

Evaluation of Fars Province General Physicians' Awareness and Attitude about Epidemiology

Background: Epidemiology is the base of public health and preventive medicine. This study was conducted to identify the rate of awareness and attitude of 1000 Fars General Physicians about Epidemiology Science in 2010

Methods: The present study performed as cross-sectional on working general physicians (GPs) in 20 of Fars provinces in 1-Stage Cluster sampling. In the study, factors such as age, gender, university of graduation, marital status, the length of time since graduation, working place's type with different levels of awareness and attitude, has been evaluated.

Results: In terms of awareness, 55.4% of physicians had low, 41.7% had average and 2.9% had desirable awareness and in terms of attitude, 83.4% had low, 16.3% had average and 0.3% had a desirable attitude. Then significant statistical association between levels of awareness and attitude and age, gender, university of graduation, the length of the time since graduation, marital status and working place variables was observed.

Conclusions: Considering the unfavorable results of awareness and attitude, paying more fundamental attention to detailed knowledge of epidemiology should be considered by health policy makers through a documented plan as well as continuous while in service training.

Keywords: Knowledge, Attitude, General Physicians, Fars province, epidemiology.

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 Received: Dec 25, 2011
 Accepted: Feb 6, 2012

تقييم مستوى المعرفة و الروثيه تجاه علم الوبائيات عند اطباء الطب العام في سنة ٢٠١٠ م.

التصميم و الهدف: إن علم الوبائيات اساس الصحة العامة و طب الوقاية. إن هذه الدراسة تمت بقصد تعيين مستوى المعرفة و الرقيه عند ١٠٠٠ طبيب عمومي في محافظه فارس سنة ١٣٨٩هـ. ش في مجال علم الوبائيات. **الاطلوب:** إن هذه الدراسة تمت بشكل مقطعي و قد اجريت بين الاطباء ذو شهاده طب عام في ٢٠ مدينه من مدن محافظه فارس و استخدم الاسلوب العشودي في استخدام العينات. لقد تم تقييم ارتباط العوامل التاليه في هذه الدراسة: السن، الجنس، الجامعة التي قد درس فيها الطبيب و المده التي قد مضت من حين انهاء الدراسة، وضعيه الزواج و نوعيه محل العمل، مستوى المعرفة و الروثيه.

النتائج: من حيث مستوى المعرفة،
 - ٥٥/٤٪ من الاطباء كان مستوى المعرفة عندهم ضعيف.
 - ٤١/٧٪ من الاطباء كان مستوى المعرفة عندهم متوسط.
 - ٢/٩٪ من الاطباء كان مستوى المعرفة عندهم جيد.

من حيث الروثيه:
 - ٨٣/٤٪ لديهم روثيه ضعيفه
 - ١٦/٣٪ لديهم روثيه متوسطه
 - ٠/٣٪ لديهم روثيه جيده.

و كان هناك ارتباطات ذو قيمه من حيث الحيات الإحصائيه بنسبه الى سطوح المعرفة و الروثيه و متغيرات السن و الجنس و الجامعة التي قد اتم الطبيب دراسته فيها و المده التي قد مضت من حين انهاء الدراسة و وضعيه الزواج و نوعيه محل العمل.

الإستنتاج: نظرا الى المستوى الغير جيد بالنسبه الى المعرفة و الروثيه يجب وضع برامج مدونه و تعليم مداوم من قبل المسؤولين في هذه الجبالرت و المعنين تجاه الاطباء، ذو شهاده الطب العام.

الكلمات الرئيسية: المعرفة، الروثيه، الاطباء، ذو شهاده الطب العام، محافظه فارس، علم الوبائيات.

ارزيابي ميزان آگاهی و نگرش پزشكان عمومی استان فارس در زمينه دانش اپيدميولوژی

زمينه و هدف: اپيدميولوژی پایه بهداشت عمومی و پزشکی پیشگیری است. مطالعه حاضر به منظور تعیین میزان آگاهی و نگرش ١٠٠٠ نفر از پزشكان عمومی استان فارس در سال ١٣٨٩ در زمينه دانش اپيدميولوژی به انجام رسیده است.

روش: مطالعه در پیش رو به شکل مقطعی بر روی پزشكان عمومی شاغل ٢٠ شهرستان استان فارس به روش نمونه گیری خوشه ای یک مرحله ای انجام پذیرفته است. در این مطالعه ارتباط عواملی همچون سن، جنس، دانشگاه محل فارغ التحصیلی، مدت زمان فراغت از تحصیل وضعیت تاهل و نوع محل کار با سطوح مختلف آگاهی و نگرش، مورد ارزیابی قرار گرفته است.

یافته ها: به لحاظ آگاهی، ٥٥/٤٪ از پزشكان دارای میزان آگاهی ضعیف، ٤١/٧٪ متوسط و ٢/٩٪ مطلوب و به لحاظ نگرش، ٨٣/٤٪ دارای میزان نگرش ضعیف، ١٦/٣٪ متوسط و ٠/٣٪ دارای میزان نگرش مطلوب بودند. در ادامه ارتباطات آماری معنی داری بین سطوح آگاهی و نگرش و متغیرهای سن، جنس، دانشگاه محل فارغ التحصیلی، مدت زمان فراغت از تحصیل، وضعیت تاهل و محل کار مشاهده گردید.

نتیجه گیری: با توجه به وضعیت نامطلوب آگاهی و نگرش بدست آمده، بایستی از سوی مسئولین و سیاستگذاران بهداشتی برنامه ریزی مدون و همچنین آموزش مداوم پزشكان عمومی مورد توجه بیشتر قرار گیرد.

واژه های کلیدی: آگاهی، نگرش، پزشكان عمومی، استان فارس، اپيدميولوژی.

صوبه فارس میں اپیدمیولوجی کے بارے میں عام ڈاکٹروں کی معلومات کا جائزہ

بیک گراؤنڈ: اپیدمیولوجی صحت عامہ اور بیماریوں کی پیشگی روک تھام کے لئے بنیادی حیثیت رکھتی ہے۔ یہ تحقیق صوبہ فارس کے ایک ہزار عام ڈاکٹروں کی اپیدمیولوجی کے بارے میں معلومات اور اس سلسلے میں ان کی کارکردگی کا جائزہ لینے کے لئے انجام دی گئی۔

روش: اس تحقیق میں صوبہ فارس کے بیس شہروں کے ڈاکٹروں کو شامل کیا گیا۔ بیس شہروں سے اس تحقیق میں ایک ہزار ڈاکٹروں نے شرکت کی۔ اس تحقیق میں ڈاکٹروں کی عمر، جنس، تعلیم کا مقام، کب فارغ التحصیل ہوئے، کام کرنے کی جگہ کی نوعیت نیز شادی شدہ یا غیر شادی شدہ ہونا مد نظر رکھا گیا تھا۔

نتیجے: اپیدمیولوجی کے بارے میں معلومات کے لحاظ سے پچپن اعشاریہ چار فیصد ڈاکٹر بہت کم معلومات رکھتے تھے۔ اکتالیس اعشاریہ سات فیصد ڈاکٹروں کی معلومات متوسط درجے کی تھیں اور ڈاکٹروں کی بڑی تعداد اس موضوع کے تعلق سے مثبت نظر نہیں رکھتی تھی اسی طرح معلومات اور ان کے نقطہ نظر کے تعلق سے وہ سارے فیکٹر جو ہم نے ذکر کئے ہیں وہ سب دخیل تھے۔

سفارشات: اپیدمیولوجی کے تعلق سے ڈاکٹروں کی معلومات کی نامناسب صورتحال کے پیش نظر ملک کی وزارت صحت کو ڈاکٹروں کی تعلیم اور ٹریننگ کے لئے مناسب انتظام کرنا چاہیے تا کہ اس حساس موضوع کی طرف سے بے توجہ نہ ہونے پائے۔

کلید الفاظ: اپیدمیولوجی، عام ڈاکٹر، صوبہ فارس۔

INTRODUCTION

Epidemiology has several different definitions in medical science, but the most comprehensive one is presented by John Last in 2004, as the study of disease distribution in a population and evaluation of factors affecting the distribution and using the results of these studies to solve health problems (1). acknowledged by all of the technical experts of epidemiology as the base of public health science. The basic approach of the science is testing hypotheses, disease evaluation, conducting studies to determine awareness and attitude and performance rate of populations, determining causing relations, accomplishing and evaluating interventions and new experiences, evaluating exposure to the risk factors, describing facts and evaluating health and care interventions (2-4). It is evident that the impact of the epidemiology knowledge on health system performances across the world is in reduction, elimination and sometimes eradication of diseases, increase of life expectancy, improvement in quality and quantity of care and referral system, also improvement of patients' and society quality of life (5-6). On the other hand, health and care in any society is one of the most important priorities of policy and investment in the society. Issues in this field are usually of particular importance as the problem is related to human life and physical and mental health of the community (7-8). So many studies have been conducted worldwide on awareness and attitude of physicians in different medical and care fields, including Vastyn Peak's research in 1992 on physicians' awareness, attitude and performance of hypertension and its treatment in Cuptone city or Steven and colleagues' research in 1992, on general physicians' awareness and performance in the field of hypertension in Australia and also Hadi and colleagues' research conducted in Jahrom, on general physicians' awareness and attitude towards diabetes and its treatment or Lorer and Vivani research in 1997 about family physicians viewpoints about the treatment of common cardiovascular diseases and dozens of other researches in diverse fields of medical science especially measuring the knowledge about patients' clinical strategies (9-12). But so far no research has been conducted specifically evaluating general physicians' awareness, attitude and performance of epidemiology itself in a coherent, comprehensive and targeted way. As mentioned this layer of the society because of the type of their position in health system and also their key role in the development of public health and prevention of diseases are of great importance, and in need of learning principle and nature of the knowledge to apply in their profession and also to set up and conduct basic and practical researches in their specific field. Therefore, it is sensed critical to evaluate province and then country's GPs¹ awareness, attitude and performance in order to move along with the goals of twenty year outlook of comprehensive country's health master-plan. Considering the main approaches of epidemiology knowledge and as a result its close relationship with clinical and medical training in the prevention of common health problems (13-16), it seems that the present study can help health system's educational planners to match educational topics related to the fundamental principles of epidemiology and provide

preliminaries to institutionalization of epidemiology in the medical education.

METHODS

The present study is a cross-sectional study performed in 2010 on general practitioners (physicians) working in private or governmental sectors in 20 of Fars provinces as the study samples, chosen by 1-Stage Cluster sampling with respect to the proportion of the total number of physicians in each city to the whole number of them. In this study the doctors having a general doctorate working in private or governmental sectors of Fars province were studied and certified medical doctors and non-employed ones or those employed outside the province were excluded (Inclusion and Exclusion Criterion). Data collection tool was a researcher made questionnaire about epidemiology areas, nature, goals, attitudes, performances and approaches in health system made of 20 questions, including 10 attitude survey questions and 10 awareness survey questions. Its validity was determined desirable by using experts' opinions and using Lawsh method and calculation of two ratios' test between correct answers in both privileged and non-privileged groups and significant difficulty coefficient equal to (>0.76), means valid equal to ($p < 0.0001$) and its reliability by Gronbach Coefficient alpha calculation method was equal to 0.85. After correcting questionair, those achieving the minimum score of 15 out of 20 in both of them were considered at the desirable level, those achieving scores between 10-15 were considered average and those gaining scores below 10 were considered low. After the distribution of questionnaires among 40 of province's general practitioners in the pilot stage for calculation of the mean and standard deviation of awareness and attitude scores and to identify the validity and reliability of questions the standard deviation for awareness survey questions was calculated equal to 0.7 and 0.63 for attitude survey questions and by using the sample size formula ($Z_2 * \bar{\sigma} / d_2$), the minimum sample size of 753 persons for awareness and 610 persons for attitude was calculated. it was decided to enter 1000 person in the process [confidence level 95% and margin of error ($d = 0.05$)]. It is noteworthy that data from samples examined in the pilot study were not used in the main study. After the questionnaires' distribution in each one of the cities in case of not responding of some of the GPs to avoid selection bias, a number of other general practitioners, were sampled and were entered to the study pool until reaching to the 1000 samples and also to observe ethical considerations, the GPs were assured of the analysis to be done as a group and their personal details not to be used in any way. Finally, after identifying the descriptive statistics, such as average score of awareness and attitude sorted by all of the studied variables to determine the relationship between age and the length of time since graduation with awareness and attitude levels, one-way ANOVA test, was used, to determine the relationship between gender, university of graduation, type of work and marital status, with levels of awareness and attitude Chi-square test was used. The relationship between awareness and attitude scores was determined by calculating the Pearson correlation coefficient. Data analysis was performed

1. General Physician

using the software SPSS16 and Minitab15.

RESULTS

In this cross-sectional study 750 male GPs (75%) and 250 female GPs (25%) participated. The average age was 41.72 ± 6.24 and average age sorted by gender was calculated 40.83 ± 6.29 for the male doctors and 44.38 ± 5.29 for the female doctors. 701(70.1%) physicians only worked in private clinics, 149(14.9%) worked in both private practice and clinics and 150(15%) only worked in clinics. The place of graduation was respectively Shiraz University of Medical Sciences (36.9%), Isfahan (13.5%) and Bandar Abbas (10.4%). mean and standard deviation scores of awareness and attitude of GPs' working at private practice offices that were 100% private were respectively, equal to 9.78 ± 3.31 and 8.10 ± 2.92 , for clinic GPs in private sector were equal to 9.61 ± 2.98 and 8.96 ± 2.12 and for private practice-clinic doctors' were respectively equal to 9.33 ± 1.71 for those in private sector and 8.22 ± 2.31 for those in the public sector 10.02 ± 3.4 and 9.90 ± 2.11 respectively, and for GPs working in urban health centers who are a subset of clinic doctors in the main study and all were working in the governmental sector were respectively 13.12 ± 1.13 and 10.26 ± 1.09 and at last for the whole number of 290 doctors in the private sector were respectively 10.98 ± 3.13 and 8.11 ± 2.2 And for the 109 doctors working in the public sector were respectively 13.08 ± 2.36 and 12.01 ± 1.29 . The difference between the scores in both private and public sectors were statistically significant ($p < 0.05$). 984 of GPs (98.4%) were married and 16 ones (1.6%) were single. The average post graduation time was 11.04 ± 3.54 . The duration of post graduation time for 13 GPs (1.3%) was under 5 years, for 389 GPs (38.9%) was among 5-10 and for 598 GPs (59.8%) was more than 10 years. In terms of awareness, 55.4% of physicians had low knowledge, 41.7% average and 2.9% desirable, and in terms of attitude, 83.4% had a low attitude, 16.3% had average and 0.3% had a desirable attitude. The average of the time since graduation of GPs with average age of middle, upper middle and lower middle were respectively 9.99 ± 3.56 and 12.67 ± 2.85 ($P < 0.001$). the most taken samples with respect to the

appropriateness of the Medical Council's statistics of each city, were from Shiraz, 380 ones (38%) and the lowest were of Kharam, 5 person (0.05%).The mean and standard deviation scores, of awareness and attitudes' evaluation of general epidemiology knowledge, were 9.93 ± 3.54 and 8 ± 2.75 respectively on the whole. The average score of awareness and attitudes' evaluation of general practitioners sorted by gender, age, marital status, the length of time since graduation and the type of working place is shown in Table 1. One-way ANOVA test association analysis between the age variable and awareness levels ($p < 0.0001$) showed a statistically significant relationship. In Post-ANOVA tukey test was determined that there is the difference between the three groups with low, average and desirable scores significantly. Results of analysis between gender, marital status, graduated place and workplace by the levels of awareness and attitude showed in table 2 and 3. To determine awareness and attitude levels associated with the length of time since graduation, one-way ANOVA test reported a fully statistically significant relationship ($p < 0.0001$). Then Tukey test determined that there is the difference between the three groups with low, average and desirable scores significantly. Finally one-way ANOVA test reported a statistically significant relationship ($p < 0.0001$) between levels of attitude and the duration of post graduation time, in this part the duration of post graduation time of GPs with low levels of attitude was shorter, and for GPs at desirable level of attitudes was longer. At the end of the analysis, the relationship between scores of awareness and attitude levels were calculated, in fact the relation of each level's scores with the same level was calculated. In the first step the overall relationship of both parts' scores were determined, which by gaining ($p < 0.0001$) and correlation coefficient equal to 0.12. it was determined that there is a direct and incomplete correlation between these two variables; it means that by the increase of awareness scores, the average attitude scores also increased. Then in the next stage among the low levels, a coefficient of 0.45 ($p < 0.01$), among the average levels, a coefficient of 0.55 ($p < 0.02$) and among the desirable levels, a coefficient of 0.66 ($p < 0.001$), was calculated respectively.

Table 1. The Mean Scores of General Physicians' Attitude and Awareness regarding Gender, Age, Marital and Time of Graduation.

Variable	Awareness score of 20	Attitude score of 20
Gender		
Male	9.86±3.16	8.04±2.58
Female	7.89±2.13	10.1±3.2
Age		
≤43	10.2±2.5	8.01±2.77
>43	9.51±3.43	7.99±2.7
Graduation time		
≤11	10.07±2.81	7.86±2.71
>11	9.77±3.08	8.16±2.78
Marital status		
Single	9.92±2.96	7.87±1.25
Married	10.75±1.34	8±2.76

Table 2. The Association between General Physicians' Awareness Levels and their Marital Status, Graduation Place and Work Place.

Variable	P Value			OR			CI95%		
	Low	Average	Desirable	Low	Average	Desirable	Low	Average	Desirable
Marital status	0.004	0.005	0.002	1.66	1.69	1.11	1.17-2.36	1.14-2.39	1.01-1.29
Graduation place									
Fars	NS*	0.02	0.04	-	0.66	0.97	-	0.46-0.94	0.96-0.97
Tehran	0.002	-	-	2.1	-	-	1.99-2.29	-	-
Tabriz	0.004	-	-	1.69	-	-	1.11-2.22	-	-
Ahvaz	0.006	-	-	1.77	-	-	1.2-3.1	-	-
Kerman	0.002	-	-	2.33	-	-	1.99-2.79	-	-
Work place									
Private practice	0.0001	-	-	1.89	-	-	1.11-2.23	-	-
Clinic	<0.0001	<0.0001	<0.0001	0.51	0.82	4.65	0.45-0.57	0.75-0.91	2.9-7.45
Both	0.002	<0.0001	<0.0001	1.26	1.94	0.19	1.08-1.46	1.71-2.2	0.09-0.4

*NS Not Significant

Table 3. The Association between General Physicians' Attitude and their Marital Status, Graduation Place and Work Place.

Variable	P Value			OR			CI95%		
	Low	Average	Desirable	Low	Average	Desirable	Low	Average	Desirable
Marital status	<0.0001	<0.0001	<0.0001	1.65	0.57	0.99	1.47-1.84	0.51-0.64	0.98-0.99
Graduation place									
Fars	<0.0001	<0.0001	-	0.75	0.75	-	0.74-0.76	0.74-0.76	-
Tehran	0.002	NS*	-	1.99	-	-	1.23-2.30	-	-
Tabriz	0.004	-	-	2.69	-	-	1.10-2.87	-	-
Ahvaz	0.004	-	-	1.33	-	-	1.21-2.1	-	-
Kerman	0.002	-	-	2.63	-	-	2.79-2.89	-	-
Work place									
Private practice	<0.0001	-	-	1.11	-	-	1.2-1.3	-	-
Clinic	<0.0001	<0.0001	<0.0001	0.51	1.87	1.41	0.45-0.57	1.65-2.11	1.39-1.43
Both	0.002	0.012	0.003	1.26	0.82	1.17	1.08-1.46	0.71-0.95	1.16-1.19

*NS Not Significant

DISCUSSION

In this study, in terms of awareness, 55.4% of physicians had low, 41.7% of GPs had average and 2.9% of GPs had desirable awareness, in terms of attitude, 83.4% of GPs had low, 16.3% of GPs had average and 0.3% of GPs had desirable attitude. Then statistically significant relationship between awareness and attitude levels and age, gender, university of graduation, the duration of post graduation time, marital status and the type of working place variables were observed. As it is evident, on the whole the average scores of physicians' awareness was better and more than their attitude scores. as a general comparison, it can be said that Fars general practitioners' awareness and attitudes rates compared to the results of Vastyn Peak's study in 1992 (9), Steven and colleagues' research in 1992 in Australia (10) and or Lowler and Viviani research in 1997 (12), which had other areas for evaluation, not the Epidemiology in consideration, were higher on the whole and in comparison to the results of Hadi and colleagues' study conducted in Jahrom on general practitioners' awareness and attitude towards diabetes(11) and its treatment, were lower. It seems that GPs being busy, feeling no need for continuous education in various basic fields of health and care, their indifference to education in this field, being confined to health and care jobs and shrinking from university educations on epidemiology or neglecting the importance of strengthening the spirit of medical researchers through more serious and basic education by university professors and experts and health policy makers and health and care systems, are among the factors affecting gaining the lower average scores. also It seems that the lower scores of married doctors, is due to their natural increase in being busy. If the status of married doctors' awareness and attitude scores were higher, we could say that it is because of the increased population of unmarried doctors than married ones and if they were equal in numbers, according

to the interpretation of the previous paragraph, meaning the decrease in the average of the scores by the increase in post graduation period, means that their post graduation time is less than married doctors. it could be expected that average scores of unmarried physicians to be higher than married ones. we could name their lower average age and naturally the decrease in post graduate period which shows the lasting of information and knowledge in younger graduates' mind and consideration .the most important limitation of the study was somewhat problematic lack of cooperation of all doctors in the study and time consuming of data collection. Given the increasingly importance of epidemiology knowledge, considering global health situation and emerging health problems, as a basic infrastructure and a strategy to deal with problems and also the need felt for changing the attitude and thinking of this kind of pre infrastructural issues, the issue of paying more attention to the detailed knowledge of the epidemiology radically along with the education of a specific area such as a mere medical education, should be considered by health authorities and policy makers through basic and compiled planning and continuous in-service training and providing familiarity with the doctrine of research and creative and research-oriented thinking in all areas of medical science and more attention is needed to start this so far neglected method as soon as possible.

ACKNOWLEDGEMENT

Because this study was an approved research project supported by the Health Policy Research Center, Shiraz University of Medical Sciences, the staff and officials' cooperation and support is fully appreciated.

Conflict of interest: none

Funding and support: this study was an approved research project supported by the Health Policy Research Center, Shiraz University of Medical Sciences.

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