A large group of people, including children and adults, are gathered under a green tarp at an outdoor clinic. The scene is set in a lush, green environment. In the foreground, several women and children are seated on wooden benches. One woman in the center is holding a young child. To the left, a woman wears a vibrant, multi-colored patterned dress. In the background, more people are seated at tables, and a white building with green accents is visible. The overall atmosphere is busy and community-oriented.

**Antibiotic use in the management of
common cold in children at Popondetta
General Hospital:
A prospective point-prevalence study**

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Introduction

- Common cold:
 - Caused by a variety of viruses, particularly rhinovirus, which do not respond to antibiotics
 - Antibiotics can cause side effects, especially diarrhoea, and overuse of antibiotics leads to bacteria becoming resistant to antibiotics
 - Antibiotics are still widely prescribed despite evidence indicating their ineffectiveness
 - Prescription rates range from 8.5% - 88%
 - No published data for prescription rates in PNG

Aims

- To determine the rate of antibiotic prescription for common cold among children presenting to the COPD at PGH
- To assess the clinical knowledge and practices of the staff regarding common cold

Methodology

Determining antibiotic prescription rate

- Patients diagnosed by COPD staff were sent straight to a separate room; there, they were consented, their clinic notes were reviewed and information obtained was entered into a questionnaire. They were then re-assessed.
- Antibiotics were ceased for all patients who were found to have common cold
- Informed on IMCI danger signs, signs of PNA and home remedies and advised to return if danger signs occur
- **Study duration:** 6 weeks (28/3/17 – 10/5/17)

Assessing clinical knowledge and practices of staff

- Questions on the cause of common cold and its management were asked using structured questionnaires

Data analysis

- Epi info version 7 for analysis
- **Case definition for common cold used in the survey**

“Any child whose prominent symptoms are cough, sneezing, rhinorrhea, nasal obstruction and low grade fever of 37.5⁰C–38.5⁰C; and who has no IMCI danger signs, stridor or crepitations on auscultation of the chest”

- ***Exclusion criteria***

- All neonates, and

- All children:

- >12 years old

- who are asthmatics or have allergies

- whose symptoms last >10 days

- who do not meet the **case definition** of the survey

- previously included in the survey

- with a concurrent ailment that requires antibiotics

- **Variables of Interest and measurements**
 - Prevalence of antibiotic prescription
 - Clinical staffs' knowledge
 - Clinical staffs' practices
- **Ethical approval**
 - PGH management and UPNG research ethics committee
- **Intention to treat**
 - Patients found to have another diagnosis during the survey were treated accordingly

Results

Divided into 2 parts:

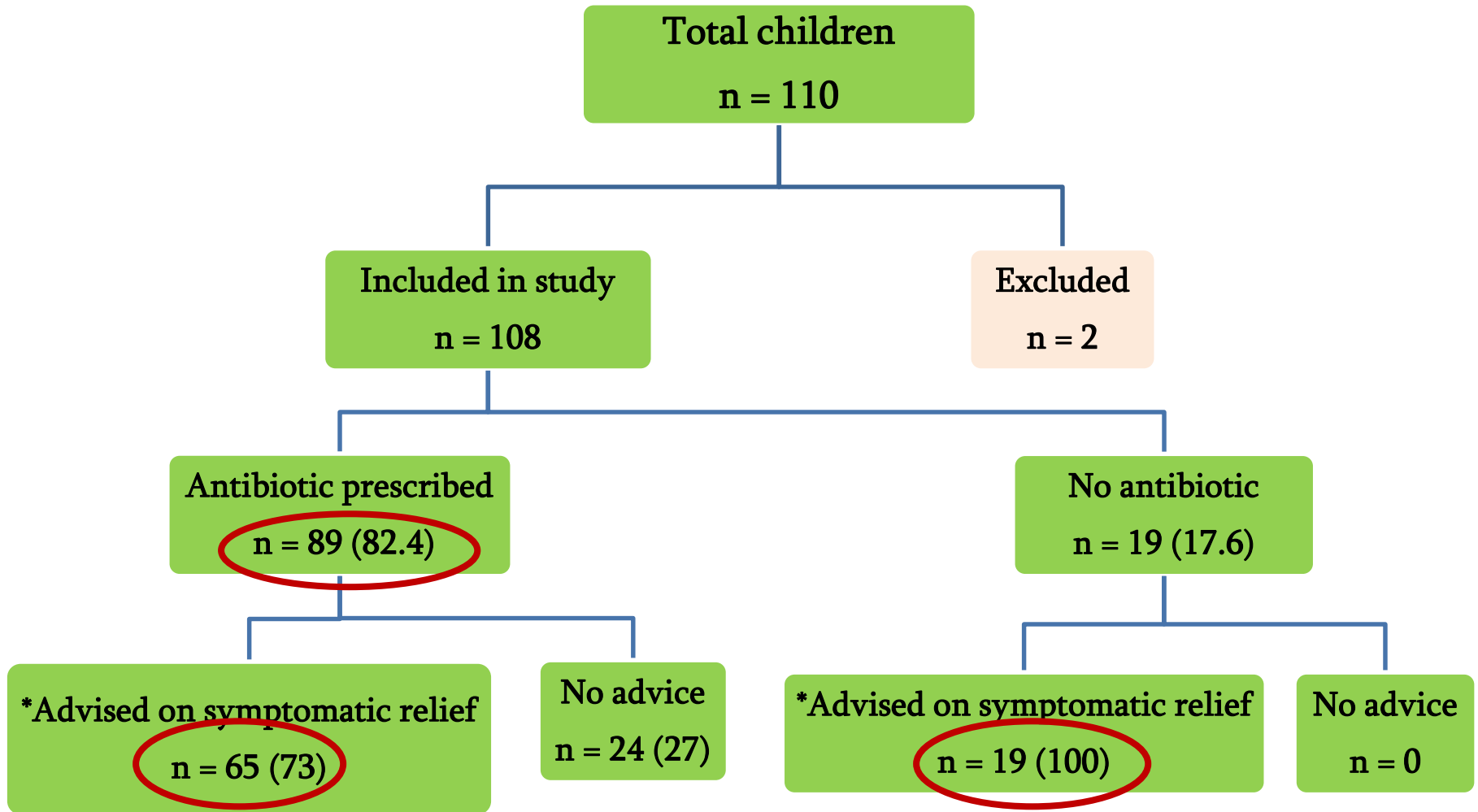
- *Part 1*: Determining antibiotic prescription rate
- *Part 2*: Assessing staff knowledge and practices

Part 1: Determining antibiotic prescription rate

Table 1 Baseline characteristics of study participants (n = 108)

	No.	(%)
Sex		
Male	54	50
Female	54	50
Age		
1 – 12 mo	36	33
13 – 60 mo	54	50
> 60 mo	18	17
Mean age	3 years	
Median age	2 years	
IQR	10 – 48 months	
PC		
Cough	106	98
Fever	94	87
Rhinorrhea	90	83
Nasal obstruction	57	53
Sneezing	48	44
Tachypnoea	13	12
Mean duration	3 days	
IQR	1 – 4 days	

Summary of patient management



- * Fisher's exact test p value = 0.006
- Amoxicillin – most commonly prescribed antibiotic (87 %)

Table 2 Comparing age, duration of symptoms and history and presence of fever with antibiotic prescription

Age (mo)	Total No.	No. (%) prescribed antibiotic	No. (%) not prescribed antibiotic	p - value
1- 12	36	23 (64)	13 (36)	0.0008
≥13	72	66 (92)	6 (8)	
Duration of symptoms				
1 – 5 days	89	70 (79)	19 (21)	0.022
6 - 10 days	19	19 (100)	0	
Fever				
Hx of fever	94	77 (82)	17 (18)	
No Hx of fever	14	12 (86)	2 (14)	0.4
Afebrile on examination	24	20 (83)	4 (17)	
Febrile on examination	25	23 (92)	2 (8)	
No record	58	45 (76)	13 (24)	

Part 2: Assessing staff knowledge and practices

Table 3 Responses of the different cadres of health workers

	CHW n = 23 (%)	NO n = 47 (%)	RHEO n = 6 (%)	HEO n = 4 (%)	MO n = 4 (%)
Pathogen					
Virus(es)	22 (96)	45 (96)	5	4	4
Non - viruses	1 (4)	2 (4)	1		
Antibiotic treatment					
No antibiotic Rx	13 (56)	28 (60)	5	4	3
Requires antibiotic Rx	10 (44)	15 (31)	1		1
Unsure of antibiotic Rx		4 (9)			
Name of antibiotic					
Amoxicillin	5 (22)	11 (23)			
Co-trimoxazole	5 (22)	2 (4)	1		1
Erythromycin					
Chloramphenicol					
Any of the above-mentioned antibiotics		2 (4)			

Discussion

- Prescription rate of 82.4% was 3rd highest in the published literature (highest 88% in Ethiopia)
- Parents were more likely to be given supportive advice if their child was not prescribed an antibiotic
- There is still lack of knowledge regarding appropriate management of common cold

Factors influencing prescribing behaviour

- Duration of symptoms
- Age of the child
- Fever on examination (not statistically significant)
- Diagnostic uncertainty
- The staffs' knowledge of the value of antibiotics

Ways to address this issue

- Staff education
- Patient education, including community awareness
- Restricting the categories of health workers who are prescribing antibiotics

Limitations

- Small sample size, obtained from only one clinic
- Unable to follow up all the patients
- May not be generalisable to other parts of the country

Conclusions

- Rate of antibiotic prescription for common cold at PGH COPD is very high
- 2/5 of staff lack knowledge in managing common cold
- This data can be used to make awareness promoting proper antibiotic use

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