

## USE OF ANTIBIOTICS AMONG GENERAL PUBLIC; A SURVEY BASED STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE OF SAUDIS

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### ABSTRACT

**Introduction:** Dental treatment is hardly complete without the prescription of antibiotics. These drugs are prescribed on daily basis by hundreds of thousands of dentists throughout the globe. Educating patients about this important issue is essential in promoting good health for the public. **Materials and methods:** This is a cross sectional study, which utilized the service of a closed ended questionnaire. All adults having a history of at least one antibiotic exposure in 12 months were included in this study. A total of 366 male and female participants were recruited in this study. **Results:** The survey was

completed by 366 participants, including 99 males and 267 females. As far as age groups are concerned, 278 participants were 18-30 years, 50 from 31-45 and 32 from 45-60 years.

**Conclusion:** Overall knowledge of participants regarding the use of antibiotics is satisfactory. Females had better knowledge than the males.

### INTRODUCTION

Antibiotics have been widely used by the general public even without prescription in many countries. It is important to understand and learn about the possible outcomes related to excess use of antibiotics. In order to achieve that, it is imperative to measure the level of knowledge among the people. Dental treatment is hardly complete without the prescription of antibiotics. These drugs are prescribed on daily basis by hundreds of thousands of dentists throughout the globe. Educating patients about this important issue is essential in promoting good health for the public (Oh et al, 2011).

A study conducted in Hong Kong utilized a telephonic survey to determine the level of knowledge regarding antibiotic use. Males exhibited poor knowledge where as the overall perception and belief was found to be low as well. Updates on antibiotic actions have revealed a change in beliefs among health practitioners. However, this change is not reflected in the public's opinion about this issue. There is a need of clarifying misconceptions related to antibiotic use (You et al, 2008).

Recent past has shown some evidence based explanations on the overuse of antibiotics leading to resistance. A Sweden based research done among the general public revealed that a high percentage of participants had satisfactory awareness about bacterial resistance. Other findings included lack of knowledge about the difference between bacteria and virus (Andre et al, 2010). However, a study done in Indonesia suggested that the level of public's knowledge is poor and they needed further education (Widayati et al, 2012).

Self medication is also one of the important aspects of antibiotic overuse. A study done in Kuwait revealed the prevalence of self medication among general public to be high. Supporting this, the knowledge and awareness regarding the use, safety and resistance of antibiotics was poor as well. Educational campaigns are required to encourage better learning among the public (Awad and Aboud, 2015).

Educating public about the use of antibiotics and resistance has been tried and tested in various countries. A similar campaign was done in United Kingdom, which revealed a minimal increase in awareness as a result of that educational program (McNulty et al., 2010).

### **Aims of the study**

- To determine the level of knowledge regarding the antibiotic use among Saudi public.
- To compare between males and females.
- To compare between different age groups.

### **MATERIALS AND METHODS**

This is a cross sectional study, which utilized the service of a closed ended questionnaire. The survey constructed following previously used validated measuring instruments in other studies. Survey was made online using Google forms and the link was sent to the participants through social media and emails. All adults having a history of at least one antibiotic

exposure in 12 months were included in this study. A total of 366 male and female participants were recruited in this study.

Data was collected and then analyzed using SPSS version 19. Descriptive statistics along with comparisons measured by Chi-square tests was conducted and explained.

## RESULTS

The survey was completed by 366 participants, including 99 males and 267 females. As far as age groups are concerned, 278 participants were 18-30 years, 50 from 31-45 and 32 from 45-60 years.

**Table 1: Gender comparison of the survey items.**

Item	Males	Females	P- value
Every A.B. treats different diseases	Strongly disagree: 6% Disagree: 9% Neutral: 16% Agree: 37% Strongly agree: 31%	Strongly disagree: 8% Disagree: 8% Neutral: 15% Agree: 41% Strongly agree: 28%	0.924
A.B. are effective against bacteria	Strongly disagree: 4% Disagree: 6% Neutral: 13% Agree: 42% Strongly agree: 34%	Strongly disagree: 8% Disagree: 7% Neutral: 16% Agree: 38% Strongly agree: 30%	0.597
I always complete A.B. course	Strongly disagree: 10% Disagree: 15% Neutral: 28% Agree: 20% Strongly agree: 26%	Strongly disagree: 11% Disagree: 16% Neutral: 17% Agree: 22% Strongly agree: 35%	0.174
I prefer asking friends about A.B.	Strongly disagree: 51% Disagree: 20% Neutral: 14% Agree: 11% Strongly agree: 3%	Strongly disagree: 62% Disagree: 22% Neutral: 11% Agree: 3% Strongly agree: 1%	0.022
I prefer to buy A.B. without prescription	Strongly disagree: 37% Disagree: 18% Neutral: 20% Agree: 20% Strongly agree: 4%	Strongly disagree: 46% Disagree: 25% Neutral: 17% Agree: 10% Strongly agree: 2%	0.021
I keep A.B. at home in case I need them	Strongly disagree: 26%	Strongly disagree: 35%	0.010

	Disagree: 11% Neutral: 25% Agree: 30% Strongly agree: 7%	Disagree: 21% Neutral: 21% Agree: 20% Strongly agree: 3%	
Pharmacist often tells me how to use A.B.	Strongly disagree: 5% Disagree: 11% Neutral: 33% Agree: 39% Strongly agree: 11%	Strongly disagree: 6% Disagree: 15% Neutral: 26% Agree: 39% Strongly agree: 14%	0.585
Doctors inform in detail how to use A.B.	Strongly disagree: 2% Disagree: 24% Neutral: 32% Agree: 34% Strongly agree: 7%	Strongly disagree: 5% Disagree: 20% Neutral: 29% Agree: 31% Strongly agree: 15%	0.214
I trust the doctor when he DO NOT prescribe A.B.	Strongly disagree: 4% Disagree: 3% Neutral: 19% Agree: 44% Strongly agree: 29%	Strongly disagree: 6% Disagree: 7% Neutral: 15% Agree: 41% Strongly agree: 32%	0.575
I trust the doctor when he DOES prescribe A.B.	Strongly disagree: 3% Disagree: 8% Neutral: 23% Agree: 43% Strongly agree: 22%	Strongly disagree: 5% Disagree: 8% Neutral: 27% Agree: 37% Strongly agree: 23%	0.807

Table 2: Age group comparison of the survey items.

Item	18-30 years	31-45 years	46-60 years	P- value
Every A.B. treats different diseases	Strongly disagree: 8% Disagree: 7% Neutral: 18% Agree: 40% Strongly agree: 27%	Strongly disagree: 2% Disagree: 14% Neutral: 8% Agree: 42% Strongly agree: 34%	Strongly disagree: 16% Disagree: 13% Neutral: 9% Agree: 38% Strongly agree: 25%	0.159
A.B. are effective against bacteria	Strongly disagree: 7% Disagree: 6% Neutral: 16% Agree: 41% Strongly agree: 30%	Strongly disagree: 0% Disagree: 10% Neutral: 16% Agree: 38% Strongly agree: 36%	Strongly disagree: 16% Disagree: 10% Neutral: 10% Agree: 28% Strongly agree: 38%	0.229
I always complete A.B. course	Strongly disagree: 11% Disagree: 17% Neutral: 22% Agree: 23% Strongly agree: 28%	Strongly disagree: 6% Disagree: 16% Neutral: 18% Agree: 22% Strongly agree: 38%	Strongly disagree: 16% Disagree: 13% Neutral: 6% Agree: 9% Strongly agree: 56%	0.067

I prefer asking friends about A.B.	Strongly disagree: 59% Disagree: 22% Neutral: 12% Agree: 6% Strongly agree: 1%	Strongly disagree: 62% Disagree: 22% Neutral: 12% Agree: 2% Strongly agree: 2%	Strongly disagree: 59% Disagree: 25% Neutral: 13% Agree: 3% Strongly agree: 0%	0.122
I prefer to buy A.B. without prescription	Strongly disagree: 44% Disagree: 22% Neutral: 18% Agree: 14% Strongly agree: 2%	Strongly disagree: 44% Disagree: 26% Neutral: 20% Agree: 10% Strongly agree: 0%	Strongly disagree: 45% Disagree: 29% Neutral: 13% Agree: 6% Strongly agree: 6%	0.082
I keep A.B. at home in case I need them	Strongly disagree: 31% Disagree: 18% Neutral: 23% Agree: 24% Strongly agree: 4%	Strongly disagree: 34% Disagree: 26% Neutral: 22% Agree: 18% Strongly agree: 0%	Strongly disagree: 38% Disagree: 13% Neutral: 25% Agree: 19% Strongly agree: 6%	0.568
Pharmacist often tells me how to use A.B.	Strongly disagree: 6% Disagree: 14% Neutral: 29% Agree: 37% Strongly agree: 13%	Strongly disagree: 4% Disagree: 10% Neutral: 26% Agree: 54% Strongly agree: 6%	Strongly disagree: 6% Disagree: 16% Neutral: 22% Agree: 31% Strongly agree: 25%	0.239
Doctors inform in detail how to use A.B.	Strongly disagree: 5% Disagree: 19% Neutral: 32% Agree: 34% Strongly agree: 12%	Strongly disagree: 2% Disagree: 32% Neutral: 24% Agree: 32% Strongly agree: 10%	Strongly disagree: 8% Disagree: 8% Neutral: 15% Agree: 41% Strongly agree: 28%	0.300
I trust the doctor when he DO NOT prescribe A.B.	Strongly disagree: 6% Disagree: 5% Neutral: 17% Agree: 42% Strongly agree: 31%	Strongly disagree: 2% Disagree: 6% Neutral: 16% Agree: 56% Strongly agree: 20%	Strongly disagree: 6% Disagree: 9% Neutral: 13% Agree: 25% Strongly agree: 47%	0.220
I trust the doctor when he DOES prescribe A.B.	Strongly disagree: 5% Disagree: 7% Neutral: 27% Agree: 38% Strongly agree: 24%	Strongly disagree: 0% Disagree: 16% Neutral: 28% Agree: 42% Strongly agree: 14%	Strongly disagree: 6% Disagree: 6% Neutral: 22% Agree: 41% Strongly agree: 25%	0.401

## DISCUSSION

This study aimed to determine the use of antibiotics among Saudi population residing in Riyadh city. We intended to compare our findings on the basis of gender as well as age groups of participants. Both males and females believed that every antibiotic has its special role against specific infections. Their knowledge regarding antibiotics being affective against

bacteria was also satisfactory. A large majority of male and female participants had a habit of completing antibiotics course even after they started feeling better. However, these comparisons are not statistically significant.

On the other hand, male participants tend to use antibiotics after asking friends/family more than the females. Males also reported to have bought antibiotics from pharmacies without prescription as compared to the female participants. Males were also found to have keeping antibiotics in their homes for future use. These comparisons were statistically significant.

As far as age groups comparison is concerned, mid aged participants showed better knowledge regarding the use of each antibiotic against specific infections. Old aged group of participants had slightly better information about the main effect of antibiotics. They also disclosed that they completed the antibiotics course even if they felt better during the course of treatment. All age groups reported that they do not use antibiotics after consultation with their friends or families. Younger age group tends to buy antibiotics without prescription as compared to the older age group participants. These findings were similar to that of Shehadeh *et al* (2012), who also reported overall poor knowledge about antibiotics use among young population. Furthermore, Buke *et al* (2004) revealed irrational use of antibiotics among university students, which also supports the findings of our study.

All age groups participants reported to have kept antibiotics at their homes for future use. However, older age group mentioned that their physicians inform them about the methods of antibiotic use. All the above mentioned comparisons were not statistically significant.

## CONCLUSIONS

- Overall knowledge of participants regarding the use of antibiotics is satisfactory
- Females had better knowledge than the males.
- There was no significant comparison among the age groups.

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