International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614
Available Online at www.journalijcar.org
Volume 9; Issue 03 (D); March 2020; Page No.21653-21655
DOI: http://dx.doi.org/10.24327/ijcar.2020.21655.4261

Research Article

AWARENESS ABOUT RATIONALE USE OF ANTIBIOTICS AMONG FIRST YEAR MBBS STUDENTS

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A R T I C L E I N F O

Article History:
Received 13th December, 2019
Received in revised form 11th January, 2020
Accepted 8th February, 2020
Published online 28th March, 2020

Key words:
Antibiotics, Medicine

A B S T R A C T

Introduction: It is often tempting to stop taking an antibiotic as soon as one starts feeling better. Due to the lack of awareness about the effects of doing so, more and more people are not only taking antibiotics as per their convenience but also unnecessarily.

Aims & Objectives:

- To assess the level of awareness about the rationale use of antibiotics in first year MBBS students.
- To assess change in their attitude and knowledge about rationale use of antibiotics after presentation.

Material & Methods: The study was quasi experimental study which was done on 150 MBBS 1st year students. The type of sampling technique used was purposive sampling. Statistical tool applied is p value and chi square test.

Conclusion: In pre-test according to the data analysis awareness about rationale use antibiotic among the students was 45.28% and after intervention and data collection the awareness about rationale use antibiotic among the students rose to 76.8%. The overall increase in knowledge and attitude regarding rationale use of antibiotics that is 31.52% (target was to achieve compliance of 30%).

INTRODUCTION

It is often tempting to stop taking an antibiotic as soon as one starts feeling better. Due to the lack of awareness about the effects of doing so, more and more people are not only taking antibiotics as per their convenience but also unnecessarily.[1]

Why do doctors over-prescribe antibiotics?

"Antibiotics have been given for everything from headaches to ingrown toenails; they are swallowed, sucked, injected and smeared; they are painted on cuts, dumped into wounds, fed to the chickens and pigs and spread on the floors of the hospital wards."[1]

70-80% of prescriptions for antimicrobials are probably written unnecessarily

Lack of confidence: While it is very easy to scribble a prescription, it takes a fair amount of courage to avoid unnecessary prescriptions. Inability to make a fairly accurate clinical diagnosis is one of the most common causes for over-drugging. Inability to convince the patient about the nature and simplicity of the illness and about the non-requirement of antibacterial is another reason. Some doctors may harbor a notion that it is better to give "something powerful" for every patient so as to achieve "dramatic" results (Shot Gun Therapy). But the fact remains that most patients do not demand any particular prescription from their doctor and many are indeed happy if they are explained about the problem and prescribed as less drugs as possible. Fear of law-suits for 'negligence' (act of omission) and hence 'defensive' practice may also be another reason.[1]

Peer pressure: Some doctors may have a fear that if they do not prescribe, their 'next door' colleague may prescribe these 'powerful' drugs and get all the credit for 'curing' the patient. To avoid this 'loss of practice' they tend to prescribe these 'powerful' remedies. This is another face of 'defensive' practice.[1]

Patient pressure: Rarely, however, one may come across patients, some of them with half-knowledge, who insist on a prescription for antibacterial so as to "get better at the earliest" (because they are "very busy and have no time to lie down in bed") or to "avoid any hassles", particularly in cases of children and the elderly. Although in such situations it is the duty of the doctor to resist any such pressures, some doctors may yield to those pressures, often to appease the patients and to 'save' their practice.[1]

Company pressure: With hundreds of pharmaceutical companies and thousands of medical representatives, it is natural to come under pressure for prescribing these drugs, which earn handsome profits for the drug industries. ("Volume building products, Sir", the representative would tell us). With

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competition hitting up, the companies seem to mislead the doctors about the indications, suppress the facts on adverse effects and hide the facts on cost of therapy. Recently there is a dangerous trend of 'combining' antibacterial and marketing them imaginary diseases. Many of the so called 'newer' antibiotics (which are in fact nothing more than modifications of existing molecules) are priced exorbitantly (even hundred times more than their older congeners) without offering any benefits over the older, time tested drugs. But it has become rather fashionable to prescribe these drugs, with many doctors feeling that 'costlier must be better'.[1]

MATERIAL AND METHODS

Study design: The study was quasi experimental study which was done on 150 MBBS 1st year students. The type of sampling technique used was purposive sampling.

Inclusion criteria: All those who are willing and present on the day of the survey

Exclusion criteria: All those who were unwilling and absent on the day of survey

Independent variable: Age, sex and other factors

Dependent variable: Use of antibiotics

Duration of study: 2 months

Ethical clearance: Ethical clearance was obtained from ethical committee of Subharti medical college

Statistical tool: p value and chi square test

RESULT

SNo.	Variables	Pre (%)	Post (%)	p value	X^2
	Knowledge about good bacteria in the body				
1	Correct	95 (82.6%)	115 (100%)	<0.001	21.91
	Incorrect	20 (17.4%)	0 (0.0%)		
	Knowledge about antibiotics in the body				
2	Correct	20 (17.4%)	100 (100%)	<0.001	111.5
	Incorrect	95 (82.6%)	15 (13.0%)		
	Knowledge about action of antibiotics against bacteria				
3	Correct	85 (73.9%)	110 (96.0%)	<0.001	21.06
	Incorrect	30 (26.1%)	5 (4.0%)		
	Knowledge about action of antibiotics against viruses				
4	Correct	80 (69.56%)	105 (91.3%)	<0.005	12.105
	Incorrect	30 (26.1%)	5 (4.0%)		
	Knowledge about antibiotics in speeding up the recovery of cough, cold and other diseases				
5	Correct	55 (47.8%)	95 (82.6%)	<0.001	30.6
	Incorrect	60 (52.2%)	20 (17.4%)		
	Knowledge about antibiotics being over the counter drugs				
6	Correct	25 (21.7%)	75 (65.2%)	<0.001	47.332
	Incorrect	90 (78.3%)	40 (34.8%)		
	Knowledge about resistance against antibiotics				
7	Correct	100 (86.95%)	115 (100%)	<0.001	16.048
	Incorrect	15 (13.05%)	0 (0.0%)		
	Knowledge about super infection				
8	Correct	45 (39.13%)	85 (73.91%)	<0.001	23.308
	Incorrect	70 (60.87%)	30 (26.09%)		
	Knowledge about most common cause of antibiotic resistance				
9	Correct	85 (73.91%)	105 (91.30%)	<0.005	12.105
	Incorrect	30 (26.09%)	10 (8.7%)		
	Knowledge about common side effects of antibiotics				
10	Correct	35 (30.43%)	90 (78.26%)	<0.001	53.010
	Incorrect	80 (69.57%)	25 (21.74%)		
	Knowledge about consultation regarding drugs to be taken				
11	Correct	105 (91.3%)	110 (95.65%)	<0.18	17.83
	Incorrect	10 (8.7%)	5 (4.35%)		
	Knowledge about continuance of use of antibiotics				
12	Correct	85 (73.91%)	105 (91.3%)	<0.005	12.105
	Incorrect	30 (26.09%)	10 (8.7%)		
13	Knowledge about the use of antibiotic after getting a skin reaction				
	Correct	85 (73.91%)	115 (100%)	<0.001	29.49
	Incorrect	30 (26.09%)	0 (0.00%)		
	Knowledge about probiotics				
14	Correct	30 (26.06%)	80 (69.56%)	<0.001	52.61
	Incorrect	85 (73.92%)	35 (30.44%)		
	Knowledge about prescription of probiotics along with antibiotics				
15	Correct	20 (17.39%)	60 (52.17%)	<0.001	30.67
	Incorrect	95 (82.61%)	55 (47.83%)		
	Knowledge about frequency of use of antibiotic along with probiotic				
16	Correct	15 (13.04%)	75 (65.0%)	<0.001	65.71
	Incorrect	100 (86.96%)	40 (34.79%)		
	Knowledge about requirement of probiotic with antibiotic				
17	Correct	25 (21.73%)	90 (78.26%)	<0.001	73.47
	Incorrect	90 (78.27%)	25 (21.74%)		
	Knowledge about most common reason behind prescription of antibiotic				
18	Correct	60 (52.17%)	85 (73.91%)	<0.006	11.63
	Incorrect	55 (47.82%)	30 (26.09%)		
	Knowledge about prevention of antibiotic resistant infection				
19	Correct	60 (52.17%)	95 (82.5%)	<0.001	27.23
	Incorrect	55 (27.82%)	20 (17.4%)		
	Knowledge about consequence of getting an antibiotic resistant infection				
20	Correct	15 (13.04%)	40 (34.78%)	<0.001	14.99
	Incorrect	100 (86.96%)	75 (65.22%)		
	Knowledge about factors affecting antibiotic resistance				
21	Correct	25 (21.73%)	60 (52.17%)	<0.001	22.86
	Incorrect	90 (78.27%)	55 (47.83%)		
	Knowledge about superbug				
22	Correct	45 (39.13%)	65 (56.52%)	<0.008	6.97
	Incorrect	70 (60.87%)	50 (43.48%)		
	Knowledge about rule of right				
23	Correct	35 (30.43%)	75 (65.21%)	<0.001	27.88
	Incorrect	80 (69.57%)	40 (34.79%)		
	Knowledge about criteria of selecting a p drug				
24	Correct	85 (73.9%)	110 (96.0%)	<0.001	45.63
	Incorrect	95 (82.61%)	45 (39.14%)		

According to the table, during the pre-test 82.6% student had knowledge of good bacteria in the body, while in post-test 100% student said that there are good bacteria in the human body. During the pre-test 17.40% student had knowledge about antibiotic, while in post-test 87% student had knowledge about antibiotic. During the pre-test 73.90% student knew that antibiotics are used to cure bacterial infection, while in post-test 96% student knew that antibiotics are used to cure bacterial infection. During the pre-test 69.56% student knew that antibiotics are used to cure viral infection, while in post-test 91.3% student knew that antibiotics are used to cure viral infection. During the pre-test 47.80% student believed that antibiotics do not speed up recovery from cold and cough but after intervention the awareness rose to 82.6%. During the pre-test 21.70% student thought that antibiotics are not over the counter drugs but after the educational session, the awareness grew to 65.2%. During the pre-test 86.95% student were aware about antibiotic resistance but after the education session, the awareness grew to 100%.During the pre-test 39.13% student had knowledge about super infection, while in post-test 73.91% student had knowledge about super infection. During the pre-test 73.91% student knew about common cause of antibiotic resistance but after the education session, the awareness grew to 91.3%.During the pre-test 30.43% student had knowledge of side effects of antibiotic, while in post-test 78.26% student had knowledge of side effects of antibiotic. During the pre-test 91.30% student knew whom to consult about a drug to be taken but after the education session, the awareness grew to 95.65%. During the pre-test 73.91% student knew about period of continuance of use antibiotic, while in post-test 91.30% student had knew about period of continuance of use antibiotic. During the pre-test 73.91% student had knowledge about the use of antibiotic, while in

post-test 100% student had knowledge about the use of antibiotic. During the pre-test 26.08% student had knowledge about probiotic, while in post-test 69.56% student had knowledge about probiotic. During the pre-test 17.39% student knew about prescription of probiotics with antibiotics, while in post-test 52.17% student had knew about prescription of probiotics with antibiotics. During the pre-test 13.04% student knew about the frequency of use of antibiotic along with probiotic, while in post-test 65.21% student knew about the frequency of use of antibiotic along with probiotic. During the pre-test 21.73% student thought that there is requirement of probiotics with every antibiotic but after the education session, the awareness grew to 78.26%. During the pre-test 52.17% student knew that the most common reason behind prescription of antibiotic but after the education session, the awareness grew to 73.91%. During the pre-test 52.17% student knew that about prevention of antibiotic resistance but after the education session, the awareness grew to 82.60%.During the pre-test 13.04% knew about the consequence of getting an antibiotic resistance but after the education session, the awareness grew to 34.78%.During the pre-test 21.73% student knew about the awareness factors affecting antibiotic resistance but after the education session, the awareness grew to 52.17%.During the pre-test 39.13% student had knowledge of superbug, while in post-test 56.52% student had knowledge of superbug. During the pre-test 30.43% student understood the rule of right but after the education session, the awareness grew to 65.21%.During the pre-test 17.39% student had knowledge about the criteria of selecting p drugbut after the education session, the awareness grew to 60.86%.

CONCLUSION

In pre-test according to the data analysis awareness about rationale use antibiotic among the students was 45.28% and after intervention and data collection the awareness about rationale use antibiotic among the students rose to 76.8%. The overall increase in knowledge and attitude regarding rationale use of antibiotics that is 31.52% (target was to achieve compliance of 30%).

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How to cite this article:

Rijul R and Abhishek KB (2020) 'Awareness About Rationale Use of Antibiotics Among First Year Mbbs Students', *International Journal of Current Advanced Research,* 09(03), pp. 21653-21655.
DOI: http://dx.doi.org/10.24327/ijcar.2020. 21655.4261

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