



Prescription Patterns for Common Acute Infections – A Cross Sectional Study

KEYWORDS

Prescription pattern, Acute infections, URTI, Diarrhoea

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ABSTRACT *Background and objectives:* Antibiotic resistance is currently a serious public health problem. It is largely contributed by irrational use of antibiotics. This study was carried out to know the frequency and pattern of antibiotics prescription in common acute infections.

Methodology: A cross-sectional study was carried out for evaluating prescriptions given to the patients visiting a health center in Dharwad district for the need of antibiotics vis-à-vis the diagnoses. Only prescriptions of the patients with fever, diarrhea, upper respiratory infections, cough, nose and throat infections of <7 days duration were included.

Results: Three fourths of trivial infections were given antibiotics. The dose was incorrect in 20% of these. Almost every diarrhea case received antibiotics. Nearly half of the prescriptions were incomplete.

Conclusion: Unnecessary antibiotics prescription is prevalent despite the evidence of harmful effects of such prescriptions.

Rational use of medicines refers to the correct, proper, affordable and appropriate use of medicines in terms of type and time. It also means that the drug is prescribed for correct period of time. Incorrect use may take the form of overuse, underuse and misuse of prescription or non-prescription medicines.

The World Health Organization estimates that over 50% of all medicines are prescribed, dispensed or sold inappropriately, and one in two patients fail to take medicines correctly. The irrational drug usage can be in the form of overuse, underuse or misuse. This not only harms the patients but also entails wastage of resources. Half of the countries in the world have no basic policies to ensure that medicines are used in a rational way. In countries like India, over 60% of the patients visiting public sector hospitals are not treated according to any clinical guidelines. This is even worse for patients visiting private sector where over 70% are not treated according to clinical guidelines. As much as the patients are responsible for this situation in the form of influencing the treatment given, even the health care providers are responsible for the irrational prescription of the drugs. Added to this is a problem of an inadequate supply of drugs. When they are not available in sufficient quantity, the prescription may become irrational as it has to be done based on the available drugs. Therefore to tackle the problem of irrational use of medicines, we have to ensure adequate supply of medicines, educate consumers not to insist on antibiotics and educate and supervise the health care providers as and when they are prescribing. While individually these efforts may not be effective, a combination of all these three can become a formidable weapon to tackle the issue of irrational medicine prescription.

A study was done to know the prescription pattern of the antibiotics in this area as no previous records were available.

Objective

- To study the prescription patterns in common acute infections

Materials and methods

This was a cross sectional study conducted in a health center in Dharwad district. The study was carried out for a period of one month during December 2013. All the prescriptions given during the month of December 2013 were arranged randomly and every 4th prescription was selected for analysis; this came to 634 prescriptions. The prescription selected

were included in the study only if it was for a patient suffering for less than seven days with fever, diarrhea, upper respiratory infections (URTI), cough, nose or throat infections. The prescriptions of those who were referred or those who had infection or problem for more than seven days were excluded from the study. Thus a total of 413 prescriptions of common acute infections were finally included in the study.

Observations:

Of the 634 prescriptions 413 (65.14%) related to acute common infections like URTI, diarrhea, fever, throat infection of less than seven days duration. Remaining 221 (34.86%) were either referred patients or non-infectious conditions like diabetes mellitus, hypertension, pregnancy or of a problem of more than seven days duration.

Upper respiratory tract infections (URTI) formed bulk of these 413 prescriptions with 256 cases (62%). 45 of these URTI cases were sore throat (10.89%). The next commonest was type of acute infection was diarrhea with 37 cases (~9%).

Prescription pattern in URTI

Number of cases of URTI during the study period was 256. Most of these cases were given symptomatic treatment. In 23 of these cases (9%; CI: 5.40 – 12.55) both cough syrup and anti-histaminics were given. Antibiotic amoxicillin was given in 188 (73.44%; CI: 67.92 – 78.96). In 43 of these 188 cases who received amoxicillin antibiotic (22.87%; CI: 16.75 – 28.99), amoxicillin was given twice a day. In 100 of these 188 (53.91%; CI: 49.55 – 56.83), patient's prescription did not mention, how often amoxicillin should be taken. Of these 256 cases, 102 were children. All children (102/256; 39.84%) received antibiotics. Of these 102, in 33 (32.35%; CI: 23.09 – 41.61) the dose was not appropriate for the age of the child. In 58 of these 102 children (56.86%; CI: 47.06 – 66.67) the prescriptions was incomplete.

Prescription pattern in sore throat

There were 45 cases of sore throat in this study. Majority (77.7%) were given symptomatic treatment in the form of paracetamol and anti-histaminics. However, in five of these 45 sore throat cases (11.11%; CI 1.74 – 20.48) paracetamol was not given. 43 of sore throat patients (95.56%; CI: 89.41 – 100) were also given antibiotics like amoxicillin. In eight of these 43 (18.61%; CI: 6.74 – 30.47), amoxicillin was given twice a day.

Prescription pattern in diarrhoea

There were 37 cases of diarrhoea seen during the study period. In 9 cases (24.3%), ORS was given even when there was no dehydration. 30 (81.1%; CI: 68.20 – 93.96) patients were also given antibiotics like septron and metronidazole without there being any evidence of infection.

Prescription pattern in acute trauma

Cases of acute trivial trauma in this study were 58 out of total 413 cases (14.04%). 43 of these (74.14%; CI: 63—85.63%) were given antibiotics like amoxicillin even when the trauma was trivial. In 54 of these (93.10%) trauma cases, injection tetanus toxoid was prescribed without recording if the injection was taken or not in the past.

Discussion

As the drugs were supplied free of cost, there is no role of market incentives for antibiotic prescription unlike one of the reasons identified by a WHO study¹. Similar to as demonstrated by Kumari Indira et al (2008), in this study also it was found that antibiotics were unnecessarily yet commonly used in more than half of acute infections. There was evidence of patient preferences in some of the cases similar to the WHO's findings¹. Patients sometimes insisted on the doctors to give

antibiotics with a belief that if antibiotics are taken, they will be cured faster. In a study by Tamuno (2011), it was observed that only 54.40% of the prescriptions were with generic names³. However in this study it was found that all prescriptions were in generic names. Even the World Health Organization expects 100% of drug prescription to be in generic names (Tamuno, 2011).

Conclusion

Unnecessary prescription of antibiotics is prevalent despite the evidence of harmful effects of such prescriptions.

Recommendations

- The prescriptions the case papers of the patients seeking only out-patient-basis consultations should be regularly monitored or supervised so as to identify and correct them.
- This should be taken up only as a fault-correction rather than a fault finding mission. This is essential to ensure that corrections suggested are taken sportively.
- Standard treatment guidelines may have to be formulated and taken roots in daily practice before this becomes a crisis.

REFERENCE

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