they work [5].

In order to deliver effective healthcare, doctors are expected to communicate competently both orally and in writing with a range of professionals, managers, patients, families and carers. Simply recognizing the need for good communication skills is not enough; healthcare professionals must actively strive to achieve good communication skills by evaluating their own abilities. Education providers need to ensure that appropriate and effective training opportunities are available to doctors to develop and refine such skills in order to facilitate interaction with patients and others [5].

Benefits of good communication can be identified for both doctors and patients.

### Benefits for patients

- The doctor-patient relationship is improved. The doctor is better able to seek the relevant information and recognize the problems of the patient by way of interaction and attentive listening. As a result, the patient's problems may be identified more accurately [6].
- Good communication helps the patient to recall information and comply with treatment instructions thereby improving patient satisfaction [7, 8]

- Good communication may improve patient health and outcomes. Better communication and dialogue by means of reiteration and repetition between the doctor and patient has a beneficial effect in terms of promoting better emotional health, resolution of symptoms and pain control [9].
- The overall quality of care may be improved by ensuring that patients' views and wishes are taken into account as a mutual process in decision making.
- Good communication is likely to reduce the incidence of clinical error [6]

### Benefits for doctors

- Effective communication skills may relieve doctors of some of the pressures of dealing with the difficult situations encountered in this emotionally demanding profession. Problematic communication with patients is thought to contribute to emotional burn-out and low personal accomplishment in doctors as well as high psychological morbidity [10]. Being able to communicate competently may also enhance job satisfaction.
- Patients are less likely to complain if doctors communicate well. There is, therefore, a reduced likelihood of doctors being sued.

In all doctor-patient interactions a variety of communication skills are required for different phases of the consultation. During the start of a consultation, doctors must establish a rapport and identify the reasons for the consultation. They must go on to gather information, structure the consultation, build on the relationship and provide appropriate information [11]. There is a trend in healthcare on pushing the need for strong communication skills in medicine. In relation to communication with patients, an increasing focus on shared decision making and communication of risk, are two of the most important factors [12]. For example, communication skills can help healthcare staff to explain the results of epidemiological studies or clinical trials to individual patients in ways that can help patients to understand risk [13]. Doctors can do this more effectively if they develop relationships with their patients and if they take into account knowledge and perceptions of health risks in the general public [14].

Recent research shows that poor communication between healthcare staff and patients is still all too common. For example, when the Lothian Hospitals NHS Trust in Scotland asked patients for their views on communication issues, they found that 60 per cent of patients complained about a lack of involvement in decisions about their care, 33 per cent said they had been given no explanation of test results and 31 per cent said they had no opportunity to talk to the doctor. Twenty-three per cent complained of nurses and doctors saying different things [6].

The General Medical Council (GMC) in London stresses the need for communication skills in a number of its guidance notes [15-18]. The GMC recognizes that the communication skills required throughout a doctor's career are likely to change. Doctors should review their skills as part of their continuing professional development, and take

part in educational activities as a means of maintaining and further developing their competence [16].

Other medical professional bodies have highlighted the importance of communication skills and instituted various approaches for communication skills education.

Examples of professional endorsement of the importance of communication skills for doctors:

- Publications from medical organizations, such as the BMA's board of medical education report on communication skills and continuing professional development (1998) [19] and the Royal College of Physicians' publication *Improving communication between doctors and patients* (1997), [20] have highlighted the importance of communication skills.
- The General Medical Council's Professional Linguistic and Assessment Board (PLAB) examination has separated its language and communication elements with the latter being assessed through role play.
- The Academy of Medical Royal Colleges, in its recommendations for general professional training, includes communication skills among the generic skills required of all trainees.
- Royal Colleges include communication skills assessment in their training. For example, the Royal College of General Practitioners has developed formal mechanisms using video recordings for assessing communication skills in candidates [3]. The Royal College of Physicians has introduced communication skills assessment into its training.

The Royal College of Ophthalmologists includes communication skills in both the basic higher specialist training curricula and in the Part 3 MRCOphth examination.

- The London Deanery and NHS London have developed an online interactive educational program in communication skills for healthcare professionals, including postgraduate doctors undertaking the foundation years of training: [www.healthcareskills.nhs.uk](http://www.healthcareskills.nhs.uk).

### The potential of communication skills education

There is substantial evidence that communication skills can be taught, particularly using experiential methods [21].

To be effective, communication skills teaching should include [7]:

- Evidence of current deficiencies in communication, reasons for them, and the consequences for patients and doctors
- An evidence base for the skills needed to overcome these deficiencies
- A demonstration of the skills to be learnt
- An opportunity to practice the skills under controlled and safe conditions
- Constructive feedback on performance and reflection on the reasons

The problem of doctor-patient communication is more evident in Saudi Arabia for the following reasons: Firstly, the number of foreign personnel in health services is rather large [23]. This workforce communicates with

and with one another in a variety of languages different from the local one. In addition, not much orientation is given to them on local traditions and the prevalent health-related beliefs and culture. Secondly, this manpower deals with a sizeable sector of consumers, who are themselves expatriate and speak a variety of languages, and hold health related traditions and beliefs. This situation naturally creates a complex environment for doctor-patient communication. A recent study from Riyadh [24] alluded to the relationship between patient satisfaction and doctor-patient communication. As in other parts of the world, people in Saudi Arabia are expected to attempt to find out and understand all aspects of their health problems [25]. Hence the need to train and orientate physicians in the skills related to doctor-patient communication assumes greater significance. In this regard, several methods of training, especially for the situation of Saudi Arabia, can be employed [26-27].

In Saudi Arabia, the acquisition of the skill of doctor-patient communication hardly exists in any undergraduate or postgraduate medical curriculum. There is also paucity of research in this area. Consequently, it is vital that comprehensive research be done to clarify the needs of students and professionals, and outline the objectives and the modalities of training in this skill [28].

Research result of study done in KSA, to explore patient's expectations before consulting their general practitioners (GPs) and determine the factors that influence them, showed 74.6% of the patients preferred Saudi doctors, and 92.6% would like to have more laboratory tests for the diagnosis of their illnesses while more than two thirds of the patients (78.0%) felt entirely comfortable when talking with GPs about the personal aspects of their problems and about half thought that the role of GP was mainly to refer patients to specialists, while 55.2% believed that the GP cannot deal with the psychosocial aspect of organic diseases, and the commonest reason for consulting GPs was for a general check up. So, the conclusion was that the GP has to explore patients' expectations so that they can either be met or their impracticality explained. GPs should search for patients' motives and reconcile this with their own practice. The GP should be trained to play the standard role of Primary Care Physician [29].

## Objectives

This study attempts to explore:

1. Current practices of communication skills of primary health care physicians in health care centers in National Guard Health Affairs in Riyadh.
2. Main barriers that can affect doctor-patient communications.
3. Primary health care physicians' knowledge about effective doctor-patient communications.

## Methodology

**Study Design:** This is a cross-sectional study.

**Setting:** Held in National Guard Primary Health Care Centers in Riyadh.

**Duration of Study:** This study was held during the period from November 2009 till July 2010.

**Sample Size:** Seventy primary health care physicians participated.

**Sampling Technique:** Survey questionnaire was distributed to willing participants.

**Sample Selection:** All primary health care physicians of different levels and qualifications.

**Data Collection Procedure:** Data for this study were collected by questionnaire which was distributed during Sunday morning professional education activity of the department of Family Medicine and Primary Healthcare in each center for physicians and Half Day Release Course in Monday morning activity for residents.

**Data Collection Instrument:** Questionnaire consisted of four sections. The first section asked for physicians' demographic data, educational items and to rate their communication skills with patients. The second section asked about common barriers which can affect communication skills. The third section asked about the current practice, and the fourth asked about the physician's knowledge about communication skills by giving them a sentence and asked about what kind of skills that sentence indicates.

**Ethical Consideration:** Anonymity was maintained throughout. The subjects received the self-administered questionnaire with a cover letter explaining the project and the subject's rights. The choice of the items in the questionnaire was based on the level of communication skills a General Practitioner needs.

**Data Analysis Procedure:** Once the data collection was completed, it was checked and entered into the computer using the Statistical Package for Social Sciences (SPSS), version 15. Descriptive analysis of mean, median mode, frequencies and percentages were carried out on most of the variables, including, age, gender, self-rating of skills, years of experience, levels of experience, training history, communication skill practices and knowledge scores. In addition, relationships were explored using chi-square, linear regression, Kruskal Wallis and Mann Whitney where needed.

## Results

A total of 70 primary health care physicians participated in the study. Table 1 shows, 30 (42.9%) were male and 40 (57.1%) were female. Maximum age was 58 years old and minimum age 26 years. Fifty-one (72.9%) were Saudi, 19 (27.1%) were non-Saudi. The physicians position were 25(35.7%) residents, 17(24.3%) MBBS/MD and 28(40%) specialists. The maximum years of experience were 25 years and minimum was 2 years.

Table 1: Demographic data of participants

Characteristics	Frequency	Percentage ( % )	SD
Age ( years )			
Mean	35.3		+/- 7.54
Median	33.5		
Mode	27		
Gender			
Male %	30	42.9	
Female %	40	57.1	
Nationality			
Saudi	51	72.9	
Non- Saudi	19	27.1	
Current position			
Resident	25	35.7	
MBBS/MD	17	24.3	
Specialized	28	40	
Experience ( years)			
Mean	8.87		+/- 6.73
Median	6		
Mode	3		

Table 2 shows that 14.3% of the physicians did not receive formal training about communication skills during medical consultations, while 85.7% did receive formal training. Over two-thirds of the primary care physicians consciously applied specific communication skills frequently in their daily practice. On a self rating scale of communication skills (1-4 scale) over 75% of the physicians rated their communication skills as good or excellent.

Barriers of effective communication skills were divided into three categories: physician, patient and system barriers [Table 3 - page 11]. The two most significant physician barriers were lack of formal training (68.5%) and natural limitations e.g. quiet or shy personality (41.4%). The two most significant patient barriers to communication skills reported by physicians, were cultural norms or gender different from physicians (51.4%) and personality trait of patient, i.e. too aggressive or shy (44.2%). The two most significant system barriers as perceived by physicians were lack of consultation time (82.8%) and lack of continuity of care with patients, i.e. patient seen by different doctor each time (62.8%).

Table 4 Shows that nearly 69% of physicians rarely or sometimes involved the patient in decision making; another 70% rarely or sometimes discussed goals of consultation with their patients or used 'pause or silence' in communicating with their patients. Around 2/3rds of physicians rarely or sometimes inquire about the person accompanying the patient. For female patients there were 73.2% of female physicians who rarely or sometimes felt the need to ask their female patients to remove their face-cover in daily practice to assess their facial expressions better.

In Table 5 the majority of empathy, empowerment and negotiating knowledge were answered incorrectly while the majority of listening, explaining and building rapport knowledge were answered correctly.



Characteristics	Frequency	Percentage ( % )
Received formal training		
No	10	14.3
Yes	60	85.7
Consciously apply the skills		
Sometimes	26	37.1
Quite Frequently	29	41.4
Always	15	21.4
Self rating of communication skill		
OK.	17	24.3
Good	36	51.4
Excellent	17	24.3

Table 2:  
Communication skills:  
training and attitude

Barriers	Percentage %
<b>Physician barriers</b>	
* Lack of training	68.5 %
* Natural limitations e.g. quiet or shy personality	41.4 %
* Language e.g. different country /area of origin	28.5 %
* Set communication habits over years	34.2 %
* Apathy or boredom	27.1 %
<b>Patient barriers</b>	
* Personality trait i.e. too aggressive or shy	44.2 %
* Cultural norms or gender different from physician	51.4 %
* Expectation about physician role e.g. just give medication	42.8 %
* Educational level of patients	25.7 %
* Apathy or poor understanding towards the problem	35.7 %
<b>System barriers</b>	
*Lack of consultation time	82.8%
*Lack of privacy during consultation	31.4%
*Lack of support from other healthcare team	18.5%
*Lack of technology support	4.3%
*Lack of continuity of care with patients	62.8%

Table 3: Barriers to  
effective communication  
skills in medical  
consultation

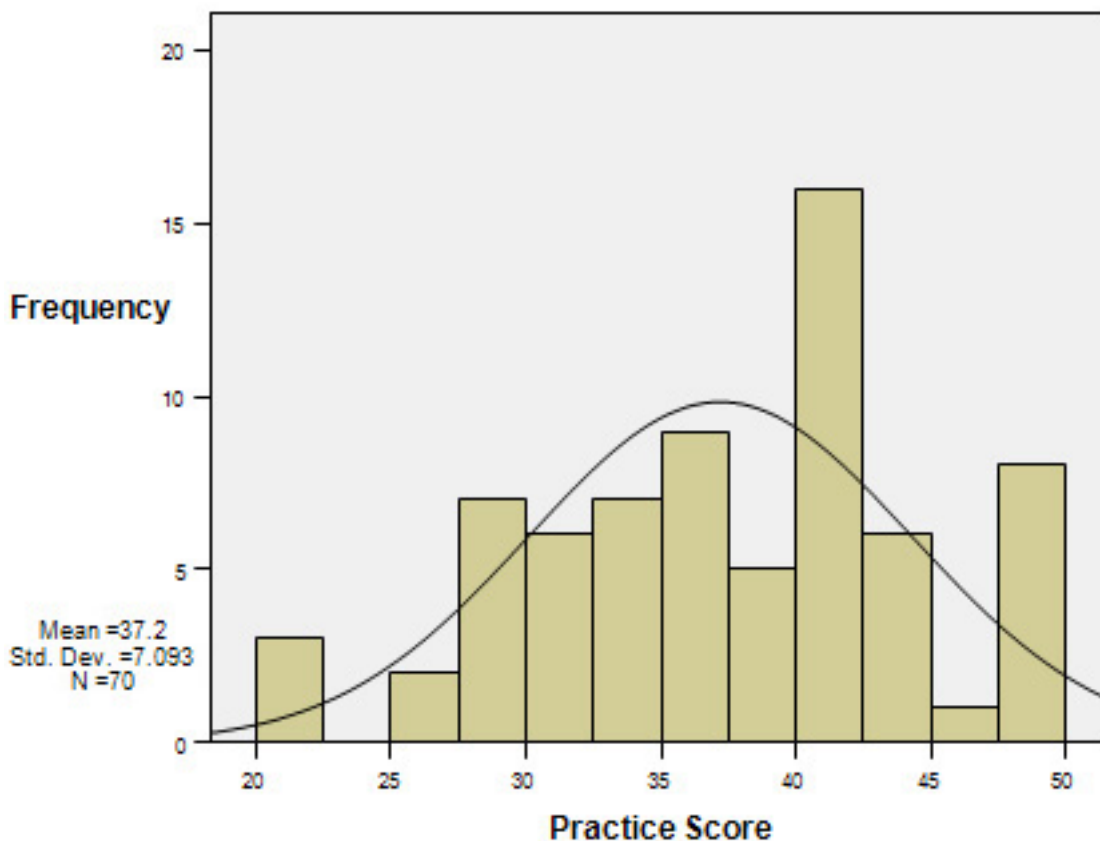
Table 4: Communication of skill practice pattern and PHC physicians

Questions	Always (%)	Mostly (%)	Sometimes (%)	Rarely (%)
1. Asks patient about understanding of medical words	2.9	34.3	57.1	5.7
2. Asks patient about the amount or type of information s/he desires	2.9	32.9	51.4	12.9
3. Patient impact in decision making	5.7	25.7	50	18.6
4. Discussing goals of consultation	2.9	27.1	52.9	17.1
5. Shows willingness to answer patient questions	20	61.4	18.6	0
6. Explains to the patient being asked question is to better understand the patient	24.3	47.1	28.6	0
7. Makes a statement that indicates recognition of patient's emotions.	10	42.9	47.1	0
8. Expresses to the patient that their experience or emotional response is appropriate.	2.9	25.7	65.7	5.7
9. Summarises the discussion at the conclusion.	5.7	35.7	44.3	14.3
10. Uses pause to communicate with patient	12.9	17.1	45.7	24.3
11. Avoid documentation when patient entered	25.7	41.4	25.7	7.1
12. Stands up to greet the patient	37.1	21.4	32.9	8.6
13. See off the patient to the clinic door or hold the door for him/her.	8.6	32.9	35.7	22.9
14. Explains to the patient what physical examination or procedure they are going to do on him or her, and for what reason.	24.3	37.1	38.6	0
15. Uses facial expressions to convey what they are thinking about what the patient is saying	8.6	45.7	28.6	17.1
16. Inquires about the person accompanying the patient.	12.9	21.4	61.4	4.3
17. (For Female Doctors) encourages female patient to remove her face-cover so that she can assess her expressions better.	14.6	12.2	53.7	19.5

Knowledge category	Correct (%)	Incorrect (%)
Empathy	47.1	52.9
Listening	62.9	37.1
Explaining	91.4	8.6
Empowerment	37.1	62.9
Rapport Building	65.7	34.3
Negotiating	27.1	72.9

Table 5: Communication skills knowledge score percentages of physicians

Figure 1: Distribution of practice scores among physicians



The total maximum score of practice questions was 60. Figure 1 shows mean of practice score 37.2, SD +/- 7.093, maximum score 49 and minimum score 20. Questions # 13 & 17 were excluded from the total score (See Table 4). For each question the value ranged from 1-4. Total score for each physician was added and all scores are presented in Figure 1.

The total score of the knowledge questions was 6. If a physician answered a question correctly one score was awarded. Thirty-one (44.3%) physicians scored 3 out of 6.

Figure 3 shows no relationship between score of knowledge and practice of communication skills based on linear regression.

Figures 4 & 5 show that age of physician and years of experience are positively correlated to practice scores. Linear regression of age and years of experience with practice scores yielded an R Square 0.143, F statistic 5.602 and P value 0.006.

Figure 2: Distribution of knowledge scores among physicians

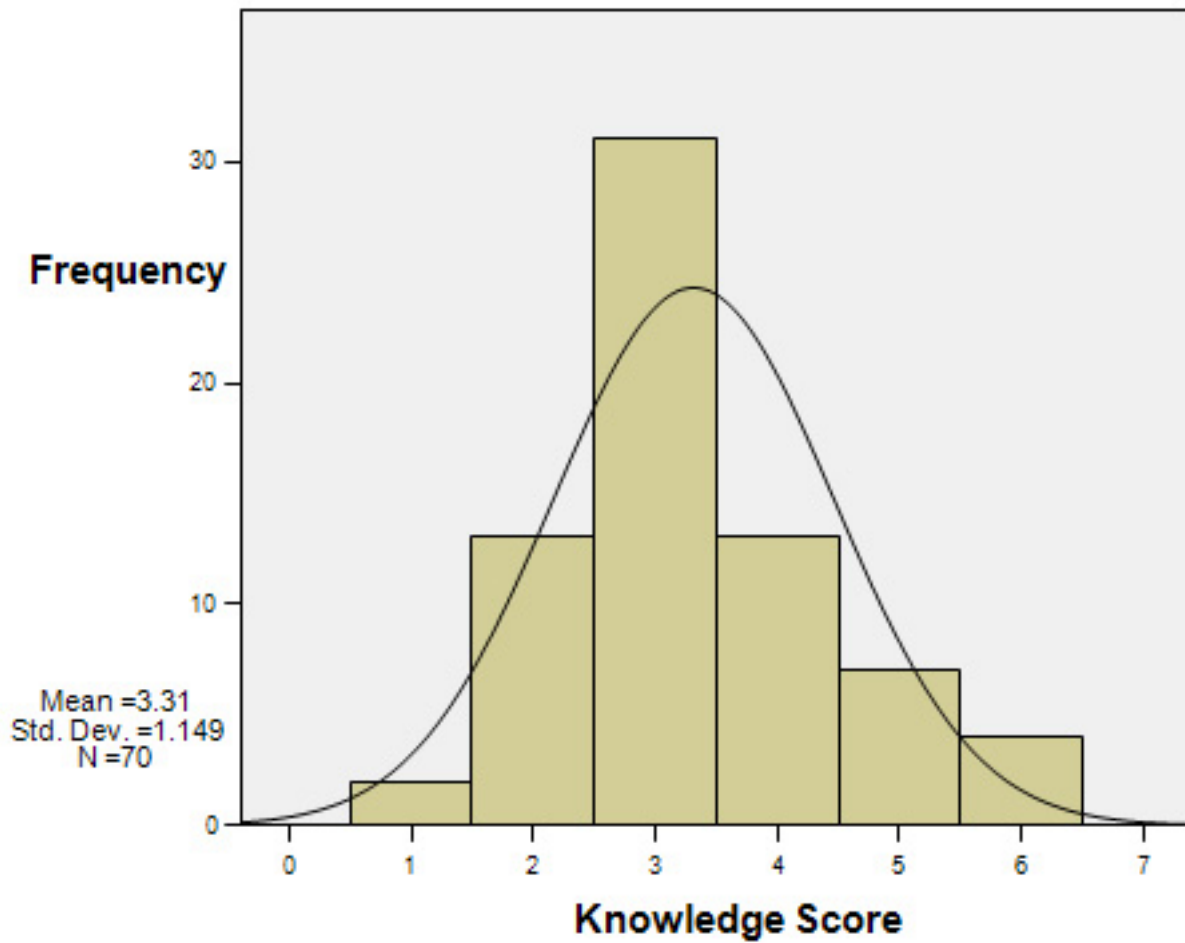


Figure 3: Relationship between knowledge and practice scores

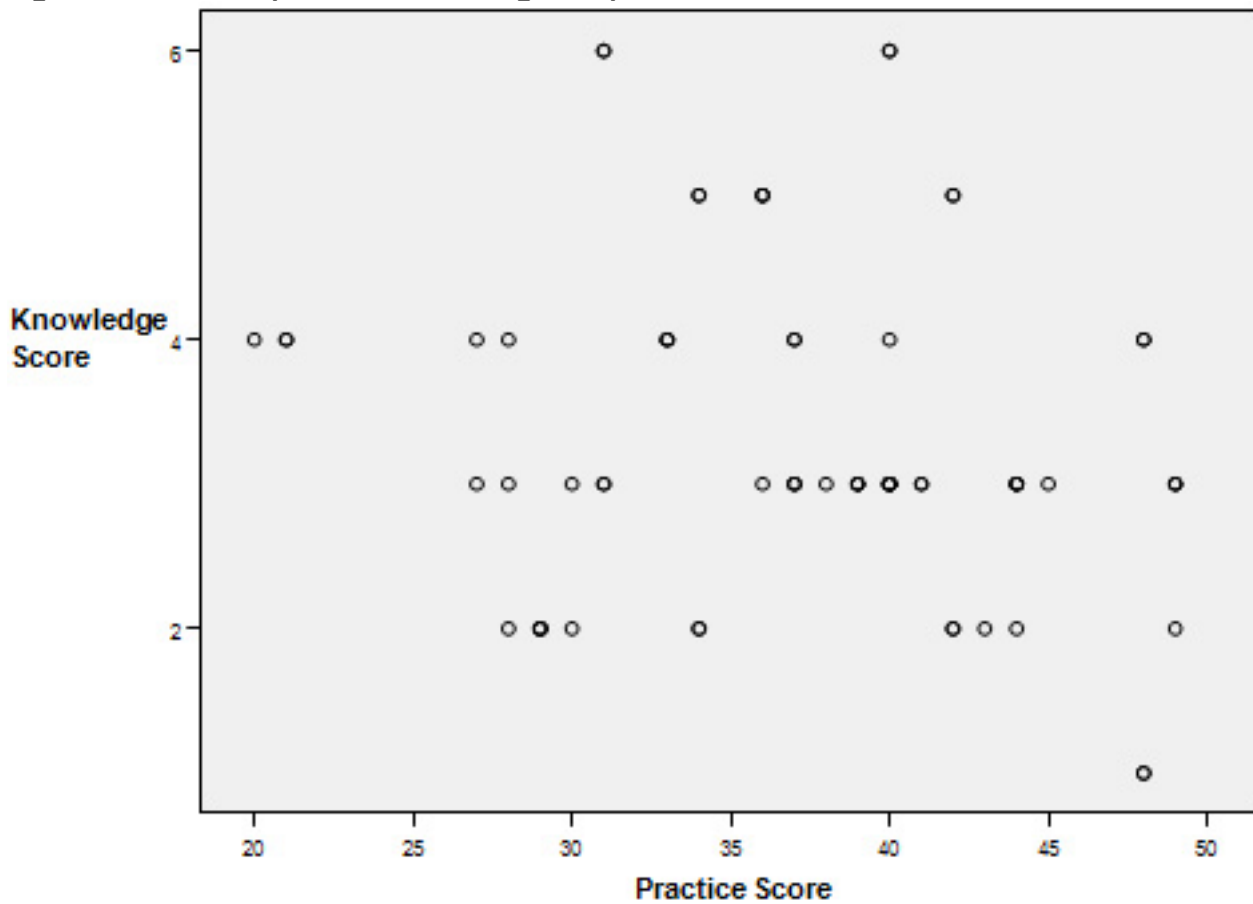


Figure 4: Relation between Age and Practice

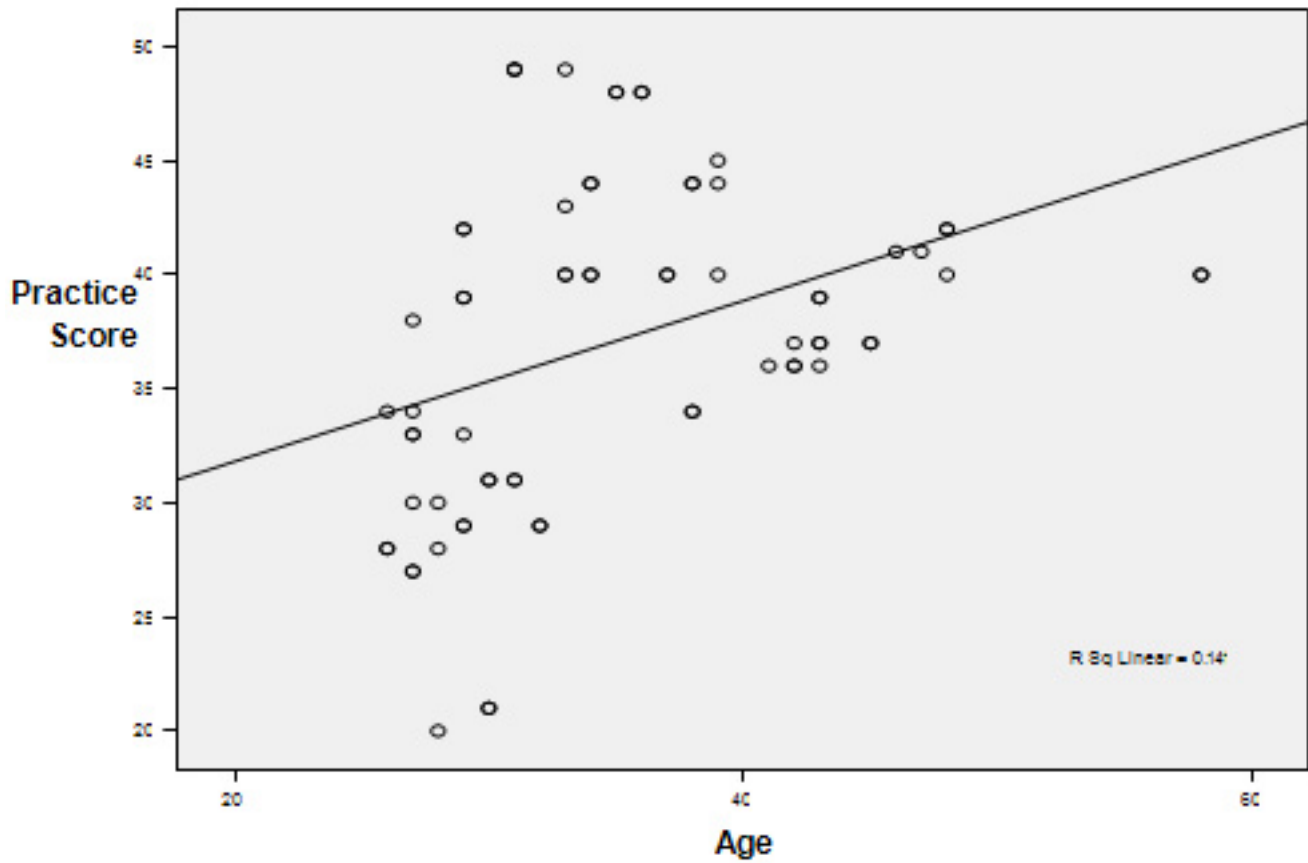


Figure 5: Relation between Years of Experience and practice

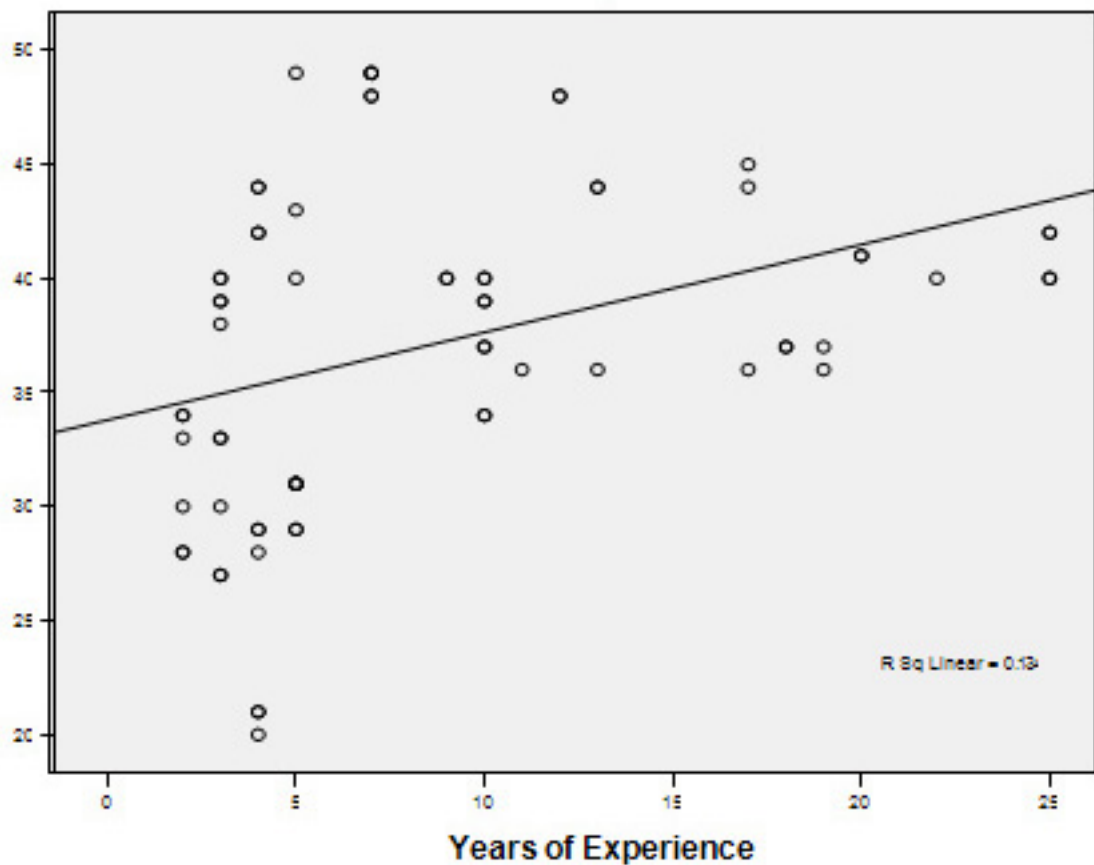


Table 6: Relationship of practice scores &amp; communication skill values

Values	Mean Rank	P value ( ≤ 0.05 significant )	Test statistic
*Gender Male Female	39.22 32.71	0.185	
*Received training No Yes	40.20 34.72	0.429	
**Current position Resident MBBS \ MD Specialized	19.59 46.38 43.13	0.000	Chi – Square 24.25
**Consciously Applying the skills Sometimes Quite Frequent Always	25.27 38.31 47.8	0.002	Chi – Square 12.76
**Self Rating Scale OK. Good Excellent	14.21 37.88 51.76	0.000	Chi – Square 30.117

\*Mann – Whitney Test

\*\*Kruskal – Wallis Test

The score of practicing communication skills was found to be not significantly different based on gender of physicians. Using Kruskal-Wallis Test it showed that communication skills practice scores were significantly different between resident, MBBS/MD and specialists [Table 6].

Table 7: Relationship of knowledge scores &amp; specific variables

Variables	Mean Rank	P value ( ≤ 0.05 significant )	Test statistic
*Received training No Yes	18.50 38.33	0.003	
**Current position Resident MBBS \ MD Specialized	33.92 29.35 40.64	0.144	Chi – Square 3.881
**Self Rating Scale OK. Good Excellent	35.47 38.44 29.29	0.273	Chi – Square 2.596

\*Mann – Whitney Test

\*\*Kruskal – Wallis Test

The score of knowledge of communication skills was significantly different based on whether the physicians received training or not [Table 7], however there was no statistically significant difference between the knowledge scores on the basis of current position, self-confidence of practicing skills or application of communication skills consciously.

Multiple comparisons was done using Post Hoc Tukey test between practice scores and current position of participants. It showed there is a real difference between communication skills practice score of residents with that of MBBS/MD or specialized physicians but there was no difference between MBBS/MD practice score and specialized physicians.

Applying communication skills consciously was influenced by the current position of physicians; most residents in a sample (25) applied their communication skills rarely or infrequently whereas 23 of the 28 specialized physicians applied their skills quite frequently, Chi-square 15.505 and P value 0.004.

The residents were less confident of their communication skills, while MBBS/MD physicians and specialized physicians rated their communication skills as good and excellent, chi-square 13.754 and P value 0.008.

## Discussion

This study provides information not previously available from National Guard primary health care physicians on the knowledge, attitude, practice and barriers of effective communication skills during medical consultation. The distribution of population was almost equal between male (42.9%) and female (57.1%), the majority of them were Saudis (72.9%), between residents (35.7%), specialized (40%) and staff physicians (24.3%). Average years of experience in primary care ranged between 2-25 years. Most of the physicians did receive formal training of communication skills in our study (Table 2). Communication skills training has been embedded in the curriculum of graduate medical and post-graduate trainings for over 15 years in some parts of the world [5]. Over forty percent of physicians applied communication skills frequently and 51.4% rated themselves as good communicators (Table 2).

Most of the physicians thought that lack of training (68.5%), cultural norms or gender difference between patient and doctors (51.4%), and lack of time (82.8%) are the main barriers to apply effective communication skills with patients. In our study, one of the main patient related barriers, as perceived by the physicians, was different cultural norms or gender from that of the physician. There is one study that showed the majority of patient's preferred Saudi doctors, suggesting that doctor-patient communication is much easier when both patient and doctor come from the same culture [29].

In the same study most patients expected GPs to spend some time explaining the nature of their illnesses and the results of tests done [29]. This is consistent with the findings of other studies [30] and this study, as most physicians answered correctly the knowledge question about explaining to the patient in detail, as an important communication skill (Table 5).

A study conducted to assess the impact of two communication skills training programs on the evolution of patients' anxiety following a medical consultation found no significant difference was observed. Results of that study confirm results of other studies that have shown that some reassurance may produce anxiety and have suggested that communication skills are probably efficient if physicians discuss their patients' concerns in depth by using some basic communication screening questions [31].

In this study using non-verbal cues to communicate with patients were obviously rarely and sometimes used (Table 4). In other studies they found that patients offer clues that present opportunities for physicians to express empathy and understand patients' lives. In both primary care and surgery, physicians tend to bypass these clues, missing potential opportunities to strengthen the patient-physician relationship. Research on teaching communication skills demonstrates that physicians can learn to modify their communication style [32-34].

Despite widespread interest in the effects of physician gender on the care process, the literature describing these effects is small [35], and in this study there were no differences between male and female physicians in practicing communication skills.

It was observed in this study that there was no correlation between knowledge and practice of communication skills (Figure 3) suggesting a gap between knowledge and practice. It was also noted that the physicians who consciously applied the communication skills in their practice, scored better in daily practice of these skills with their patients. The physician may have knowledge but if he did not make a deliberate effort to apply that knowledge in his practice, it did not show in his actual practice.

Most residents received training of communication skills during their program but they seemed to apply these skills in their daily practice to a lesser degree than the MBBS/MD and specialized physicians (Table 6). Communication skill training is very important to have knowledge of skills but having a good knowledge did not affect the practice if the physician did not have the attitude of applying that knowledge in the practice (Table 7).

Specialized and MBBS/MD physicians were more confident in their self rating of communication skills, while the majority of residents evaluated their communication skills with lesser self-confidence. This translated into better practice scores.

Figure 4 and 5 show there is a strong relation between age and years of experience in the medical field with practicing of communication skills. Years of practice was found to be a larger predictor of practicing communication skills when compared to age, however both factors had significant overlap, suggesting that with increasing age and experience in work, physicians practiced their communication skills more.

A study showed that the level of communication skills and the content of the consultation with regard to psychosocial issues, patient concerns and the informing and planning of procedures (with a representative patient in a general practice setting) among graduate medical students are significantly correlated; that means having the knowledge of communication skills is important [36], however in this study, age and years of experience were more important than having good knowledge only.

It means that training is important but having self confidence and a genuine desire to apply that knowledge are valuable in practicing communication skills, which certainly improves with age and experience.

## Limitations

There are four limitations of this study which deserve emphasis:

1. Small sample size.
2. Study was done among primary health care physicians in National Guard which cannot be generalized to PHC physicians in Saudi Arabia.
3. The majority of the sample was Saudi and 35.7% were residents.
4. Only six categories evaluated the knowledge of physicians.

## Conclusion

This study suggests that knowledge base in communication skills can improve with training however having the knowledge of good communication with patients does not influence the practice of communication skills unless the physician is self-confident and has the right attitude of consciously applying that knowledge in his/her practice. Lastly, communication skills improve with age and experience.

## Recommendations

1. Younger physicians need to put more emphasis on the use of communication skills; having the knowledge is not sufficient.
2. Involve the less expert physician in a teaching clinic or increase the number of simulated clinics during the training of communication skills program and improving the continuity of care between physicians and their patients will show good outcomes in improving the application of those skills.

3. How can doctors best continue to develop their skills, apply them within their daily work, survive emotionally, and feel more satisfied? How can persistent behavioral, perceptual, and personal changes be produced? Self learning and self monitored feedback, distance learning, and serial workshops seem to be promising approaches for qualified doctors.

4. Finally, it is my hope that the findings will help in planning a strategy for improving services, making effective communication skills attitude more acceptable and believable in the PHC sitting in our community to improve patient care in all aspects.

## References

1. Haidet P, Dians JE, Paterniti DA, Hechtel L, Chang T, Tseng E, Rogers JC. Medical student attitudes toward the doctor-patient relationship. *Med Educ.* 2002;36:568-574.
2. Cegala DJ, Lenzmeier Broz S. Physician communication skill training: a review of theoretical backgrounds, objectives and skills. *Med Educ* 2002, 36(11):1004-1016.
3. Brown JB, Boles M, Mullooly JP, Levinson W: Effect of clinician communication skills training on patient satisfaction. A randomized, controlled trial. *Ann Intern Med* 1999, 131(11):822-829.
4. Ong LM, de Haes JC, Hoos AM, Lammes FB: Doctor-patient communication: a review of the literature. *Soc Sci Med* 1995, 40(7):903-918.
5. British Medical Association (2004) Communication skills education for doctors an update. London: BMA.
6. Centre for Change and Innovation (2003). Talking matters: developing the communication skills of doctors. Edinburgh: Scottish Executive.
7. Maguire P & Pitceathly C (2002). Key communication skills and how to acquire them. *BMJ* 325: 697-700.
8. Hulsman R et al (2002). The effectiveness of a computer-assisted instruction programme on communication skills of medical specialists in oncology. *Medical Education* 36: 125-34
9. Meryn S (1998). Improving doctor-patient communication. *BMJ* 316:1922-30.
10. Feinmann J (2002). Brushing up on doctors' communication skills. *The Lancet.* 360: 1572.
11. Gull SE (2002). Communication skills: recognizing the difficulties. *The Obstetrician and Gynecologist.* 4:107-9.
12. Spencer JA & Silverman J (2004). Communication education and assessment: taking account of diversity. *Medical Education.* 38: 116-8.
13. Sedgwick P & Hall A (2003). Teaching medical students and doctors how to communicate risk. *BMJ.* 327: 694-5.
14. Alaszewski A & Horlick-Jones T (2003). How can doctors communicate information about risk more effectively? *BMJ.* 327: 728-30.
15. The General Medical Council (2002). Tomorrow's doctors: recommendations on undergraduate medical education. London: GMC.
16. General Medical Council (2001). Good medical practice. London: GMC.
17. General Medical Council (1997). The new doctor. London: GMC.



18. General Medical Council (1998). The early years. London: GMC.
19. British Medical Association (1998). Communication skills and continuing professional development. London: BMA.
20. Royal College of Physicians of London (1997). Improving communication between doctors and patients. London: RCP.
21. Roter DL, Larson S & Shintzky H et al (2004). Use of an innovative video feedback technique to enhance communication skills training. *Medical Education*. 38: 145-7.
22. Aspegren K (1999) Teaching and learning communication skills in medicine - a review with quality grading of articles. *Medical Teacher*. 21: 563-70.
23. Ministry of Health. Annual Health Report. Riyadh: Alhilal House press; 1418H.
24. Weis R, Stuker R. When patients and doctors don't speak the same language: concepts of interpretation practice. *Soz Preventmed* 1999;44(6):257-63.
25. Saeed AA, Mohammed BA, Magzoub ME, Al-Doghaither AH. Satisfaction and correlates of patient's satisfaction with physicians' services in primary health care centers. *Saudi Med J* 2001; 22(3): 262-7.
26. Dube CE, O'Donnell JF, Novack DH. Communication skills for preventive intervention. *Acad Med* 2000; 75(7 suppl):S45-54.
27. Hongladarom S, Phaosavasdi S, Tneepanichskul S, Tannirandon Y, Wilde H, Prukspong C. Humanistic learning in medical curriculum. *Med Assoc Thai* 2000; 83(8):969-74.
28. Ahmed G. Elzubier. Doctor-patient communication: a skill needed in Saudi Arabia. *Journal of Fm & Community Medicine* 2002; 9(1):30-35.
29. Khalid A. Bin Abdulrahman. What do patient's expect of their general practitioners? *Journal of Fm & Community Medicine* 2003; 10(1):39-46.
30. Williams S, Weinman J, and Dale J, Newman S. Patient expectations: what do primary care patients want from the GP and how far does meeting expectations affect patient satisfaction. *Fam Pract* 1995; 12 (2): 193-201.
31. Stark D, Kiely M, Smith A et al. Reassurance and the anxious cancer patient. *Br J Cancer* 2004; 91:893-899.
32. Platt FW, Keller VF. Empathic communication: a teachable and learnable skill. *J Gen Intern Med*. 1994; 9:222-226.
33. Beckman HB, Frankel RM, Kihm J, Kulesza G, Geheb OR. Measurement and improvement of humanistic skills in first year trainees. *J Gen Intern Med*. 1990; 5:42-45.
34. Roter DL, Hall JA, Kern DE, Barker LR, Cole KA, Roca RP. Improving physicians' interviewing skills and reducing emotional distress: a randomized clinical trial. *Arch Intern Med*. 1995; 155:1877-1884.
35. Debra L. Roter, Dr.PHJudith A. Hall, PhD Yutaka Aoki, MS, MHS. Physician gender effects in medical communication. *JAMA* 2002; 288:756-764.
36. Tore G, Per V et al. Observed communication skills: how do they relate to the consultation content? A nation-wide study of graduate medical students seeing a standardized patient for a first-time consultation in general practice setting. *BMC Medical Education* 2007, 7:43-52.

# Major Social Impacts of a Vegetarian Diet on Vegetarians in Lebanon

Evelyne Girgis

## Correspondence:

Evelyne M. Girgis, Ph.D.  
Lebanese University,  
Faculty of Education Second Branch  
Rawda, Beirut, Lebanon  
Email: emgirgis@yahoo.com

## Abstract

In a previous study, the reasons for adopting a vegetarian diet in Lebanon and its health impact on preventing and curing diseases was investigated. In this study, the researcher investigates some of the social effects of a vegetarian diet on the Lebanese vegetarians in some areas in Lebanon. The purpose of this research is to find out whether any type of vegetarianism could be easily accepted and adopted by the Lebanese market and society. This study researched the feasibility and social practicality of such a diet from a social perspective. A cross-sectional study of developmental research was used for this research which consisted of a quantitative approach that used a questionnaire filled by a random sample of respondents. The people surveyed, or the respondents, were individuals exposed (for any duration of time) to any type of vegetarian diet. The hypotheses were tested using frequency analysis, chart analysis and cross-tabulation using the Statistical Package for the Social Sciences (SPSS). Based on the results of this research and the tested statistical hypotheses, the researcher believes that the social life of vegetarians in Lebanon is minimally affected and could actually have some positive impacts on others. Most vegetarians (semi-vegetarians having it easier and more common than vegans) could enjoy any social event or family meal.

**Key words:** Vegetarian, Lebanon, Social, Mediterranean, Statistics.

## Introduction

A vegetarian diet focuses on plants for food. These include fruits, vegetables, dried beans and peas, grains, seeds and nuts. There is no single type of vegetarian diet. Instead, vegetarian eating patterns usually fall into several groups: - The vegan diet, which excludes all meat and animal products - The lacto vegetarian diet, which includes plant foods plus dairy products - The lacto-ovo vegetarian diet, which includes both dairy products and eggs. -The semi vegetarian diet which may include poultry or fish (pesco-vegetarian). Some people who follow semi-vegetarian diets are also called 'flexitarians' because of the occasional inclusion of meat products in their diet [3].

In India and in many other spiritual cultures or traditions, vegetarianism is a well-accepted and has universal recommendation. So people don't feel insecure in their orientation and traditional roots; only a few may feel uncomfortable when they live in a Western culture surrounded by non-vegetarian friends and colleagues. Although certain vegetarian diets are considered healthy, the primary basis for vegetarianism in Hinduism and Jainism is a moral one and based on the doctrine of Ahimsa (meaning nonviolence). According to this philosophy, one should minimize violence in thoughts, words, and deeds towards others as well as oneself. Since there is no meat-eating without violence (without killing another living being), this philosophy encourages veganism [18].

In the United States of America, vegetarianism is not that uncommon, yet very well heard of. A US study in 2007 presented the best estimates of various meat consumption segments, including vegetarians, semi-vegetarians, active meat reducers and health-conscious consumers:

1. Health-conscious consumers, 35-50% of US adults, or 73-105 million people. These consumers strived for a balanced diet and/or replaced 2-3 meals per week with meat free alternatives.
2. Active meat reducers, 22-26% of the US adult population, or 46-54 million individuals. Active meat reducers are those who report eating less meat compared to one year ago.
3. Semi-vegetarians are 12-16% of the US adult population or 25-33 million people. They eat any type of meat (usually fish) with less than half of weekly meals.
4. Self-described vegetarians comprise 4-6% of the population or 8-13 million individuals. These consumers said "yes" when asked if they are vegetarian, typically with no definition of the term.

5. Actual vegans and vegetarians make up 1-3% of the population, or 2-6 million US adults. They “never” consume meat, as described differently in various surveys [6].

In the Arab world and specifically the Islamic one, Islamic Sharia (law) in slaughtering prescribes using a well-sharpened knife to make a swift, deep incision that cuts the front of the throat, the carotid artery, windpipe, and jugular veins to cause the least amount of suffering to the animal. Animals are not to be subjected to others being slaughtered. Unfortunately, that is not always the case, especially in countries like Egypt. The case for vegetarianism rarely gets a sympathetic hearing in the region. Many Arab intellectuals and even animal welfare campaigners believe it is not a readily accessible concept. In Cairo, the sense was that vegetarianism is “too foreign” a concept to take hold in the near future - and they are probably right. When Ramadan is on the horizon, followed by the Eid-Al- Adha holiday, including the sacrificial slaughter of sheep by millions of Muslims worldwide, it is important not to underestimate the importance meat has, and has had, in Arab/Islamic culture. The ancient Egyptians, for instance, kept cows in one of the first massive domestication efforts [8].

Although families may not force meat onto their vegetarian members, some make fun of such a decision and believe it to be a “phase” that will pass. For those who can afford meat, vegetarianism is a joke-while many of those in the animal welfare community try to actively ignore it. Vegetarians often decline azayem (banquet invitations), especially family gatherings, to avoid all the hassle about explaining their food choices. Generous by nature, Arab hosts have to force-feed anyone at the table and most dishes usually include meat or other animal products. Not tasting every single dish or refusing more food is considered an offense, let alone explaining a different lifestyle. On the other hand, many vegetarians find that friends are more supportive of the lifestyle shift. They actually find it strange, but when dining together, they show respect when their vegetarian friend is taking time to choose a meal. Another aspect of meat culture in the Arab world is social class. Meat is eaten daily by upper-class families, and so the poor see this as something to aspire to. Many Egyptians are vegetarians without even knowing it. Since more than a quarter of the Egyptian population live below the poverty line (CAPMAS 2013), there is no meat in their diets. This could be a reason why the majority of Egyptians are healthier than can be expected with everything else around - stress, sicknesses due to the garbage around. Nevertheless, they see vegetarianism in a cynical way when it's presented from an animal welfare perspective. Many mistakenly believe meat is the only source of protein. Some of these people who question vegetarianism might argue that plants have feelings like animals [17].

In Lebanon and Middle Eastern or Mediterranean Arab countries in general (like Jordan and Syria), some favorite dishes, and the dishes appealing to most vegans

and vegetarians are mezza, or rather a spread of small appetizers. Culturally, these dishes are served at the start of the meal and served family-style. Family-style is a bit opposite from the American meal mentality, where meals are plated and served individually. Instead, small dishes are spread throughout the table for sampling and chunks of pita are ripped off and dunked right onto the plate [16].

There are plenty of vegetarian mezzas or appetizers to choose from ranging from traditional salads (like Tabouleh and Fattoush), to filling appetizers like Hoummus (chickpeas with Tahini), Baba Ghannouj (eggplant and tahini), Balila (cooked chickpeas with oil and pine nut dressing), Waraq Arish (stuffed grape vine leaves), Falafel (fried chickpea and herb balls), Mhammarah (spicy red dish), Labneh or Shankleesh (varied traditional dairy appetizers), etc.. There are also full traditional meals that are basically vegetarian like Moujadara (lentils with rice or bulgur), Fasoulya bi zeit (red or white beans served with rice or bread), stuffed eggplants or stuffed cabbage leaves, certain traditional stews and soups. So availability of choices is not an obstacle in this region, especially in traditional restaurants or food stores. It's the fact that people choose these foods as side dishes and meat as their main meal; or they incorporate meat in their stuffing to make it their main meal. In addition, Beirut has witnessed in the past couple of years the opening and popularity of only a few upscale vegetarian restaurants [19].

In spite of that and beyond health, there is another factor to be aware of when it comes to placing your children on a vegetarian diet in this region. One thing is that it can be awkward for them socially. Although vegetarian diets are becoming more accepted, and they are more common in some areas than others, the fact remains that most of the children's friends will be meat eaters. This may become a problem for some vegetarian children at cookouts and parties if no or very little vegetarian options are served [5].

## Materials and Methods

In this study, the researcher investigates the social effects of a vegetarian diet on the people in Lebanon: dining out, their relationships with friends and family, eating at work and its ease or practicality within a traditional diet. The research follows a quantitative approach which consists of a questionnaire and the analysis and interpretation of the generated data with the help of Statistical Package for the Social Sciences (SPSS).

### a. Research variables

The researchers covered the necessary variables needed in order to form a clear understanding about the subject. And as clearly stated in the analysis below, two or more of these different variables together with the help SPSS were linked.

The set of independent variables investigated in this study are:

1. Profession Occupation
2. Age
3. Gender
4. Marital Status
5. Number of Members Living in the Same Household
6. Number of Meals Consumed per Day
7. Influence of Vegetarianism on Accepting and Giving Out Invitations
8. Effect of Vegetarianism on Eating Out
9. Effect of Vegetarianism on Participating in Social Events
10. Effect of Vegetarianism on Relationships with Friends
11. Effect of Vegetarianism on Relationship with Family
12. Relationship Between Vegetarian Food and Traditional Food

**b. Data Collection and Analysis**

The most common source of data for such research is communicating with respondents. Thus, this study used a set of questionnaires filled by a random sample of respondents. Since the percentage population who have followed a vegetarian diet or have sufficient knowledge of it is small, only individuals who have been exposed to this diet were studied. A subject data-gathering technique would provide a deeper and wider range of information. For this reason, a one-on-one survey was used. In addition, the sample size was limited to 930 individuals. The samples were collected from a few supermarkets (near the organic and produce sections), universities, schools (staff) and at gatherings (church events, friendly lunches, etc...) between Beirut, Kesserwan and Northern Lebanon. These places have residents or frequent visitors of different age groups and from the main coastal cities or surrounding suburbs/villages.

**c. Research Question and Hypotheses**

**Q1:** How are vegetarian people in Lebanon affected from a social perspective?

All of the hypotheses discussed below are based on the surveyed sample of vegetarians in Lebanon.

**H1:** Less than 25% of the sample decrease the number of times eating out at restaurants.

**H2:** More than 50% of the sample change their food choices at their regular restaurants.

**H3:** Less than 50% of the sample manage to encourage friends or family members to consume more vegetarian meals.

**H4:** More than 50% of the sample believe that they can find many vegetarian traditional Lebanese foods during family meals or social gatherings.

**H5:** More than 60% of the students or employed vegetarians bring their own food to their occupations.

**H6:** More than 25% of the sample experience positive and/or no effects on their overall relationships with friends and family.

**d. Scope and Limitations**

There were several limitations to this study such as time and places from which samples were collected. The first major limitation of this study was the sample size. Choosing people exposed to vegetarianism from a random sample

of respondents to gather data from, and then checking/organizing the gathered data, the researcher was bounded with a set of 930 questionnaires. Another limitation was the fact that the researcher had limited places from which to gather information. The researcher gathered information from a few places from the coast of Beirut to the Northern coast passing through Kesserwan; yet trying to choose a diversified sample from most parts of Lebanon (targeting a sampled population residing, working in or visiting these districts from suburbs and surrounding villages). A third limitation was the integrity of the respondents, in answering the questionnaires which plays a good deal of importance in the efficiency of the model.

**Results and Findings**

The sample is composed of 930 respondents. According to the "normal distribution theory", the sample size lead to results that have a 2.8 % margin error and 95% confidence interval [1]. All the results are presented in charts and tables obtained from the output files of the SPSS software.

**a. Data Analysis & Testing**

As illustrated in the bar chart opposite:

- 73.6% of the sample makes certain food choices at social events, while only 3% don't eat at certain social events (Chart 1).

It is clearly illustrated in the tables following how vegetarians can convince other family members to consume more vegetarian food.

- During a family meal, 35.48 % of the sample managed to convince other family members to eat more vegetarian food, while 59.89 % consumed their own vegetarian food when other members were eating their non-vegetarian meal (Table 1).

**b. Multiple Responses of Data**

There were some multiple responses to several questions targeted. Thus, some information was drawn based on those responses, some of which are:

- Only 2% of the sample limited eating out at restaurants and 16% limited their invitations to their own home, while 79% of the vegetarians experienced no effect in their social life (Chart 2 - page 22).
- 26.04% of the sample had positive effects on their family and friends, whether by encouraging them to eat more vegetarian food or by simply making new friends that encourage or follow a similar diet. A good 53.44% were not affected by their vegetarian diet since much of the served food, including the traditional food and 'mezzas', had plenty of vegetarian options (Table 2).
- Only 5.1% of the sample had negative experiences such as small arguments and 15.42% simply limited their social relations (Table 2).
- 60.62% of the sample changed their food choices at their regular restaurants, while only 14.76% changed the restaurants (Table 3 - page 22).

Chart 1: Percentage of sample responses to social events of vegetarians

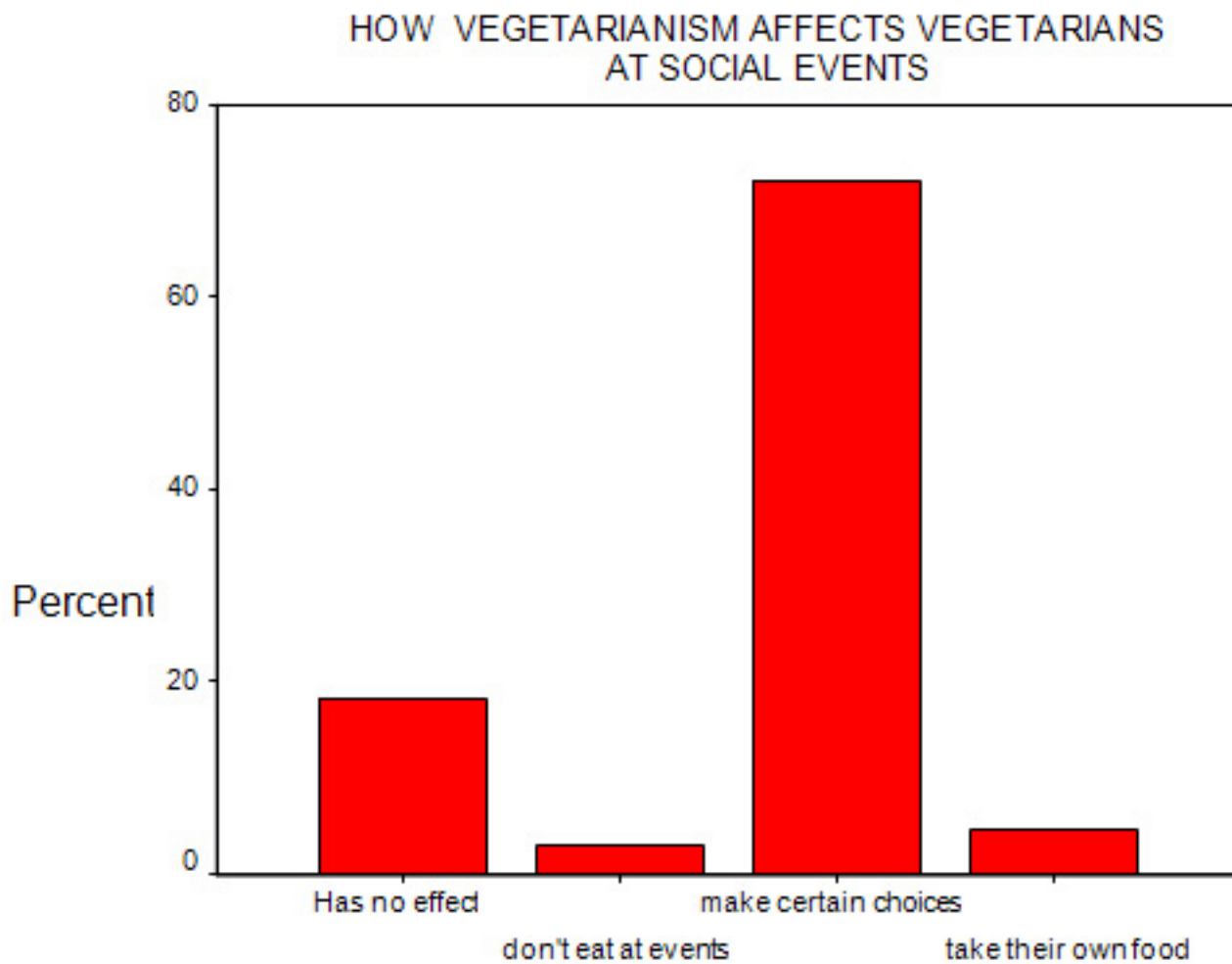


Table 1: Sample responses to the effects of a vegetarian diet on other family members while dining together

	Counts	Percent
Has no effect	31	3.33%
I stopped eating or dining with them	12	1.29%
Some family members started eating more of my vegetarian food	330	35.48%
When eating with the family, I eat my own vegetarian food	557	59.89%
<b>Total</b>	<b>930</b>	<b>100.00</b>

Table 2. Overall effects of Vegetarianism on relations between vegetarians and their non-vegetarian friends & family

Category label	Count	% Responses	%Cases
Has no effect (many traditional foods/mezzas are vegetarian)	513	53.44	55.1613
Negatively affects our relationship (arguments, not eating together)	49	5.10	5.26882
Positively affects (influencing others, making new friends)	250	26.04	26.8817
Limited my social relationships (frequency of going out, invitations )	148	15.42	15.914
Total responses	960	100.00	103.226
Total Cases	930		

Chart 2. Influence of Vegetarianism on the general social life of vegetarians

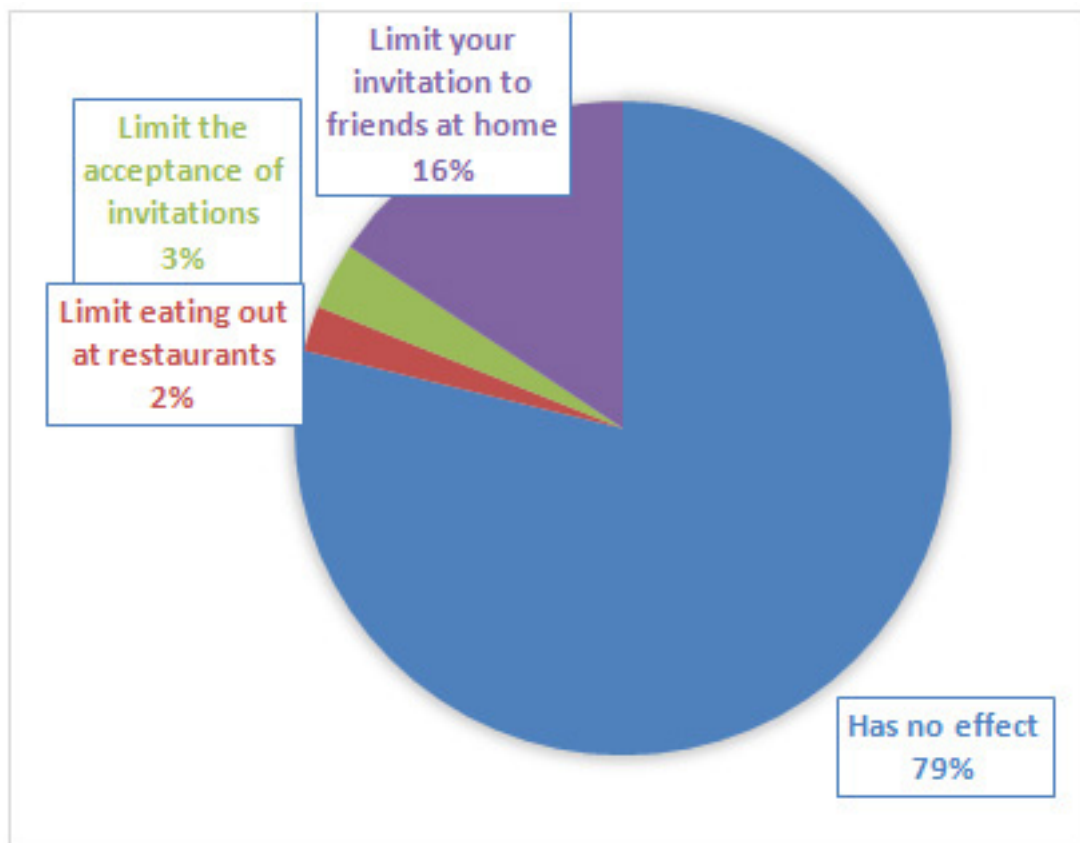


Table 3: Influence of Vegetarianism on eating out at restaurants

Category label	Count	% Responses	% Cases
Has no effect	212	22.51	22.80
Decreased the number of times eating at restaurants	20	2.12	2.15
Changed restaurant choices	139	14.76	14.95
Changed food choices at their regular restaurants	571	60.62	61.40
Total response	942	100.00	101.29
Total Cases	930		

**c. Cross Tabulation of Data**

Cross tabulation is extremely important, since it gives clear information and comparison between any two variables. The two tables below are used later on in the conclusions.

- Within marital status, both the married and single (a total of 70.23% of the sample) managed to convince family members to start eating more vegetarian food (Table 4).
- Within occupation, 85.78% of the students and 69.66% of the employed brought their own food to school, college or work (Table 5 - page 24).

Table 4: Cross tabulation between “Marital Status” and “How Vegetarianism affects one’s relationship with family members during a meal”

MARITAL STATUS	Count	Has no effect	I stopped eating with them	Some family members started eating more vegetarian food	When eating with family, I eat my own vegetarian food	Total
Single	197	13	6	67	111	197
	% within MARITAL	6.60%	3.05%	34.01%	56.35%	100.00%
Married	715	14	3	259	439	715
	% within MARITAL	1.96%	0.42%	36.22%	61.40%	100.00%
Divorced	11	3	2	2	4	11
	% within MARITAL	27.27%	18.18%	18.18%	36.36%	100.00%
Widowed	7	1	1	2	3	7
	% within MARITAL	14.29%	14.29%	28.57%	42.86%	100.00%
Total	930	31	12	330	557	930
	% within MARITAL	3.33%	1.29%	35.48%	59.89%	100.00%

Table 5: Cross tabulation between “Occupation” and “How vegetarianism affects one at work/school or university”

Occupation	Has no effect	I don't eat at work /school or university	I bring my own vegetarian food to work/school or university	I stopped sharing food with friends at work/school or university	Total
Student	Count 10	Count 10	Count 175	Count 9	Count 204
	% within occup. 4.90%	% within occup. 5%	% within occup. 85.78%	% within occup. 4.41%	% within occup. 100.00%
Self employed	Count 7	Count 8	Count 45	Count 2	Count 62
	% within occup. 11.29%	% within occup. 12.90%	% within occup. 72.58%	% within occup. 3.23%	% within occup. 100.00%
Employed	Count 15	Count 11	Count 124	Count 28	Count 178
	% within occup. 8.43%	% within occup. 6.18%	% within occup. 69.66%	% within occup. 15.73%	% within occup. 100.00%
Housewife	Count 0	Count 0	Count 0	Count 0	Count 394
	% within occup. 0.00%	% within occup. 0.00%	% within occup. 0.00%	% within occup. 0.00%	% within occup. 100.00%
Retired	Count 0	Count 0	Count 0	Count 0	Count 24
	% within occup. 0.00%	% within occup. 0%	% within occup. 0.00%	% within occup. 0%	% within occup. 100.00%
Unemployed	Count 0	Count 0	Count 0	Count 0	Count 28
	% within occup. 0.00%	% within occup. 0.00%	% within occup. 0.00%	% within occup. 0%	% within occup. 100.00%
Total	Count 890	Count 890	Count 890	Count 890	Count 890
	% within occup. 0.00%	% within occup. 0.00%	% within occup. 0.00%	% within occup. 0.00%	% within occup. 100.00%



## d. Hypothesis Testing

- **H1:** Less than 25% of the sample decrease the number of times eating out at restaurants.

According to Table 3, 2.12% of the sample limits eating out at restaurants. Thus, this hypothesis is accepted.

**H1 -> accept**

- **H2:** More than 50% of the sample change their food choices at their regular restaurants.

According to Table 3, 60.62% change their food choices at their same regular restaurants. Therefore, this hypothesis is accepted. **H2 -> accept**

- **H3:** Less than 50% of the sample manage to encourage friends or family members to consume more vegetarian meals.

According to Table 1, 35.48% of the sample managed to convince family members to consume more of their vegetarian food. Therefore, this hypothesis is accepted.

**H3 -> accept**

- **H4:** More than 50% of the sample believe that they can find many vegetarian traditional Lebanese foods during family meals or social gatherings.

According to Table 2, 53.44 % of the sample believe they can find and enjoy many traditional vegetarian foods and their relationship with others was not affected by their vegetarianism. Therefore, this hypothesis is accepted.

**H4 -> accept**

- **H5:** More than 60% of the students or employed vegetarians bring their own food to their occupations. According to table 5, more than 85% of the students and 69% of the employees bring their own vegetarian food to work. Therefore, this hypothesis is accepted.

**H5 -> accept**

- **H6:** More than 25% of the sample experience positive and/or no effects on their overall relationships with friends and family.

According to Table 2, around 53% experience no effects (because they enjoy some available traditional vegetarian food) and around 26% experience positive effects (like making new friends who share the same lifestyle or manage to convince others to adopt vegetarianism). Thus, put together, over 79% experience no or positive effects. Therefore, this hypothesis is accepted. **H6 -> accept.**

## Discussion of Results

### Q1: How are vegetarian people in Lebanon affected from a social perspective?

This question is tackled in hypotheses H1 through H6. The social life of the Lebanese people represents a major facet in their daily lives. Therefore, the above research question (Q1) was elaborated on using 6 hypotheses to be tested.

According to Chart 2, only 2% of the sample limits eating out at restaurants, 16% limit inviting people over to their homes and 79% of the sample's general social life was not affected at all by their vegetarian diet. According to table 3, of those who dine out, 14.76% changed restaurants and 60.62% made different food choices that suit their vegetarian diet at their same regular restaurants.

In regards to how a vegetarian diet affects ones' relationship with others while sharing a meal, 3.3% of the sample weren't affected at all, and only 1.29% of the sample stopped eating meals with the rest of the family. Over 59% of them eat their own vegetarian food while seated with the rest of the family or friends, while 35.48% were able to convince family members and friends to eat more of their vegetarian food (Table 1). Only around 34% of the single and 36% of the married vegetarians were able to encourage and convince other family members to join them in eating more of their vegetarian food. While around 56% of the single and 61% of the married enjoy their own vegetarian food while other family members are eating non-vegetarian food (table 4). Over 53% of the sample believe that they can find many vegetarian options among the served food, including in the traditional food and mezzas. Fortunately, most vegetarians (over 79%) experience either no effect or positive effects in their general social life, attend regular social events and make certain food choices that suit their vegetarian diet wherever they are.

## Summary, Recommendations and Conclusion

Vegetarians have many reasons not to eat the flesh of animals. In addition to religious beliefs, there are health-based, ecologic, ethical, and philosophical reasons[10]. To maintain or retain good health, the consumption of an individually optimal diet is recommended [9]. The term preventative diet has been used recently to underline the possibility of avoiding nutrition-based diseases [11]. The aggregate of most studies suggests that the consumption of plant-derived foods (grains, vegetables, fruits, legumes, nuts) should be increased and that the intake of animal-derived foods (meat products, dairy products, and eggs) should be reduced [15,21]. Adherence to vegetarian principles and practice may be narrow or wide depending on the person's understanding and condition. Many people who identify themselves as vegetarians occasionally eat foods generally excluded from the typical 'healthy vegetarian diet' in a temperate climate such as meat, poultry, dairy, eggs, sugar, chemicals, and simple carbohydrates. They consider themselves to be semi-vegetarians or "flexitarians". Because we have all abused

food at some time, we need to find variety within balance. Ideally we need to regain the center on a daily basis. There is always variety, never narrowness. This requires simple eating [13,14].

In spite of the positive results from this research, the researcher prefers to simplify vegetarianism and address it to the Lebanese as a healthy nutritious lifestyle. People who get involved in vegetarianism are coming to it from a compulsion to heal, philosophical interest or because of celebrity driven PR that promotes well-being. That's all fine and well, but ultimately, the most inspiring factor that can sustain vegetarianism will be truly healthy converts that do not become fanatical, condemning or arrogant about their philosophy or other healing modalities. Some people in this region do not like to be labeled as "vegetarians", causing confusion, or discouraging people around them. Just follow a healthy lifestyle and be a good and happy example to others. Being an example can influence others, hopefully to also let go of the many sugared, processed, 'chemicalized' and other ways 'adulterized' foods. An individual could just start with his/her household by easily avoiding meat, poultry and processed food and enjoying a well balanced diet rich in seasonal fruits, vegetables, grains legumes and some fish and dairy products or alternatives [7,12]. The researcher believes that organic food has to be made more accessible and affordable in the region, to encourage following vegetarianism or any other healthy lifestyle. Now is the time to do so, since the media has been highlighting recently the negative effects and health hazards of consuming some of Lebanese agriculture (fruits and vegetables using loads of chemical fertilizers, herbicides, etc...).

Very few social and practical drawbacks of following a vegetarian diet include the requirement of extensive home cooking, conflicts with family and friends, difficulty finding balanced meals in restaurants, and the awkwardness of refusing certain food when invited to a meal at someone's home [2,4].

For people who eat out frequently when traveling, busy or on social events, making the best available food choices is crucial. The researcher believes that vegetarians can't always get away with this for an extended time. They might start to develop small symptoms that may be adjusted by fasting and chewing well. Vegetarians can enjoy restaurants only a few times a week, but vegans in particular, should rely mostly on cooking well balanced meals. They should always try to choose the best quality restaurant and the most appropriate, balanced and varied food when eating out.

It is not easy to practice any healthy lifestyle on your own. Some people are lazy and may not want to make the effort needed for vegetarianism. Nevertheless, the more "healthier" family members and friends one has, the easier to socialize. Learning how to serve appealing healthy appetizers and meals would encourage people to come over or socialize at eating events. If you are a long-time vegetarian or newly-turned vegan, you might find that

some social situations can be awkward. However, there are a few tips that can help fellow vegetarians get through such situations. As a guest, remember that when the host or hostess of a party does make a special vegetarian dish for you, be sure to thank them. Also, when someone offers you a non-vegetarian/non-vegan dish to try, you can simply say, "No Thanks". Make a point to mention how much you liked a vegetarian dish.

On the other hand, when you are hosting your event, try to make foods which are familiar to most people, such as seasonal or popular salads, pasta, hummus, vegetable soups, bean chili, salsa, Lebanese vegetarian mezza dishes, semi-vegetarian options (with fish or dairy) and vegan versions of common sweet-foods such as cookies and cakes. You could also welcome the thought of guests that bring their own dishes as well. While vegan and vegetarian meals are no different than regular meals (except for the fact that they don't have animal products) and are just as tasty, some people may not care for them or be open to trying them.

Finally, at a restaurant, choose convenient meals or just be polite and patient when asking the waiter about which dishes could be made without animal products. If you do ask a lot of the servers, tip them appropriately. It's important that you realize you may have to skimp a bit or make do. If all of their entrees use meat or animal products, it might be easier to just order a sandwich and a few "safe" side dishes instead of insisting they make special accommodations.

If only a few vegetarian choices are available, be gracious and simply order a drink and some side dishes. Remember that dining out should also be about the company, and raising a fuss can make for an uncomfortable if not ruined dining experience. Most of the time, two or three side dishes will be a satisfying meal [20].

In conclusion, the researcher believes that the social life of vegetarians in Lebanon is minimally affected and could actually have some positive impacts on others. Most vegetarians could enjoy any social event or family meal, simply take their own food to their work or school, or even dine out at restaurants as long as they make certain choices from whatever is available. It's actually a positive factor to be living in Lebanon, since many of their traditional foods and even mezzas (appetizers) are vegetarian. It's definitely easier to be a semi-vegetarian than a strict vegan, since you would have a wider selection of foods from the Mediterranean diet that are prepared with seafood or dairy products.

It is not as hard as many might speculate to be a vegetarian in Lebanon because of the availability of seasonal fruits, vegetables and simple traditional meals or appetizers. The only thing to pay attention to, is to be knowledgeable enough to make the right balanced choices (making sure the vegetarian gets his fair share of protein and key vitamins/minerals).

This research revealed that over 35% of the vegetarians were able to encourage or convince their family members during a meal to eat more of their vegetarian food. It is easier to encourage others to include more vegetarian food in their meals rather than convince them to become vegetarians permanently. From a social perspective, one of the major barriers is the habit of a lot of Lebanese to have weekend barbecues, especially in good weather (focusing on meat and chicken). This could be partly addressed using seafood and delicious vegetables from time to time.

The researcher believes that the most efficient method of "encouragement" is to be a living example. When a vegetarian naturally shows how easy, convenient, fun and practical it is, friends and family would be lured into trying. Looking energetic, happy and definitely at your ideal weight, will sure bump up their enthusiasm or at least curiosity to try. A vegetarian could imply simple changes like incorporating more fruits and vegetables, eating one vegetarian meal a day or 2-3 vegetarian meals a week and to see the difference. People, especially the Lebanese in the areas surveyed, are usually more enticed to try diet changes when they are trying to lose weight, especially before beach weather or an important event (like a wedding). It would be a good idea for a vegetarian to share delicious vegetarian food with people (without actually talking about it). Just cook for your family, your friends, etc. It may get many people to see that eating vegetarian can be fun, adventurous, interesting - and not as hard as they probably thought. Other than that, it is also advisable not to preach. Extend the courtesy of accepting others' lifestyles since vegetarians also do not appreciate being nagged about their choices too. People may or may not get excited about eating with you and eating vegetarian for many social, health or other reasons. While they may never totally commit, a vegetarian would at least kill some of the myths about vegetarianism and probably make a slight positive difference.

## References

- 1- Churchill A, Iacobucci D. Marketing research: Methodological foundations (8th ed.). South Western College Pub.; 2001.
- 2- Colbin, Annemarie. Food and Healing. Second ed. New York: Ballantine Books, 1996.
- 3- Debry, G. "Diet peculiarities. Vegetarianism, veganism, crudivorism." *RevPrat* 41, no. 11( Apr 11) (1991): 967-72.
- 4- Farb, Peter, and George Armelagos. Consuming Passions: The Anthropology of Eating. Boston: Houghton Mifflin, 1980.
- 5- Heather McDonald. 'Vegetarian Effects on Children' . Love to Know. Dec 17, 2014  
<[http://vegetarian.lovetoknow.com/Vegetarian\\_Effects\\_on\\_Children](http://vegetarian.lovetoknow.com/Vegetarian_Effects_on_Children)>
- 6- Humane Research Council. "Vegetarianism in the US: A Summary of Quantitative Research". Apr 02, 2007.  
<[http://r.search.yahoo.com/\\_ylt=A0LEVwwAQo1UrPAAO8NXNy0A;\\_ylu=X3oDMTEzcWV](http://r.search.yahoo.com/_ylt=A0LEVwwAQo1UrPAAO8NXNy0A;_ylu=X3oDMTEzcWV)
- 7- Jacobs Jr , Gross M and Tapsell L. Food synergy: an operational concept for understanding nutrition. *Am J Clin Nutr* 2009;89(suppl):1543S-8S.
- 8- Joseph Mayton . "Vegetarianism is not contrary to Arab culture". July 29, 2010  
<<http://www.theguardian.com/commentisfree/2010/jul/29/vegetarianism-arab-culture-environment>>
- 9- Key TJ, Davey GK, Appleby PN. Health benefits of a vegetarian diet. *Proc Nutr Soc* 1999;58:271-5.
- 10- Koo W and Kennedy P. The impact of agricultural subsidies on global welfare. *Am J Agric Econ* 2006;88:1219-26.
- 11- Krauss RM, Eckel RH, Howard B, et al. AHA dietary guidelines, revision 2000: a statement for healthcare professionals from the Nutrition Committee of the American Heart Association. *Circulation* 2000;102:2284-99.
- 12- Messina VK, Burke KI. Position of the American Dietetic Association: vegetarian diets. *J Am Diet Assoc* 1997;11:1317-21.
- 13- Position of the American Dietetic Association: Vegetarian diets. *J Am Diet Assoc* 1997;97:1317-21
- 14- Position of the American Dietetic Association and Dietitians of Canada: Vegetarian diets; *Journal of the American Dietetic Association*: 2003 June; 103(6): pp.748-765
- 15- Rajaram S, Sabaté J. Health benefits of a vegetarian diet. *Nutrition* 2000;16:531-3.
- 16- Shannon O'Donnell. "A Vegetarian Survival Guide, Jordan Style". July 2011.  
<<http://alittleadrift.com/2011/07/vegetarian-travel-jordan>>
- 17- "The Struggle of Being a Vegetarian in Egypt". *Daily News Egypt* .October 22, 2014
- 18- Shyam Subramanian. "Vegetarian Lifestyle". July 25, 2007  
< <http://luthar.com/2007/07/25/vegetarian-lifestyle-by-dr-shyam-subra> >
- 19- "Vegetarian diet gains popularity in Lebanon". *The Daily star*. Oct. 16, 2004.
- 20- "Vegetarians in Social Situations". *Diet and Lifestyle*. November 22, 2014  
<<http://www.wikihow.com/Be-a-Polite-Vegan/Vegetarian-in-Social-Situations>>
- 21- World Cancer Research Fund, American Institute of Cancer Research. Food, nutrition and the prevention of cancer: a global perspective. Washington, DC: American Institute of Cancer Research, 1997.

# Role of Evidence-Based Public Health in Controlling Emerging Infectious Diseases

**Tawfik A. M. Khoja** (1)

**Waris Qidwai** (2)

**Mohamed S. Hussein** (3)

**Lesley Pocock** (4)

(1) Prof. Tawfik A. M. Khoja,  
MBBS, DPHC, FRCGP, FFPH, FRCP (UK)  
Director General Executive Board,  
Health Ministers Council for Cooperation Council  
Professor of Public Health  
Family & Community Physician Consultant

(2) Dr. Waris Qidwai  
MBBS MCPS FCPS MRCGP (Int) FCGP (Sri Lanka)  
Professor & Chairman  
Family Medicine Department  
Aga Khan University, Karachi

(3) Dr. Mohamed S. Hussein,  
Dr.PH, M.PH, M.Sc.,  
Riyadh, Saudi Arabia

(4) Lesley Pocock  
Publisher and Managing Director  
medi+WORLD International  
Australia

## Correspondence:

Waris Qidwai,  
Professor and Chairman, Family Medicine Department  
Aga Khan University Karachi Pakistan  
Tel: (92-21) 3486-4843, 3486-4814  
Fax: (92-21) 3493-4294, 3493-2095  
**Email:** waris.qidwai@aku.edu

## Introduction

Emerging infectious diseases are on the rise and pose a growing challenge to Health Care Providers around the world. They include infectious diseases that have not occurred in humans before, diseases that have occurred previously but affected only small numbers of people in isolated places such as AIDS and Ebola hemorrhagic fever(1) or diseases that have occurred throughout human history but have only recently been recognized as distinct diseases due to an infectious agent, such as Lyme disease and gastric ulcers.

Today we live in the era of evidence based medicine (EBM) that entails an approach to health care, which promotes

the collection, interpretation, and integration of valid, important and applicable patient-reported, clinician-observed, and research-derived evidence. The best available evidence, moderated by patient circumstances and preferences, is applied to improve the quality of clinical judgments, to ensure Patient safety and facilitate cost-effective health care. (2) Evidence-Based public health is defined as the development, implementation and evaluation of effective programs and policies in public health through application of principles of scientific reasoning, including systematic uses of data and information systems, and appropriate use of behavioral science theory and program planning models.(3,4,5) (Table 1)

Table 1: Key Differences between Evidence-Based Medicine and Evidence-Based Public Health (ED)

Characteristic	Evidence-Based Medicine	Evidence-Based Public Health
Quality of evidence	Experimental studies	Observational and quasi-experimental studies
Volume of evidence	Larger	Smaller
Time from intervention to outcome	Shorter	Longer
Professional training	More formal, with certification and/or licensing	Less formal, no standard certification
Decision making	Individual	Team

It is important to apply principles of Evidence-Based Public Health(6) to meet the challenge of emerging infectious diseases. This approach has several advantages which include incorporating the best existing medical interventions with clinical practice whenever suitable evidence about its usefulness is available. It provides guidance to best use resources through identifying interventions that work and defers those lacking evidence for their effectiveness. It helps in finding a common language and general rules for defining the efficacy of available intervention. It provides grounds for improving the graduate studies and continuous medical education programs.(7)

Benefits of implementing Evidence-Based emerging disease practices include improving Health Professionals knowledge, their understanding of research and its methods, confidence in managing clinical situations, computer literacy and data searching skills. It allows group problem solving and teaching and it offers more effective use of resources. It allows better communication with the patient about the rationale behind treatment and juniors can contribute as well as seniors to improve team work.(7)

Barriers to evidence based practice in Emerging Diseases include difficulty in providing best evidence based service that may not be possible within limited resources.

No credible health professional could deny that sound evidence should be an integral part of clinical decision making. The demand for up to date information to inform care and treatment highlights the crucial role of research and development in the modern health service. However, within an ordinary health system, Health Practitioners have not always been able to underpin their actions with robust research findings. (8)

The potential barriers for use of Evidence-Based decision making in emerging diseases include lack of leadership in setting a clear and focused agenda and lack of a long term view (horizon) for program implementation and evaluation. External pressure drives the process away from an Evidence-Based approach and inadequate training in key public health disciplines is an issue. Lack of time to gather information, analyze data and renew the literature for evidence are some of the other challenges. There is also lack of comprehensive, up-to-date information on the effectiveness of programs and policies and lack of data on the effectiveness of certain public health interactions or for special populations.

Evidence-Based Public Health acts on good practice guidelines, incorporating expert judgments with appropriate, systematic research. There exists a need in public health to identify the scientific basis for efficacy of policies and programs, change evidence into recommendations, and increase evidence used in public health practice. (7)

Policy-makers should invest in scientifically proven and cost-effective remedies with regards to emerging diseases. Scientific basis for efficiency of interventions in programs, practices, or policies, can be used as justification for selection of a certain course of action and allocation of funding and other resources. Patient safety should be addressed through evidence based public health approaches. (9)

## Tools to support Evidence-Based Public Health

### 1. Health Impact Assessment (HIA)

HIA is an approach to assess burden on health and the potential of health improvements by modifying underlying conditions.(10)

It is a combination of procedures, methods, and tools by which a policy, program, or project may be judged as to its potential effects on the health of a population and the distribution of those effects within the population.

It requires a high degree of interdisciplinary and inter-sectoral collaboration, well-trained Practitioners, appropriate data sets for analysis, and funders that recognize the value of the collaborations and the information.

Because of their focus on specific policy options facing decision-makers, it is more likely than other evidence-based decision tools to affect decisions outside the health sector.

It educates decision-makers about how the public's health is strongly influenced by many decisions in spheres outside health.

### 2. Systematic Reviews

A systematic review(11) is a formal process that identifies all of the relevant scientific studies on a topic, assesses their quality, individually and collectively, and sums up their results.

Systematic approaches for summarizing scientific evidence and linking that evidence to practice and policy recommendations increase the transparency, understandability, and credibility of recommendations.

Systematic reviews make it easier for practitioners and policymakers to understand all of the relevant information that is available, how it was collected and assembled, and how the conclusions and recommendations relate to the information that was reviewed.

In the health sphere, reviews now summarize information on the efficacy of medical treatments, clinical preventive services, public health interventions and policies, and related social policies.

### 3. Portfolio of Tools

A range of techniques and tools are evolving in this area. Some of the important ones include the following:

**A)** Participatory research: performing research in collaboration with those affected by the issue under study for the purpose of taking action or making change has the potential to increase the relevance of research findings and their subsequent use in communities. (Figure 1)

**B)** Increasing collection and reporting of qualitative information about the context in which research studies were conducted will provide users with more information about whether particular strategies are likely to be feasible and useful in local contexts as well as providing a basis for allowing systematic reviews to assess the impact of context on results.

**C)** Economic evaluations of public health interventions will provide critical information about costs and value.

**D)** Finally, decision analytic and other modeling approaches can be very helpful in systematically collecting and analyzing available data, comparing the value of two or more decision options and assessing the importance of uncertainties on results.

Public health decision making is a complicated process because of complex inputs and group decision making. Implementation of EBPH requires not only a workforce that understands and can implement EBPH efficiently but also sustained support from health department leaders, practitioners, and policy makers.

With evidence-based medicine guidelines, physicians can use proven treatment methods based on the best evidence available to develop patient-care strategies.

It is necessary to develop and promote a culture of Evidence Based Public Health approach for dealing with Emerging Diseases in the region. This will include use of Healthcare informatics, Research in Gulf Cooperation Council (GCC) countries and multidisciplinary team approach.

Multi-sectoral actions are needed to strengthen policies and improve practices that are driven by the best available evidence and knowledge. Funders often require programs to be evidence-based. Because formal public health training in the workforce is lacking, on-the-job training and skills development are needed. The need may be even greater in local health departments, where practitioners may be less aware of and slower to adopt evidence-based guidelines than state practitioners and where training resources may be more limited.(12)

There are barriers to effective implementation of evidence based public health and solutions need to be found.(13, 14)

As a first step in the EBPH process, a community assessment identifies the health and resource needs, concerns, values, and assets of a community. This assessment allows the intervention (a public health program or policy) to be designed and implemented in a way that increases the likelihood of success and maximizes the benefit to the community. Public health surveillance is a critical tool for understanding a community's health issues.

Once health needs are identified through a community assessment, the scientific literature can identify programs and policies that have been effective in addressing those needs.

**Figure 1: The practice of Evidence-Based Public Health (EBPH) is an integration of science-based interventions with community preferences for improving population health**



The amount of available evidence can be overwhelming; Practitioners can identify the best available evidence by using tools that synthesize, interpret, and evaluate the literature.

Systematic reviews use explicit methods to locate and critically appraise published literature in a specific field or topic area.

The products are reports and recommendations that synthesize and summarize the effectiveness of particular interventions, treatments, or services and often include information about their applicability, costs, and implementation barriers.

It is useful to consider several overarching, common characteristics of an evidence-based approach to public health practice.

- Making decisions based on the best available peer-reviewed evidence (both quantitative and qualitative research);
- Using data and information systems systematically;
- Applying program planning frameworks (that often have a foundation in behavioral science theory);
- Engaging the community in assessment and decision making;
- Conducting sound evaluation;
- Disseminating what is learned to key stakeholders and decision makers; and

- Synthesizing scientific skills, effective communication, common sense, and political acumen in making decisions.

The successful implementation of EBPH in public health practice is both a science and an art. The science is built on epidemiologic, behavioral, and policy research showing the size and scope of a public health problem and identifying interventions that are likely to be effective in addressing the problem.

The art of decision making often involves knowing what information is important to a particular stakeholder at the right time. Significant decisions in public health must balance science and art, since evidence-based decision making often involves choosing one alternative from among a set of rational choices. Interdisciplinary cooperation is necessary for success of implementation of evidence based public health initiatives. (15)

To increase the implementation of EBPH in practice settings (e.g., health departments), greater attention to administrative practices is needed, including:

- 1) Workforce development**
- 2) Leadership**
- 3) Organizational climate and culture**
- 4) Relationships and partnerships, and**
- 5) Financial processes**

**All available information must be weighed:**

- Assessment data on the magnitude of the problem, epidemiologic data on determinants
- Stakeholder opinion on the nature of the problem and acceptable solutions,
- Existing practices and traditions
- Less robust yet promising intervention evaluations, program options within budgetary constraints
- Legal considerations such as privacy laws
- Political will to address the issues

**There are at least FOUR ways in which a public health program or policy may not reach stated goals for success:**

- Choosing an intervention approach that's effectiveness is not established in the scientific literature;
- Selecting a potentially effective program or policy yet achieving only weak, incomplete implementation or "reach," thereby failing to attain objectives;
- Conducting an inadequate or incorrect evaluation that results in a lack of generalizable knowledge on the effectiveness of a program or policy; and
- Paying inadequate attention to adapting an intervention to the population and context of interest.

**Conclusion**

Numerous benefits accrue when decisions in public health are based on scientific evidence including the area of emerging diseases. By applying the concepts of EBPH, decision making and, ultimately, public health practice in emerging diseases can be improved. Public health doctors with sound clinical knowledge, skills & competency armed with the latest research evidence are able to translate their role into effective care and public health interventions in emerging diseases.

**References**

1. Centers for Disease Control and Prevention. Ebola (Ebola Virus Disease). [Internet] [Cited 2015 Apr 22]. Available from: <http://www.cdc.gov/vhf/ebola/index.html>
2. McKibbin, K.A. et al. (1995) The medical literature as a resource for evidence based care from the Health Information Research Unit, McMaster University, Ontario, Canada.
3. Brownson, Ross C., Elizabeth A. Baker, Terry L. Leet, and Kathleen N. Gillespie, Editors. Evidence-Based Public Health. New York: Oxford University Press, 2003.
4. Kohatsu ND, Robinson JG, Torner JC. Evidence-based public health: an evolving concept. *Am J Prev Med* 2004; 27(5):417-21.
5. Brownson RC, Fielding JE, Maylahn CM. Evidence-based public health: a fundamental concept for public health practice. *Annu Rev Public Health* 2009; 30:175-201.

6. Goodman, R.M. Principles and Tools for Evaluating Community-Based Prevention and Health Promotion Programs. *Journal of Public Health Management and Practice* 4, no. 2 (1998): 39.
7. Brownson RC, Baker EA, Leet TL, Gillespie KN, True WR. Evidence-Based public health. 2nd edition. New York (NY): Oxford University Press; 2011.
8. Jacobs JA, Dodson EA, Baker EA, Deshpande AD, Brownson RC. Barriers to Evidence-Based decision making in public health: a national survey of chronic disease practitioners. *Public Health Rep.* 2010; 125(5):736-42.
9. Card AJ. Patient safety: this is public health. *J Healthc Risk Manag.* 2014;34(1):6-12
10. World Health Organization. WHO | Health Impact Assessment. [Internet] [Cited 2015 Apr 22]. Available from: <http://www.who.int/hia/en/>
11. Mullen PD, Ramirez G. The promise and pitfalls of systematic reviews. *Annu Rev Public Health* 2006; 27:81-102.
12. Baker EA, Brownson RC, Dreisinger M, McIntosh LD, Karamelic-Muratovic A. Examining the role of training in evidence-based public health: a qualitative study. *Health Promot Pract* 2009; 10(3):342-8.
13. Dodson EA, Baker EA, Brownson RC. Use of evidence-based interventions in state health departments: a qualitative assessment of barriers and solutions. *J Public Health Manag Pract* 2010; 16(6):E9-15.
14. Jacobs JA, Dodson EA, Baker EA, Deshpande AD, Brownson RC. Barriers to evidence-based decision making in public health: a national survey of chronic disease practitioners. *Public Health Rep* 2010. 125 (5):736-42.
15. Newhouse RP, Spring B. Interdisciplinary evidence-based practice: moving from silos to synergy. *Nurs Outlook* 2010; 58(6):309-17.



# Office procedures - Review and Practice Tips

## Introduction

The technique of history taking, combined with the art and skill involved in the physical examination, still remains the basis of diagnosis, despite continuing advances in medical technology.

The diagnostic process requires correlation and interpretation of the patient's history, symptoms and signs. The skill arises in placing all these factors in proper perspective.

After arriving at a provisional clinical diagnosis, a decision is then made regarding the need for further investigation or for surgical intervention.

Many factors must be taken into account before deciding to operate. The most important of these is to have arrived at a clinical diagnosis.

This is becoming increasingly important in terms of medical economics, hospital priorities, patient convenience and safety.

The following issues, form the basis of all surgery:

1. Clinical diagnosis
2. Method of anaesthesia, analgesia and pain control; and
3. Surgical technique and post-operative care.

These principles can be applied not only to skin surgery but also to:

- Hernias
- Scrotal and testicular conditions
- Ano-rectal region and pilonidal sinus
- A diverse group including lipomata, ganglia, bursae, lymph nodes, ingrown toenails and varicose veins.

Surgery should only be undertaken by those who have had appropriate training and whose skills have been developed under the supervision of acknowledged teachers and experts in each field, as well as by practice under supervision.

Any surgical condition requires a thorough preoperative and postoperative assessment in addition to evaluation of progress during the operation.

The reasons for the decision to operate, the result expected by the patient, the family and by the treating doctors, depend on thorough assessment and detailed explanation.

A method is presented which in most cases allows for such evaluation. It involves:

1. The history of the presenting problem;
2. A general history of the patient;
3. An analysis of factors which may affect the problem; and
4. The clinical examination.

## History

For every clinical case involving the presence of an abnormal lump, tumour or mass, a thorough history is taken.

### *What questions should be asked?*

*Think about what questions you would ask prior to proceeding.*

There are particular questions that should be asked.

### **The Lesion -Why has the patient attended?**

- How did the lesion occur?
- When did it happen or when was it first noticed?
- What were the associated circumstances?
- What changes have occurred, for example, in size, shape, colour, discharge and when did the changes occur?
- Has there been any pain or discomfort?
- What are the features of the discomfort or pain?
- Has there been any change in the quality or the intensity of the pain or discomfort? When did this happen?
- Has there been any associated features such as fever, loss of weight, swelling, lymph gland enlargement or jaundice?

### **Present situation - What is happening now?**

When, where, how and why did the condition develop? What are the associated features of other symptoms, which can aid in diagnosis of the lesion? Are there any family or other contacts who have a similar problem?

### **General Assessment**

Are there any factors which may affect (positively or negatively) the presenting complaint, its treatment or the patient's recovery?

What are the present effect(s) of past activities? Are there any factors in the past or present social, economic, educational, religious, occupational, family

history, or involvement with sporting clubs or other social networks or people in the patient's life, which may affect (positively or negatively) the cause, treatment or outcome of the presenting problem?

### What are present effects of present lifestyle?

What predictions are present which will influence future management and health of the patient?

Are there any factors in the past medical (including surgical and anaesthetic) history, socio-economic or belief systems of the patient which may influence the intended therapy? Is the intended treatment the most appropriate in the circumstances?

### The Ethical Issues - What does the patient want, understand and expect?

Is the intended treatment necessary and affordable by the patient or patient's family; is it best performed by the attending doctor at this or a later time?

What is the best and the most appropriate surgical procedure and method of anaesthesia for this patient at this time by this surgeon, in these circumstances?

What can be done?  
 What should be done?  
 Who should do it?  
 Where should it be done?  
 Who else is present, if anyone?  
 Can or should treatment be delayed or deferred?

Will the optimal result be achieved (immediately or later) by not doing anything, or by undertaking a definitive procedure?

Written or verbal consent must be given by the patient to the doctor, before any procedure is performed.

## The Clinical Examination

### What steps should be taken?

This is performed in 4 practical steps:

#### 1. Direct Diagnostic Approach

The examination of the lump or lesion. There should be adequate exposure of the part, and adequate illumination.

#### 2. Extended Direct Examination

For example, examine the rest of the affected limb and compare it with the opposite side.

#### 3. Regional or Systemic Examination

When a lesion is likely to be associated with other relevant findings elsewhere, for example, a malignant melanoma may be associated with enlargement of the liver, or the lymph nodes, regional or elsewhere.

#### 4. Full Generation Examination

To ascertain fitness for the intended anaesthesia, and operation, the extent of disease or co-existent diseases, to help in planning rehabilitation of the part or the whole patient.

Thus it can be seen that when any lump, tumour or mass is discovered, or any illness, a comprehensive approach will lead, not only to the correct diagnosis, but also determine the appropriate decisions regarding management with the best prospects for a successful outcome.

## Key Concepts and Practice Tips

Do not consider a lump in isolation from the rest of the body.

Consider the implications of questions and diagnostic decisions for each patient.

Inspect before palpating.

While inspecting, think of active tests which may be appropriate for certain locations (e.g. swallowing for neck lumps and coughing for groin swellings).

Palpate gently in a definite sequence used every time. Do not prod.

If a patient says the lesion is painful, proceed gently while simultaneously watching the patient's facial expression. Locate the lump in terms of its relationship to anatomical landmarks and regions.

Determine the anatomical tissue plane in which the lesion lies.

Test mobility both with and without underlying muscular resistance.

Systematically examine each of the relevant physical characteristics.

Interpret the clinical findings in terms of the pathological process and the most likely diagnosis in relationship to any given site.

Examine for possible causes and effects.

Examine for factors which may affect clinical management.

Do not forget to examine the regional lymph nodes.

If lymph nodes are enlarged, assess whether it is a consequence of the presenting lesion or a consequence of an undetected lesion or a primary lymphoid problem.

Remember to examine the opposite side of the body, for comparison.

A provisional diagnosis should be made.

Histological examination of a biopsy may be required to ensure accurate diagnosis.

## Reference

Office procedures. M. Brygel, *medi+WORLD International*

