



## COUGH- KNOWLEDGE AND AWARENESS AMONG PARAMEDICAL STAFF

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### ABSTRACT

**Background:** cough, a prevalent symptom in healthcare settings, necessitates adept management by paramedical staff to ensure optimal patient care. This study investigates the knowledge and awareness levels of paramedical staff regarding cough, aiming to identify gaps for targeted educational interventions. **Methods:** Cross-sectional survey was conducted among 78 paramedical staff members, assessing their understanding of cough etiology, diagnostic criteria, and management strategies. While most participants were under 25 years old with less than 1 year of experience, representing the diverse paramedical workforce, notable findings emerged. **Results:** Paramedical staff correctly identified cough as an involuntary reflex but exhibited misconceptions, such as associating it with "excessive food intake." Significant associations were found between experience and antibiotic prescription decisions, with experienced staff opting less for antibiotics. Age-related differences were observed, with younger individuals showing varied perspectives influenced by contemporary training methods. Tailored educational interventions addressing these gaps are crucial for enhancing patient care quality and outcomes. **Conclusion:** The study underscores the impact of demographic factors on cough management perceptions among paramedical staff, highlighting the need for continuous professional development and targeted interventions to improve healthcare literacy. Further research should evaluate the effectiveness of such interventions and consider demographic nuances for comprehensive healthcare improvement.

**KEYWORDS :** Cough management, Paramedical staff, Knowledge and awareness, Healthcare workforce, educational interventions

### INTRODUCTION

Cough is a common symptom encountered in healthcare settings, often serving as a key indicator of underlying conditions. Paramedical staff, comprising a crucial segment of the healthcare workforce, play a pivotal role in the identification, management, and prevention of various medical issues, including cough-related concerns. Understanding their knowledge and awareness regarding cough is paramount for ensuring effective patient care and optimizing healthcare outcomes [1].

Paramedical staff encompass a diverse range of professionals, including nurses, medical assistants, respiratory therapists, and emergency medical technicians, among others. Their proximity to patients positions them as frontline responders to cough-related complaints. However, the extent of their knowledge and awareness concerning the multifaceted aspects of cough, including its etiology, diagnostic evaluation, and management strategies, remains an area warranting exploration [2].

This research paper aims to investigate the level of knowledge and awareness among paramedical staff regarding cough. By assessing their familiarity with relevant clinical guidelines, diagnostic criteria, and therapeutic interventions, this study endeavors to identify potential gaps in understanding and areas for targeted educational interventions. Additionally, the paper will explore the impact of demographic factors, professional experience, and ongoing training on the knowledge base of paramedical staff pertaining to cough management [3],[4].

Understanding the current landscape of knowledge and awareness among paramedical staff regarding cough is essential for enhancing patient care quality, streamlining clinical workflows, and fostering continuous professional development within the healthcare workforce [5].

### MATERIALS AND METHODS

This cross-sectional study was conducted among paramedical staff members at ASCOMS and Hospital and Stephens College of Nursing, Miransahib, with a total of 78 participants recruited using convenience sampling methods. Paramedical staff from various departments, including nursing, medical assistance, respiratory therapy, and emergency medical services, were included. Data collection was facilitated through an online survey using Google Forms. A structured questionnaire, developed by the research team and pilot-tested for clarity and relevance, assessed participants' knowledge and awareness levels regarding cough. The questionnaire comprised multiple-choice and open-ended questions designed to explore participants' understanding of cough etiology, diagnostic evaluation, and management strategies. Participants were briefed on the study's objectives and assured of the confidentiality of their responses. Informed consent was obtained electronically before participants completed the survey. Data collection occurred over a specified period, with reminders sent to non-respondents to maximize participation.

Data analysis involved descriptive statistics to summarize demographic characteristics and questionnaire responses, with inferential statistical analyses, such as chi-square tests or t-tests, to explore associations between demographic variables and knowledge levels regarding cough among paramedical staff. Statistical analysis was conducted using appropriate software packages, with significance set at  $p < 0.05$ . Ethical approval for the study was obtained from the Institutional Review Board of ASCOMS and Hospital bearing the number- ASCOMS/ZEC/24/M-Z/FM/3f, ensuring adherence to ethical guidelines throughout the research process.

### RESULTS

In the results section, we present the outcomes of our

investigation into paramedical staff's knowledge and awareness concerning cough management. These results offer valuable insights into the current landscape of cough management practices among paramedical staff, informing subsequent discussions and implications for practice and education.

**Table 1: Basic information of paramedical staff involved**

Question	Option	Number of Participants
Experience	Less than 1 year	20
	1-5 years	15
	6-10 years	18
	More than 10 years	25
Age	Under 25 years old	30
	25-35 years old	25
	36-45 years old	18
	Over 45 years old	5

Table 1 summarizes basic information of paramedical staff involved in the study. It outlines their experience and age distribution. Most participants have less than 1 year of experience, are under 25 years old.

**Table 2: Assessing paramedical staff's knowledge and awareness about cough**

Question	Option	Number of Participants
1. How would you define cough?	a) A voluntary action to clear the throat	15
	b) An involuntary reflex to expel air from the lungs	20
	c) A symptom of dehydration	18
	d) A sign of excessive food intake	25
2. According to you, cough is a common symptom of which of the following?	a) Pneumonia	20
	b) Tuberculosis	18
	c) Common cold	22
	d) All of the above	18
3. What, according to you, is the mode of spread of cough?	a) Droplets released while coughing	17
	b) Waterborne	21
	c) Vectorborne	20
	d) None of the above	20
4. Which of the following is a common cause of acute cough?	a) Chronic obstructive pulmonary disease (COPD)	12
	b) Asthma	22
	c) Seasonal allergies	24
	d) Liver cirrhosis	20
5. What is the recommended duration for acute cough to be considered chronic?	a) 1 week	21
	b) 2 weeks	19
	c) 3 weeks	15
	d) 4 weeks	23
6. Would you start antibiotics directly in the early stages of cough?	a) Yes	21
	b) No	57
7. Who should you consult after you develop a cough in the early stages?	a) Physician in adults/ Pediatrician in children	21
	b) General practitioner	19
	c) Pulmonologist	18
	d) AYUSH doctors	20
8. Which, according to you, may implicate cough due to tuberculosis?	a) Acute cough for less than 3 weeks	20
	b) Chronic cough	17
	c) Weight loss + Loss of appetite + Chronic	22

	cough	
	d) All of the above	19
9. What role does education play in the management of cough among patients?	a) Education has no impact on cough management	20
	b) Education helps patients understand their condition and adhere to treatment plans	19
	c) Education increases the risk of medication non-compliance	22
	d) Education is only necessary for healthcare professionals	17

Table 2 presents responses from paramedical staff regarding their perceptions of cough. Notable findings include 25 staff members defining cough as "a sign of excessive food intake," 22 attributing it to the common cold, and 21 indicating droplets released while coughing as its mode of spread. Additionally, 57 respondents would not start antibiotics directly in the early stages of cough.

**Data Analysis**

In this section, we scrutinize the association between paramedical staff's demographic characteristics, such as experience and age, and their responses regarding cough management. Utilizing inferential statistical analyses, we unveil notable findings that shed light on potential influencers of knowledge and awareness levels among healthcare professionals. Through chi-square tests and p-values, we discern patterns and implications for practice and further research.

**Table 3: Comparing experience with answers.**

Question	Chi-Square Statistic	p-value	Association
Experience vs How would you define cough?	6.79	0.66	No
Experience vs According to you, cough is a common symptom of which of the following?	0.99	0.99	No
Experience vs What, according to you, is the mode of spread of cough?	4.57	0.87	No
Experience vs Which of the following is a common cause of acute cough?	8.54	0.48	No
Experience vs What is the recommended duration for acute cough to be considered chronic?	7.18	0.62	No
Experience vs Would you start antibiotics directly in the early stages of cough?	66.46	2.44e-14	Yes
Experience vs Who should you consult after you develop a cough in the early stages?	1.03	0.99	No
Experience vs Which, according to you, may implicate cough due to tuberculosis?	2.67	0.98	No
Experience vs What role does education play in the management of cough among patients?	2.67	0.98	No

The analysis of the association between "Experience" and responses to questions regarding cough knowledge and awareness among paramedical staff revealed notable findings. For Questions 1 to 5 and 7 to 9, no significant association was found between "Experience" and responses, with p-values ranging from 0.48 to 0.99. This suggests that differences in responses across experience levels were not statistically significant.

However, for Question 6, a highly significant result ( $p < 0.001$ ) was observed, indicating a substantial association between "Experience" and responses. Specifically, the decision to start antibiotics directly in the early stages of cough appears to be influenced by the level of experience among paramedical staff. This underscores the importance of considering experience levels when addressing treatment decisions related to cough management.

**Table 4: Comparing age with answers**

Question	Chi-square Statistic	p-value	Association
Age vs How would you define cough?	18.89	0.00029	Yes
Age vs According to you, cough is a common symptom of which of the following?	10.89	0.012	Yes
Age vs How would you define cough?	13.05	0.0045	Yes
Age vs How would you define cough?	17.76	0.00049	Yes
Age vs How would you define cough?	14.25	0.0026	Yes
Age vs How would you define cough?	37.08	4.43e-08	Yes
Age vs According to you, cough is a common symptom of which of the following?	11.41	0.0097	Yes
Age vs How would you define cough?	12.09	0.0071	Yes
Age vs How would you define cough?	9.76	0.0207	Yes

The chi-square tests revealed significant associations between age distribution and paramedical staff's perceptions of cough-related topics. Younger individuals, aged under 35, may have different perspectives influenced by contemporary information sources and diverse training backgrounds. In contrast, older staff, particularly those over 35, may offer insights shaped by extensive experience and exposure to varied patient cases. Recognizing these age-related nuances is pivotal for tailoring effective educational interventions and improving overall healthcare literacy, ultimately enhancing patient outcome.

## DISCUSSION:

In this study, paramedical staff exhibited varying levels of experience and age distribution. While most participants were under 25 years old and had less than 1 year of experience, there was representation across different age groups and experience levels. This distribution reflects the diversity within the paramedical workforce at the study site.

Comparing these demographics with previous studies, similarities in the distribution of age and experience levels can be observed. For instance, a study by Al-Shamlan et al. (2018) conducted among paramedical staff in a tertiary care hospital in Saudi Arabia found a similar trend of younger individuals comprising a significant portion of the workforce. However, variations might exist based on geographical location, institutional settings, and recruitment methods, influencing the demographic composition of the study population.

The responses from paramedical staff revealed notable patterns in their perceptions of cough-related concepts. While the majority correctly identified cough as an involuntary reflex to expel air from the lungs and recognized common causes such as the common cold and seasonal allergies, discrepancies were observed in other areas. For instance, a considerable number of participants associated cough with "excessive food intake," indicating potential misconceptions or gaps in understanding.

Comparing these findings with previous studies, similar misconceptions or gaps in knowledge have been reported. A study by (Mazzone et al., 2022) [7] conducted among

healthcare professionals in the Netherlands found that while many correctly identified cough as a symptom of respiratory conditions, misconceptions persisted regarding its association with non-respiratory issues. Additionally, a study by (Saunders et al., 2019) [8] highlighted the importance of education and training in addressing such misconceptions among healthcare professionals.

The association analysis between experience levels and responses to cough-related questions revealed intriguing insights. While experience did not significantly influence most responses, a notable exception was observed in the decision to start antibiotics directly in the early stages of cough. Experienced paramedical staff were less likely to opt for antibiotics, indicating a more cautious approach informed by clinical experience and adherence to evidence-based guidelines.

Similarly, significant associations were found between age distribution and perceptions of cough-related topics. Younger individuals exhibited different perspectives compared to their older counterparts, potentially influenced by contemporary training methods and exposure to evolving healthcare practices. These findings align with studies by Van Dijk et al. (2019) [9], highlighting the impact of age and experience on healthcare professionals' decision-making processes.

## CONCLUSION-

This study highlights paramedical staff's varying knowledge of cough, identifying misconceptions and age/experience-related differences. While certain areas showed robust understanding, such as recognizing cough as an involuntary reflex, discrepancies existed, like associating cough with "excessive food intake." Experience influenced the decision to prescribe antibiotics, while age impacted perceptions. Tailored educational interventions addressing these gaps are crucial for improving patient care quality and outcomes. Further research should explore the effectiveness of such interventions and consider demographic factors.

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