

in **COLLABORATION** with



Introduction and Disclosure Statement	<i>Page no. 01</i>
Message of the Chairman/Editor-in-chief	<i>Page no. 02</i>
Introduction to IMNCI in Pakistan	<i>Page no. 03</i>
Dose and Usage of New Commodities	<i>Page no. 05</i>
Comparing Narrow- vs. Broad-Spectrum Antibiotics for Common Infections in Children	<i>Page no. 19</i>
Quiz & Winners of Lucky Draw	<i>Page no. 20</i>

Current News

Game-changing' antibiotic can kill off superbugs

A new study, published in the Journal of Medicinal Chemistry, offers the first proof that a new synthetic form of the antibiotic teixobactin can neutralize drug-resistant bacteria. The Centers for Disease Control and Prevention (CDC) say that antibiotic resistance is "one of the world's most pressing public health problems." In the U.S, 2 million people are believed to become infected by drug-resistant bacteria per year, and more than 23,000 U.S. individuals die as a result. The threat of antibiotic-resistant pathogens is particularly high in healthcare facilities. In fact, a 2016 report by the CDC shows that 1 in 4 healthcare-associated infections that occur in long-term care are caused by one of the following six drug-resistant bacteria:

Carbapenem-resistant Enterobacteriaceae, Methicillin-resistant Staphylococcus aureus (MRSA), ESBL-producing Enterobacteriaceae, Vancomycin-resistant Enterococcus (VRE), Multidrug-resistant Pseudomonas aeruginosa, Multidrug-resistant Acinetobacter

3 years ago, scientists discovered that a natural antibiotic called teixobactin might have the potential to kill off MRSA and VRE. This new antibiotic has been called "game-changing," and the findings may "lead to the first new class of antibiotic drug in 30 years."

Source: <https://www.medicalnewstoday.com/articles>

Infectio®

A quarterly Magazine

Chairman Editorial Board

Prof. Ejaz Ahmed Vohra

Head Department of Medicine,
Dean Post Graduate (Clinical)
Dr. Ziauddin University Karachi

Managing Editor

Prof. Abdul Gaffar Billoo (Sitara-e-Imtiaz)

The Aga Khan University Karachi

Editorial Board Members

Prof. Karim Kammeruddin

Professor of Medicine
Baqai Medical University Karachi

Prof. Tahir Masood Ahmad

Professor of Pediatrics, Lahore

Prof. Waris Qidwai

Ex-HOD Family Medicine
Aga Khan University Hospital

Dr. M. N. Lal

Chief Pediatrician
Project Director-Child Survival Program

Prof. Haider Shirazi

Consultant Child Physician
PIMS Islamabad

Prof. Ejaz Ahmed Khan

Consultant Pediatrician
Shifa International Hospital Islamabad

Prof. Nadeem Khawar

Consultant Pediatrician & Medical Director
Khyber Teaching Hospital Peshawar

Prof. Sajid Maqbool

Consultant Pediatrician
The Children Hospital Lahore

Prof. Dilshad Qureshi

Head of Pediatrics
Bolan Medical college Quetta

Microbiology Section

Prof. Col. Nasarullah Malik

Professor of Microbiology
CMH Peshawar

Dr. Faisal Iqbal Afridi

Assistant Professor & Consultant
Dr. Ziauddin University Karachi

Dr. Nazia Khursheed

Consultant Microbiologist / Infection
Control The Kidney Centre Karachi

Editorial Correspondence

Dr. Muhammad Salman

Email: infectio@samikhi.com

Introduction

SAMI Pharmaceuticals (Pvt.) Ltd. is an established pharmaceutical concern involved in manufacturing of variety of formulations catering major therapeutic areas.

We, at SAMI Pharmaceuticals (Pvt.) Ltd., have a strong commitment towards humanity for delivering quality products at affordable prices & to continuously improve the effectiveness of Quality Management System.

We have a firm belief,
"Quality reflected in the finished products has to be created from the very start."

We constantly plan, implement, monitor and review the steps and procedures to improve on the quality of our materials, processes, equipments and human resources.

Our products comply with the high standards required by the authorities, institutions and even more importantly by OURSELVES. We have technical collaboration and licensing arrangement with the renowned European Pharmaceutical Manufacturers.

Disclosure Statement

SAMI Pharmaceuticals (Pvt.) Ltd. are the sponsors of content of "Infectio® magazine" which is for educational purposes only. As sponsor, M/s SAMI Pharmaceuticals have no influence over or input on the scope, content or direction of the editorial material. Any opinion, view or idea expressed in any article, review or any content contributed or published is the author's own & does not reflect the views of SAMI Pharmaceuticals or its employees, officers, directors, professional advisors, affiliated and related entities, its partners, sponsors, advertisers or content providers (collectively referred to as "SAMI Pharmaceuticals Parties").

It should be noted that no SAMI Pharmaceuticals Parties shall be liable to any person or entity whomsoever for any loss, damage, injury, liability, claim or any other cause of action of any kind arising from the use, dissemination of or reliance on any materials and/or other contents provided in this Magazine.

Message of the Chairman/Editor in chief *Infectio*[®]

Infectio[®]

We were looking forward for collaboration with UNICEF and WHO in bringing out of a special issue in 2019, upgrading the IMNCI guidelines on acute respiratory tract infections (ARTIs). We are pleased to have their support and we will now be distributing the special issue which will help doctors, community health workers, & parents in the management of ARTIs.

The current issue includes introduction to IMNCI programs in Pakistan. This special issue highlights the aspects of presentation, diagnosis and management of ARTIs in childhood. It also highlights effectiveness of narrow spectrum antibiotics as effective as broad spectrum antibiotics in common infections among children.

The Patient-Centered Outcomes Research Institute (PCORI) funded study on more than 30,000 children aged 6 month to 12 years used narrow and broad spectrum antibiotics to treat ARTIs. The study found that narrow spectrum antibiotics such as Amoxicillin are just as effective as broad spectrum alternatives for treating acute respiratory tract infections (ARTIs) in children aged 6 month to 12 years with a low risk of side effects.

We appreciate SAMI pharmaceuticals for their support to medical community. I will also like to acknowledge the determination of the editorial board and the contributors of this edition of *Infectio*[®] magazine. We are particularly grateful for the support and guidance of Pakistan Section of WHO & UNICEF.

In the end, I will like to congratulate the winners of the quiz of previous issue and acknowledge the interest of large number of quiz contestants.

Prof. Dr. Ejaz Ahmed Vohra
Chairman Editorial Board
Dean Post graduate (Clinical)
Head, Department of Medicine
Dr. Ziauddin University Karachi

It gives me great pleasure to write this note of appreciation for the special issue of INFECTION on IMNCI guidelines.

Pneumonia, Diarrhea, Malaria, Measles, Vaccine preventable diseases, possible serious bacterial infections in new born, prematurity and malnutrition are the commonest conditions. Most of the time children present with more than one condition to the healthcare provider. 3 out of 4 children suffered from 1 of these 5 conditions. It is unacceptable that globally 15,000 children die every day, mostly from preventable causes and treatable diseases, even though the knowledge and technologies for life saving interventions are available.

Infectious diseases are traditional enemies of mankind all over the world, especially children and continue to be the major killer. Pneumonia and diarrhea still take a huge toll of life globally accounting for nearly 3 million deaths annually.

Ever since the quarterly publication of INFECTION, it has been a great source of learning and continuing medical education for young doctors and practicing physicians in Pakistan.

The whole credit for this goes to dynamic leadership of Prof. Dr. Ejaz Vohra (Ziauddin Medical University Hospital), who is sharing the project and untiring efforts of Dr. Salman (BUM, SAMI Pharmaceuticals)

We are very grateful to Dr. M.N Lal for his contribution and for streamlining the collaboration with UNICEF & WHO.

I sincerely hope practicing physicians will benefit a lot with knowledge provided by this issue of INFECTION, based on IMNCI guidelines and will be able to provide care to children suffering from common diseases and reduce the morbidity and mortality in children of Pakistan.

Prof. Abdul Gaffar Billoo (Sitara-e-Imtiaz)
The Aga Khan University Hospital-Karachi

Introduction to IMNCI in Pakistan

Dr. Badar Munir
NPO-RMNCAH
WHO Sub-office, Sindh

Infectio[®]

The world made substantial progress in reducing child mortality in the past few decades. Globally, the under-five mortality rate dropped from 93 deaths per 1,000 live births in 1990 to 41 in 2016. Progress in reducing child mortality has been accelerated in the 2000–2016 period compared with the 1990s – globally, the annual rate of reduction in the under-five mortality rate has increased from 1.9 per cent in 1990–2000 to 4.0 per cent in 2000–2016. The remarkable progress in improving child survival since 2000 has saved the lives of 50 million children under age 5 – children who would have died had under-five mortality remained at the same level as in 2000 in each country. Despite the substantial progress in reducing child mortality, child survival remains an urgent concern. In 2016, 5.6 million children died before their fifth birthday – among them 2.6 million (46 per cent) died in the first month of life

Pneumonia, Diarrhoea, Malaria, Measles, vaccine preventable diseases, possible serious bacterial infections in new born, prematurity and Malnutrition are the commonest conditions. Children most of the times present with more than one condition to the healthcare provider. 3 out of 4 children suffer from 1 of these 5 conditions. It is unacceptable that 15,000 children die every day, mostly from preventable causes and treatable diseases, even though the knowledge and technologies for life-saving interventions are available

The majority of the regions in the world and 142 out of 195 countries at least halved their under-five mortality rate. Among all countries, more than a third cut their under-five mortality by two thirds – 28 of them are low or lower-middle-income countries, indicating that improving child survival is possible even in resource-constrained settings. The burden of under-five deaths remains unevenly distributed. About 80 per cent of under-five deaths occur in two regions, sub Saharan Africa and Southern Asia. Six countries account for half of the global under-five deaths, namely, India, Nigeria, Pakistan, the Democratic Republic of the Congo, Ethiopia and China

IMCI started in 1998 in Pakistan which later on was converted into IMNCI due to high neonatal mortality, hence, the neonatal component was introduced. The IMCI training coverage in Pakistan is not uniform. The overall coverage rate is 25-45 percent. Sindh has the largest pool of trained healthcare workers and master trainers. It is good to see improving healthcare indicators although the pace of

decline of mortality in under-5 children is not optimal. The current world bank data shows that if the pace of decline is not increased, it will be difficult for Pakistan to reach a sustainable development goal for which the government of Pakistan is signatory. Current under 5 mortality rates is 53.4 per 1000, infant mortality is 12.6 per 1000 live births and neonatal mortality is 31.8 per 1000 live births

WHO and UNICEF recognize the need to strengthen child health activities in the country and decided to launch an abridged IMNCI 6 days training course, with incorporation of an expanded neonatal care component. Most neonatal deaths occur due to the high rates of refusal in the country (statistics not available). The sick young infant component was expanded to include the WHO guideline on PSBI (Possible Serious Bacterial Infection) where referral is refused or not possible. With the new guideline management of sick young infants where referral is not accepted can be significantly simplified and effectively delivered near their homes

The 6-day course combining a 4-day sick child course and a 2-day sick young infant course will help us achieve the desired goal by increased training coverage and trained significant number of healthcare providers for IMNCI services to be delivered to the public at their doorsteps. ICCM is community IMNCI component which will be also helpful to train a large number of community health workers to deliver better care to the neonates and under 5 children in the country

What is IMNCI?

IMNCI is an integrated approach to child health that focuses on the wellbeing of the whole child, aims to reduce death, illness and disability and to promote growth and development among children under 5 years of age. It includes both preventive and curative elements that are implemented by families and communities as well as by health facilities. The strategy includes three main components:

- 1. Improving case management skill of healthcare staff**
 - 2. Improving overall health systems**
 - 3. Improving family and community health practice**
- Principle of integrated care:**

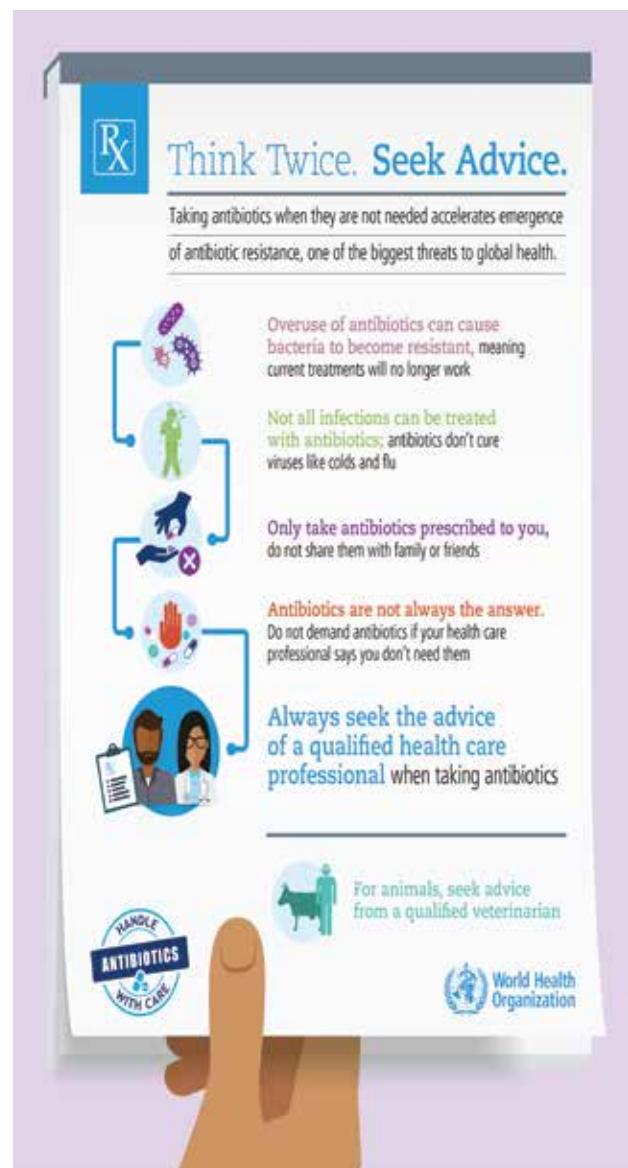
All sick children from 2 months to 5 years must be examined

for general danger signs which indicate the need for immediate referral or admission into a hospital. All sick children then must be assessed for major symptoms such as cough or difficulty in breathing, diarrhea, fever or ear problems. These children also must be routinely assessed for nutritional and immunisational status, feeding problems and other potential problems. Three colour coded classification has been introduced: Pink, yellow and green. Pink being urgent referral, yellow being needs specific treatment including home care and green can be managed at home.

IMNCI recommend limited evidence based essential drugs and encourage active participation of caretakers in the treatment. One of the essential components of IMNCI is counseling of caretakers about homecare, feeding fluids and when to return to the health facility. The process of IMNCI is as follows:

1. Assess-child by checking for the general danger signs, by history and examination.
2. Classify by major symptoms
3. Identify specific treatment.
4. Treat the child by giving oral drugs and feeding fluids
5. Counsel mother about breastfeeding and about her own health as well as follow instructions on further childcare. Follow up care reassesses the child for new problems.
6. Assess and classify young infants up-to age of 2 months helps to identify early possible serious bacterial infections, local bacterial infections, neonatal jaundice and diarrhea and evidence based treatment guidelines is a part of this 6 day training course.

The WHO and UNICEF is firm to scale up IMNCI services in Pakistan to produce desirable change in healthcare system and improve the skill of healthcare staff caring under 5 children in all health facilities of the country. In this process, we appreciate the partnership of Government of Sindh, PPHI, Aga Khan, Child Survival Program for its impressive collaboration and implementation of IMNCI which finally helpful to improve child health care indicators and increase pace of decline to reach SDGs



Dose and Usage of New Commodities for Management of Pneumonia and Diarrhoea



BILL & MELINDA
GATES foundation

unicef  for every child

*Ending Preventable Child Deaths from Pneumonia and
Diarrhoea by 2025*



PNEUMONIA

every breath counts

How to Diagnose It, Treat It and Prevent It

SYMPTOMS AND SIGNS

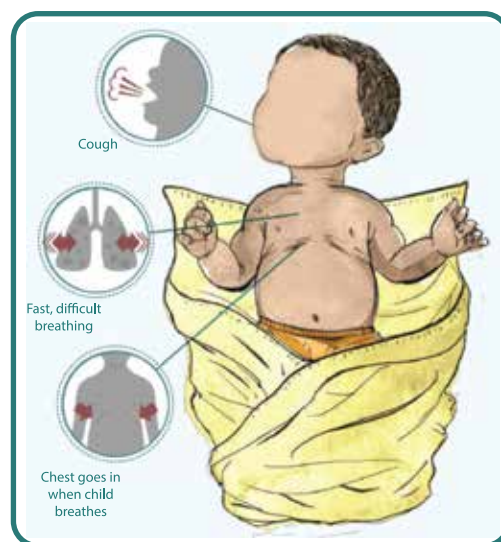
- COUGH
- FAST BREATHING
- CHEST INDRAWING
- FEVER (not always)

■ PNEUMONIA

Cough with fast breathing and or low chest indrawing classified as pneumonia

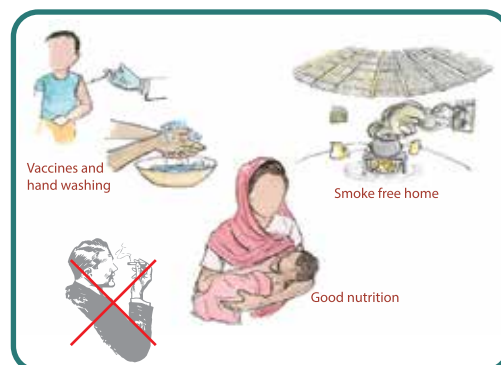
If lower chest indrawings are there and oxygen saturation is less than 90%; refer to health facility with 24 hours services for admission if necessary

ALSO CHECK FOR ANY OTHER DANGER SIGNS



PNEUMONIA CAN BE PREVENTED

- Vaccines (Hib, PCV -10 / PCV -13)
- Hand washing
- Smoke (Reduce Household Pollution)
- Breastfeeding and good nutrition



Dose of Amoxicillin DT & Syrup for Children 2 - 59 Months *



Type of Pneumonia	Age/Weight of Child	Amoxicillin DT 250 mg	Amoxicillin Syp 250 mg
Fast Breathing Pneumonia (For Community Health Worker)	2 months up to 12 months (4 - < 10 kg)	1 tab twice daily X 5 days (10 tabs)	1 tsf twice daily for 5 days
	12 months up to 5 years (10-19 kg)	2 tab twice daily X 5 days (20 tabs)	2 tsf twice daily for 5 days

What is the dose of amoxicillin?

	Day 1		Day 2		Day 3		Day 4		Day 5	
	Morning	Night	Morning	Night	Morning	Night	Morning	Night	Morning	Night
2 months up to 12 months										
1 year to 5 years										

Fast breathing and/or Chest indrawing Pneumonia (For Professional Health Workers and Health Facility)	2 months up to 12 months (4-10 kg)	1 tab twice daily X 5 days (10 tabs)	1 tsf twice daily for 5 days
	12 months up to 3 years (10-14 kg)	2 tab twice daily X 5 days (20 tabs)	2 tsf twice daily for 5 days
	3 years up to 5 years (14-19 kg)	3 tab twice daily X 5 days (30 tabs)	3 tsf twice daily for 5 days

What is the dose of amoxicillin?

	Day 1		Day 2		Day 3		Day 4		Day 5	
	Morning	Night	Morning	Night	Morning	Night	Morning	Night	Morning	Night
2 months up to 12 months										
1 year to 5 years										
3 year to 5 years										

*Source: "Revised WHO Classification and Treatment of Childhood Pneumonia at Health Feeding"

How to prepare Amoxicillin DT ?

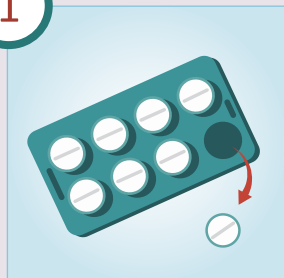
ADVICE TO THE CAREGIVER

- Tell the caregiver it is important to give the amoxicillin for the **full 5 days**
- Advise the caregiver to continue nutritious healthy feeding and give more fluids to the child
- If **PNEUMONIA** is severe, give the first dose yourself and immediately refer the child to a health centre

OTHER POINTS TO REMEMBER:

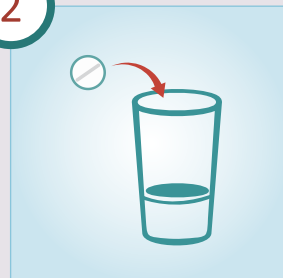
- If you have dispersible paediatric amoxicillin, or any form of paediatric amoxicillin can be used like Syrup

1



Wash hands with soap then take out D.T as per dose from blister.

2



Put D.T according to dose in a small clean cup. add 10ml drinking water cover tablet(s)

3



Mix water and tablet(s) well.

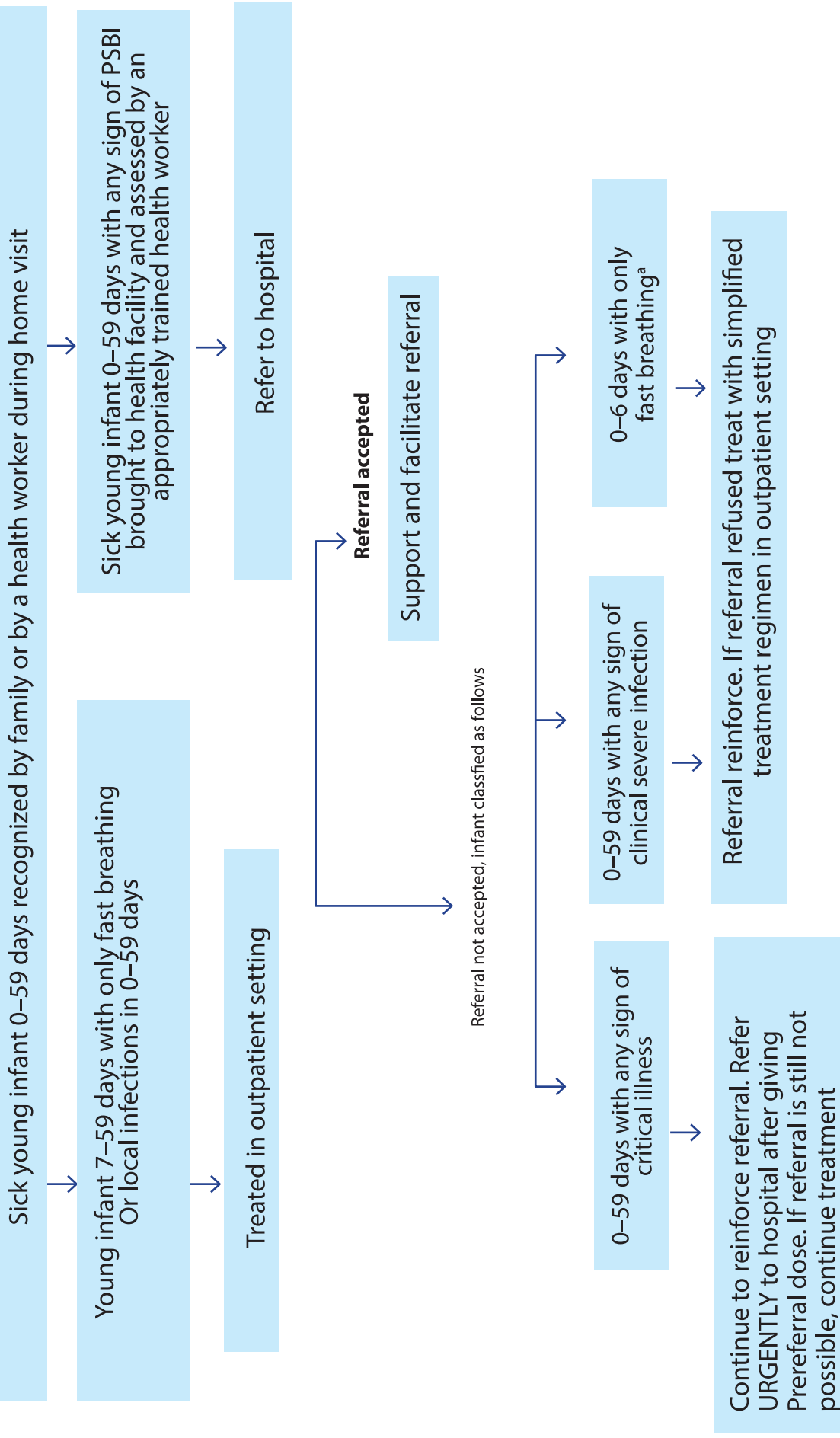
4



Make sure the child drinks all the medicine. Add some water in cup again and give to child to ensure complete dose is administered and no residue in cup

Not Allow child to chew or swallow the tab.

Flow Chart for Management of the sick young infant (0 - 59 days) with Possible Serious Bacterial Infection



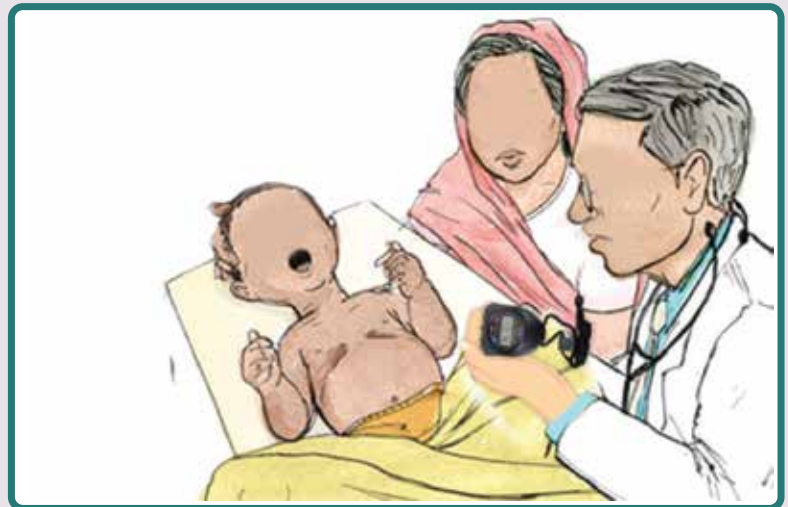
2015 WHO Recommendations on managing possible serious bacterial infection (PSBI) in young infants (0–59 days old) when families do not accept or cannot access referral care




Condition	Definition	Recommended Treatment protocols
Signs of PSBI A clinical syndrome used in IMCI package referring to a sick young infant who requires urgent referral to hospital	not able to feed since birth or stopped feeding well or not feeding at all, convulsions, severe chest in drawing, fast breathing, fever (temperature ≥ 38 °C), low body temperature (< 35.5 °C), movement only when stimulated or no movement at all	As per below mentioned protocols/classification
Fast Breathing	Respiratory rate equal to or greater than 60 breaths per minute	Infants 0–6 days with fast breathing as the only sign of illness should be referred to hospital. If families do not accept or cannot access referral care, these infants should be treated with oral amoxicillin, 50 mg/kg per dose twice daily for seven days, by an appropriately trained health worker Infants 7–59 days with fast breathing as the only sign of illness should be treated with oral amoxicillin, 50 mg/kg per dose twice daily for seven days, by an appropriately trained health worker. These infants do not need referral.
Clinical Severe Infection	not feeding well, fever (temperature 38 °C), low body temperature (< 35.5 °C), severe chest inrawing, movement only whenmulated	Young infants 0–59 days old with clinical severe infection whose families do not accept or cannot access referral care should be managed in outpatient settings by an appropriately trained health worker with intramuscular gentamicin 5–7.5 mg/kg (for low-birth-weight infants gentamicin 3–4 mg/kg) once daily for seven days and twice daily oral amoxicillin, 50 mg/kg per dose for seven days. Close follow-up is essential
Critical Illness	convulsions, unable to feed at all/persistent vomiting, no movement on stimulation, unable to cry, bulging fontanelle and cyanosis	Young infants 0–59 days old who have any sign of critical illness (at presentation or developed during treatment of clinical severe infection) should be hospitalized after pre-referral treatment (Give first dose of both ampicillin (50 mg/kg per dose) or benzyl penicillin (50 000 units/kg per dose) and gentamicin (5–7.5 mg/kg per dose) intramuscularly) In cases when families do not accept or cannot access referral care should be managed in outpatient settings by an appropriately trained health worker with intramuscular gentamicin 5–7.5 mg/kg (for low-birth-weight infants gentamicin 3–4 mg/kg) once daily for seven days and twice daily injectable amoxicillin, 50 mg/kg per dose for seven days. Close follow-up is essential

At home visits made as part of postnatal care, CHWs should counsel families on recognition of danger signs, assess young infants for danger signs of illness and promote appropriate care seeking.

How to use ARI Timer ??

- Count the breathing for complete one minutes
- With the help of mother keep the child straight in bed or table, and try that child remain calm during counting
- Take out the cloths over the chest
- You should stand on the side of child, from where you can easily count the breathing
- If breathing rate is more than normal, count again
- Press softly the start/stop button on ARI timer
- A soft beep will be heard, which indicates that timer has started
- Simultaneously a RED light/second will blink on timer
- You start counting breathing along immediately with soft beep
- At the end of one minutes (60 seconds) you will hear 2 soft beeps and you stop counting breathing
- Do Not push the Start/stop button in between otherwise timer will stop working
- **KNOWING HOW TO COUNT A CHILD'S BREATH IS IMPORTANT FOR UNDERSTANDING IF A CHILD HAS PNEUMONIA.**



	If the child is...	The child has fast breathing if you count...
	0 - 59 days (less than 2 months)	60 or more breaths per minute
	2 months up to 12 months old	50 or more breaths per minute
	12 months to 5 years old	40 or more breaths per minute

Use of Pulse Oximeter



2017 WHO recommendation:

- Oxygen Saturation < 90% needs supplementary Oxygen supply
- Normal value ranges 92-96% SpO₂ (peripheral capillary Oxygen saturation)
- Insert the battery in the meter
- Apply the probe of pulse oximeter on finger of child and press the “on” button
- The Pulse oximeter will show Oxygen saturation level and heart rate
- Once recorded switch off the button

WHAT'S THE BEST WAY TO TREAT UNCOMPLICATED **DIARRHOEA?**



ZINC +ORS

**DON'T JUST
RELIEVE THE
SYMPTOMS.
GET THE CHILD
BACK TO FULL
STRENGTH.**

For ALL cases of childhood diarrhoea, start with zinc + oral rehydration salts (ORS), proven to:

- Speed recovery
- Restore strength, energy, and appetite
- Help keep children thriving

DIARRHOEA CAN BE PREVENTED

- Vaccines (Rota)
- Hand washing
- Safe and clean drinking water
- Breastfeeding and good nutrition



ZINC+ORS

Proven strength. Trusted relief.

Use and Dose of Zinc DT

- The Zinc DT is available in 20 mg strength
- Supplied Co package contains a strip of 10 Zinc DTs (20mg)
- Give Zinc DT from day 1 of onset of diarrhea till 10 days (even diarrhea stops before 10 days)
- Give one tablet/day to children with diarrhea from day 1 for 10 days to child age over 6 months
- Give half tablet/day to children with diarrheas from day 1 for 10 days to child age under 6 months
- Place the half or full tablet of 20 mg Zinc DT in small spoon
- Add little water of breast milk (5ml)
- Leave the tablet to dissolve
- Give entire content of spoon to child
- Children older than 6 months can chew the tablets



Place the half or full tablet in a small spoon



Add a little water or breast milk



Leave the tablet to dissolve



Give the entire contents of the spoon to the child

OTHER POINTS TO REMEMBER:

- If you don't have dispersible paediatric Zinc, any form of paediatric Zinc used like Syrup

ZINC+ORS

Why Zinc?

Zinc is critical to the body's ability to fight disease

Without enough zinc, the immune system is compromised, and the gut is less able to keep fluids in the body

Zinc helps the child:

- Recover quickly
- Fight disease
- Improve appetite and growth



Zinc + ORS—Together, they are proven to keep children strong and thriving

Proven to reduce mortality and hospital admissions for diarrhoea more than ORS alone

HOW MUCH ZINC TO GIVE

HOW MUCH ZINC TO GIVE		
	Child younger than 6 months	
	10 mg	Once a day (for 10 days)
	Child older than 6 months	
	20 mg	Once a day (for 10 days)

Dose of Zinc Syrup

Age	Dose	Strength
Child less than 6 months	10 mg /once a day for 10 days	1/2 TSF of Syp. strength 20 mg/ 5ml
Child more than 6 months	20 mg /once a day for 10 days	1TSF of Syp. strength 20 mg/ 5ml

ZINC+ORS

Zinc

HOW MUCH ZINC TO GIVE

Child younger than 6 months



ONE HALF TABLET (10 MG) ONCE A DAY FOR 10 DAYS

For infants younger than 6 months, dissolve the tablet in a small amount (5 mL) of expressed breast milk, ORS, or clean water in a small spoon.

Child older than 6 months



ONE WHOLE TABLET (20 MG) ONCE A DAY FOR 10 DAYS

For children older than 6 months, tablets can be chewed or dissolved in a small amount of clean water in a small spoon.

ZINC+ORS

Proven strength. Trusted relief.

Dose and Use of Low Osm. ORS



- Give ORS from day 1 until diarrhea stops
- Give ORS after each loose stool or as often child wants until diarrhea stops
- Pour one sachet of Low Osm. ORS in 500 ml (2 glass) or 1000 ml (4 glass), according to strength in sachet in clean drinking water
- Stir with spoon till ORS is dissolved
- Supplied Co- package contains 4 sachets of 500 ml strength Low Osm ORS and 1 strip of 10 Zinc DTs
- For under 2 years give a half cup of ORS (50-100 ml) after each loose motion
- For child above 2 years give a full cup of ORS (100-200 ml) after each loose motion



Comparing Narrow- vs. Broad-Spectrum Antibiotics for Common Infections in Children

The choice of antibiotic to treat acute bacterial upper respiratory tract infections in children can affect both symptom resolution and the risk of side effects such as diarrhea and vomiting.

The findings of a recent PCORI-funded study published in JAMA can help clinicians treating children for acute respiratory tract infections (ARTIs)—including acute otitis media, Group A streptococcal pharyngitis, and acute sinusitis—make decisions with parents about the medicine that is best for the child. The study, led by Jeffrey Gerber, a pediatrician and researcher at the Children’s Hospital of Philadelphia, included 30,086 children ages 6 months to 12 years taking narrow- and broad-spectrum antibiotics to treat ARTIs.



THE FINDINGS

A PCORI-funded study published in JAMA¹ found that narrow-spectrum antibiotics such as amoxicillin are just as effective as broad-spectrum alternatives for treating acute respiratory tract infections (ARTIs) in children ages 6 months to 12 years but have a lower risk of side effects.

What the Study Found

- **Symptom resolution:** At 72 hours after diagnosis, the rate of symptom resolution was no different between children taking narrow- or broad-spectrum antibiotics.
- **Treatment failure rates:** The rate of treatment failure was no different between children taking narrow- or broad-spectrum antibiotics.
- **Side effects:** The risk of side effects, including diarrhea, candidiasis, allergic reaction, and vomiting, was significantly lower for children taking narrow-spectrum antibiotics compared with children taking broad-spectrum antibiotics.

READ MORE ABOUT THIS STUDY AT: www.pcori.org/Gerber094

Courtesy:
Patient-centered Outcomes Research Institute

Winners of Lucky Draw

Reported by: Dr. Shuja Ajaz

Winners of Lucky Draw

The editorial board of *Infectio*® magazine is pleased to announce the names of winners for quiz from the 9th edition. The lucky draw was held in a meeting at Dr. Ziauddin University Hospital, Karachi. Following are the names of Lucky winners drawn randomly by **Prof. Ejaz Ahmed Vohra** and his team.

We congratulate the winners and once again thanks all contestants for their participation in quiz

1- Dr. Shoukat Ali - Multan
2- Dr. Muhammad Hussain Malik - Multan
3- Dr. Javed Lal - Bahawalpur
4- Dr. Ikram ullah Khan - Rahimyarkhan
5- Dr. Arif Choudary - Lahore
6- Dr. Muhammad Arif - Lahore
7- Dr. Shahid Aslam - Lahore
8- Dr. Shahid Hameed - Lahore
9- Dr. Habibullah Baloch - Kasur
10-Dr. Rizwan Asad Khan - Kasur
11-Dr. Azam Khan - Nowshera
12-Dr. Amjad Zahoor - Charsada
13-Dr. Aqeel Khattak - Peshawar
14-Dr. Muhammad Khalil - Mirpur
15-Dr. Jahangir Anjum - Mirpur
16-Dr. Akhlaq Khan - Kotli
17-Dr. Abdul Basit - Gujranwala
18-Dr. Afsheen Oneeb - Gujranwala
19-Dr. Azhar Naeem - Nankana
20-Dr. Khurram Shahnawaz - Sargodha
21-Dr. Jameel Akhtar - Karachi
22-Dr. Sadaf Asim - Karachi
23-Dr. Khalid Shafti - Karachi
24-Dr. Fayaz Memon - Sukkur
25-Dr. Hanif Soomro - Sukkur

26-Dr. Abdul Qayyum - Rawalpindi
27-Dr. Zahida Qadir - Rawalpindi
28-Dr. Sarwat Azeem - Rawalpindi
29-Dr. Shehzad Manzoor - Rawalpindi
30-Dr. Menhal Nohri - Umerkot
31-Dr. Ahmed Ali Bajeer - Mithi
32-Dr. Manzoor Ahmed - Bagh
33-Dr. Jahangir Zaib - Rawalakot
34-Dr. Khaliq Shaheen - Rawalakot
35-Dr. Syed ul Konain - Bunir
36-Dr. Habib ul Nabi - Batkhela
37-Dr. Muhammad Uzair - Timergara
38-Dr. Fazal Haq - Besham
39-Dr. Khalid Iqbal - Sialkot
40-Dr. Junaid Ghaffar - Sialkot
41-Dr. Munir Noor - Abbottabad
42-Dr. Mir Jalal Uddin - Abbottabad
43-Dr. Nasir Khan - Haripur
44-Dr. Ijaz Muhammad - Haripur
45-Dr. Muhammad Imran - Gilgit
46-Dr. Raziq Hussain - Gilgit
47-Dr. Aneela Farhat - Mansehra
48-Dr. Niaz Muhammad - Mansehra
49-Dr. Bilal Naqvi - Muzaffarabad
50-Dr. Ejaz Awan - Muzaffarabad

Quiz & Answer

Choose the correct answer

As per WHO 2017 recommendation, which statement is appropriate?

- Oxygen Saturation < 85% needs supplementary Oxygen supply
- Oxygen Saturation < 90% needs supplementary Oxygen supply
- Oxygen Saturation < 80% needs supplementary Oxygen supply
- Oxygen Saturation < 95% needs supplementary Oxygen supply