

# Original Article



## Knowledge, attitude, and practice of Iranian people regarding the use of antibiotics and its resistance

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### Abstract

The aim of this study was so assess the knowledge and attitude of the people in Iran regarding the antibacterial resistance caused by antibiotics.

increasing concern toward antibiotic resistance led to many researches on the causes of this issue. The public awareness plays a critical role, according to the studies. Another important factor is the attitude of the people regarding the antibiotic use and the effect of their behavior on its resistance. The practice of each individual patient may contribute to the antibiotic resistance and major health problems and increased rate of death.

A questionnaire based survey was carried out among the female population of 1000 in Tehran, Iran. An intervention course was carried out, training the volunteers. After the completion of the training course, the volunteers had to take another test to asses the effect of the training on the knowledge, attitude and practice of people regarding the antibiotic use.

Before the course, people considered antibiotic as safe drugs, therefore taking them without prescription and the malpractice was evident from the incomplete course of treatment. There was a significant difference indicating the effect of the course on the public awareness and their attitude which may lead to better practice regarding antibiotic use. There may be other contributing factors to the malpractice such as financial status and experience of no significant toxicity of the drugs, making them an optimum prevention or treatment option, according to the public. This intervention was successful regrading the attitude of the people, but long term studies are required to assess them in practice.

**Keywords:** antibiotic resistance, public health, Iranian people, knowledge, attitude

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## Introduction

According to the latest research, there is an increasing resistance to certain bacterial infection in different countries such as Iran [Bazzaz, 2009], European countries [Deresinski, 2009], etc. The resistance to antibiotics may stem from the following reasons: misuse or inappropriate use of antibiotics, self-therapy, selling antibiotics without prescription [Deresinski, 2009 #1], poor diagnosis, misconception about the use of antibiotics, lack of education and knowledge, poor treatment by the physician, and poor patient compliance [Radošević, 2009 #10]. In Iran, the antibiotic use is not rational and the resistance to antibiotics is high [You, 2008 #7]. Knowledge and attitude of Iranians have a great impact on rational antibiotic use but the extent of their knowledge is unknown and their attitude is not well known [McNulty, 2007 #6].

These factors have been analyzed at different countries such as Europe [Grigoryan, 2007 #5], Palestine [Davey, 2002 #9], etc. the behavior is the result of the attitude which could be based on knowledge [Ramazanzadeh, 2009 #4]. Knowledge doesn't necessarily lead to behavioral changes since the attitude of the patients plays a critical role in the patient's behavior [Hassali, 2011 #11]. In this study, the aim was to assess the awareness of the patients regarding the antibiotic use and resistance and after the pre-test, there was an intervention program for this group of people, after which they had to take the test again, to assess the impact of the education on their knowledge, attitude and behavior [Davey, 2002 #9; Radošević, 2009 #10].

## Materials and Method

The questionnaire was designed using various other questionnaire depicted from other studies about the knowledge, attitude and behavior regarding the antibiotic use. This questionnaire were analyzed and translated into the person

and validated by faculty members ( Dr. Farshad Hashemian, Dr. Fatemeh, Soleimani, Dr. Amir Hossein Abdolghaffari, Dr. Mehdi Rajabi).

A quantitative, cross-sectional study based on a structured questionnaire was used. The sample comprised 1000 individuals of health volunteers aged 21–55 years in Tehran, Iran. The questionnaire constituted 14 questions about the knowledge, attitude and practice regarding the antibiotic use and resistance, in total. The Likert scale was used as the options ranging from totally agree to disagree. The health volunteers had to respond to the questionnaire before and after the intervention program. The results were analyzed using the SPSS version 20 and the Chi-square method was used for evaluation of the results and the value of less than 0.05 was considered significant.

the population sample were from the group called health volunteers, to which people can join and enhance their knowledge and have basic interventions for promoting health in their family and different cities.

## Results and discussion

It should be noted that the first step to decrease the misuse and abuse of antibiotics, the willingness of the patient to live a healthy life must be considered. The volunteers of the program were the people who were willing to live a better life and change their lives and the people around them for better. Despite the fact that they were willing to do so, even after the implementation of the awareness program and being educated with the hazardous and lethal outcomes of antibiotic misuse, there were people who had not changed their behaviors and habits regarding the subject. It was considerable that the age of the patients had a great impact on the efficacy of the program. The sex of the patients were not considered, since they were all female. The older people get, the less flexible they get. The attitude cannot be changed since the experience of a lifetime makes them act on their own belief system. The healthy volunteers can

change the perspective and attitude of the family members and therefore, they can be educated against misuse of antibiotics. This is a worldwide issue and in 3rd world countries, people will suffer more due to the poor health system. Most patients are not under the insurance coverage; therefore, self-therapy seems like a best idea. The medical physicians may have lost the trust of the patients, since the patients believe that If they get the same symptoms, they should take antibiotics. They are not really informed about the consequences, since the normal people lack the knowledge or they are misled by the advertisement on the social networks. It is of great importance that people trust their mobile phone more than the physician. The poor diagnosis and treatment of the patients may lead to dangerous and deadly outcomes and

people should made understood. Knowing is not enough when it comes to the antibiotic use. They are not relatively safe, however the public notion was that they are relatively safe. It is outrageous how they consume antibiotics for common cold, just because they think the they can get better sooner and rapidly. Based on the answers to the questionnaire, they had not completed the course of treatment, since medication remained. Not only they don't complete the course of treatment but also they change the antibiotics by themselves, being maltreated and led to dangerous antibiotic resistance. According to the stats, Most people stop using antibiotics after they get well, which is yet another indication of incomplete course of treatment.

**Table 1: The Questionnaire assessing the knowledge, attitude and practice regarding antibiotic and its resistance**

<b>Every time I get cold, I have to take antibiotics to prevent the exacerbation of the disease.</b>
When I'm feverish, taking antibiotics will make my recovery faster.
Whenever I take antibiotics, I mean helping to expand antibiotic resistance.
Forgetting one or two times taking a medication does not affect the spread of antibiotic resistance.
Antibiotics are harmless medicines, so you can usually use them.
antibiotic resistance is a serious and important health issue in the world.
Antibiotic resistance is an important and serious health concern in our country.
Different antibiotics are required for the treatment of various diseases
Antibiotics are effective against bacteria
Antibiotics can kill bacteria that usually live on the skin and in the intestines
Recovery antibiotics often cure coughs and colds
Antibiotics are effective on most coughs and colds
Antibiotics are effective against viruses
If you have severe side effects during treatment with antibiotics, you should stop them as soon as possible.
If you have a skin sensation when using an antibiotic, you should not use antibiotics again.
Antibiotics may imbalance your body's microbial flora

Unnecessary use of antibiotics may increase the resistance of bacteria to them
Resistance to antibiotics is a global problem
Using antibiotics among animals can reduce the effects of antibiotics among humans
Knowledge clauses
The widespread and unconscious use of antibiotics can lead to:
- Ineffective treatment of the disease.
- prolongation of the disease.
- bacterial resistance.
- Impose an additional cost to the patient
If repeated antibiotics are used, they will probably not be effective in the future.
I always complete the course of antibiotic treatment, even if I feel better
It is good that we can take antibiotics from relatives and friends without having to go to the doctor.
I would prefer to buy an antibiotic from a pharmacy without a prescription.
I prefer to keep antibiotics at home so that they can be used when needed
In some cases, if after a few days I get better, I will take antibiotics before completing the course.
2. It is good that we can take relatives and friends of antibiotics without having to go to the doctor.
If I cough for more than a week, I'd rather take antibiotics.
Your doctor will prescribe a series of antibiotics and you will get better after 2-3 consecutive times. in this case:
- Do you stop taking medicine?
-Do you keep the rest of your medication for future use?
-Do you throw the rest of the medicine away?
-If your friend or close friend get sick, will you give him your medication?
-Do you continue to take the medication until it finishes?
Do you consult your doctor before starting an antibiotic?

Do you look at the expiration date of the antibiotic before taking it?
Do you prefer antibiotics when coughing and sore throat?
Do you prefer antibiotics when coughing and sore throat?
Pharmacists often tell me how to use antibiotics.
Doctors often inform patients about how antibiotics are used during an examination.
If the doctor decides not to prescribe antibiotics, I respect his decision.
If the doctor decides to take an antibiotic, I trust his decision.

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