OPEN ACCESS

Saudi Journal of Medical and Pharmaceutical Sciences

Abbreviated Key Title: Saudi J Med Pharm Sci
ISSN 2413-4929 (Print) | ISSN 2413-4910 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article **Medicine**

Barriers Facing Family Physicians in Primary Health Care when Dealing with Emergency Cases in Al Ahsa, Saudi Arabia

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DOI: https://doi.org/10.36348/sjmps.2025.v11i07.011 | **Received:** 26.05.2025 | **Accepted:** 02.07.2025 | **Published:** 07.07.2025

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Abstract

Background: Family physicians in primary healthcare (PHC) settings frequently encounter emergency cases of varying severity. Managing such cases effectively requires structured protocols, proper training, and adequate equipment. This study aimed to identify the barriers faced by primary care physicians (PCPs) in managing emergency cases in Al Ahsa, Saudi Arabia. ***Methods:*** A cross-sectional study was conducted among PCPs working under the Ministry of Health (MOH) and National Guard Health Affairs (NGHA) in Al Ahsa. Data were collected using a self-administered electronic questionnaire distributed via official email and social media platforms. The instrument included sections on socio-demographic characteristics, a 10-item competency scale, a 12-item satisfaction scale, and the frequency of emergency cases encountered over the past 12 months. ***Results:*** Of the 414 respondents, 81.1% were female and 83.5% were aged between 25 and 34 years. Attendance at BLS, ACLS, and ATLS courses within the last 1–2 years was reported by 45.8%, 58.5%, and 50.4% of participants, respectively. Low competency levels were reported by 15.6% of physicians, and 18.9% expressed dissatisfaction in handling emergency cases. Higher competency and satisfaction scores were significantly associated with younger age, female gender, Saudi nationality, and possession of a bachelor's degree. A positive correlation was observed between competency and satisfaction scores. ***Conclusion:*** The findings reveal moderate levels of competency and satisfaction among PCPs in managing emergency cases. Notably, older, male, and non-Saudi physicians demonstrated lower levels in both domains. Targeted training and continuous professional development are essential to enhance emergency preparedness in PHC settings.

Keywords: Emergency cases, family physicians, satisfaction, competency, primary health care.

INTRODUCTION

As defined by the World Health Organization (WHO), primary health care (PHC) focuses on the needs and preferences of individuals, families, and communities to promote health and well-being [1]; all patients receive comprehensive care, including promotion, prevention, treatment, rehabilitation, and palliative care [1]. Emergency medicine refers to "a sudden clinical incident requiring urgent and appropriate clinical management in order to treat its consequences and avoid its sequelae." [2]. There is some evidence that a third to two-thirds of patients attending emergency departments have problems that could be managed by PHC centers [3].

PHC centers provide both curative and preventive services and refer those who need more advanced care to public hospitals or specialized hospitals if they require more complex care [4]. As communities continue growing and aging, there is an increased demand for PHC services. According to the WHO, the Saudi health care system ranks 26th out of 190 global health care systems [5]. Saudi Arabia prioritizes healthcare services. Saudi Arabia has made significant advancements in healthcare services over the last two decades, both quantitatively and qualitatively [4].

Family physicians encounter a significant number of emergency cases with varying levels of severity [6]. PHC practitioners may encounter at least

one emergency case each year [7]. Indeed, A well-structured protocol, training, and equipment are required for effective emergency management in the PHC [6]. It is a major concern of healthcare professionals to deal with medical emergencies that may arise in their offices. Planned unexpected events can help reduce anxiety and difficulties faced by family doctors, and this can improve patient safety in the office [6,8]. In order to improve the quality of PHC services, including emergency medical services, studies showed that training in emergency medicine was one of the most important aspects of continued medical education [9,10].

In Al Ahsa City, Saudi Arabia, there has been no prior investigation of primary care physicians' (PCP) competency, factors, and barriers that affect their ability to deal with emergency cases. The main aim of this study is to identify the barriers that PCPs face when dealing with emergency cases.

MATERIALS AND METHODS

A descriptive, cross-sectional study was conducted between April 29 and May 27, 2024, to assess the perceived competency and satisfaction of PCPs in managing emergency cases within PHC settings in Al Ahsa, Saudi Arabia. The study targeted physicians working in PHC centers affiliated with the Ministry of Health (MOH) and the National Guard Health Affairs (NGHA). The study received approval from the Institutional Review Board (IRB) of King Abdullah International Medical Research Center (KAIMRC), with strict adherence to patient confidentiality throughout the research process.

All actively practicing PCPs—both general practitioners and family physicians—within the MOH and NGHA PHC centers in Al Ahsa were eligible for inclusion. Physicians who were retired or practicing outside of Al Ahsa were excluded. According to 2023 data, there were 199 general practitioners and 202 family physicians working across these centers [11].

A previously validated, self-administered questionnaire was used for data collection [6]. The survey was disseminated electronically via official institutional email and social media platforms, including WhatsApp and X (formerly Twitter). Sample size estimation was performed using the Raosoft calculator, applying a 5% margin of error, 95% confidence level, and 50% response distribution [12]. The minimum required sample size was calculated at 197 participants; however, a total of 414 physicians responded and were included in the analysis.

The questionnaire comprised sections evaluating demographics, previous emergency training, and self-assessed competency and satisfaction in managing emergency cases. Competency was measured using 10 items rated on a 4-point Likert scale ranging from 1 ("I do not know where to start") to 4 ("I will attempt in all cases"). Satisfaction was assessed using 12 items on a 5-point Likert scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree"). The total competency score ranged from 10 to 40, while satisfaction scores ranged from 12 to 60. Higher scores reflected greater self-reported competency and satisfaction.

Based on the scoring distribution, levels of competency and satisfaction were classified into three categories: scores <50% of the maximum were considered low or dissatisfied, scores between 50% and 75% were classified as average or neutral, and scores >75% indicated high competency or satisfaction [13].

Statistical analysis was conducted using IBM SPSS Statistics version 26 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarize categorical variables as frequencies and percentages, and continuous variables as means and standard deviations. Normality of the competency and satisfaction scores was assessed using the Kolmogorov–Smirnov test, which indicated non-normal distribution. Accordingly, nonparametric methods were applied. The Mann–Whitney U test was used to evaluate differences in scores across physician subgroups. Spearman's rank correlation coefficient was used to assess the relationship between competency and satisfaction scores. A p-value of <0.05 was considered statistically significant.

RESULTS

Participant Characteristics

A total of 417 primary care physicians participated in the study. As shown in Table 1, the majority were between 25–34 years of age (83.5%), and most participants were female (81.1%). Saudi nationals comprised 94.7% of the sample, and 89.7% were employed by the Ministry of Health (MOH). In terms of qualifications, 54.4% held a Bachelor of Medicine, Bachelor of Surgery (MBBS) degree, 40.3% held the Saudi Board of Family Medicine (SBFM), and 5.3% held the American Board of Family Medicine (ABFM).

Regarding emergency-related training, 45.8%, 58.5%, and 50.4% had attended Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), and Advanced Trauma Life Support (ATLS) courses, respectively, within the last 1–2 years. The vast majority (94.0%) had experience working in emergency departments, and 54.9% reported 1 to 5 years of experience in primary healthcare settings.

Table 1: Socio-demographic characteristics of the family physicians (n=417)

Study variables	N (%)
Age group	
25 – 34 years	348 (83.5%)
35 – 44 years	51 (12.2%)
≥45 years	18 (04.3%)
Gender	
Male	79 (18.9%)
Female	338 (81.1%)
Nationality	
Saudi	395 (94.7%)
Non-Saudi	22 (05.3%)
Sector	
MOH (Ministry of Health)	374 (89.7%)
NGHA (National Guard Health Affairs)	43 (10.3%)
Highest qualification degree	
MBBS (Bachelor of Medicine, Bachelor of Surgery)	227 (54.4%)
ABFM (American Board of Family Medicine)	22 (05.3%)
SBFM (Saudi Board of Family Medicine)	168 (40.3%)
Duration since attending basic life support (BLS) course	
<1 year	194 (46.5%)
1-2 years	191 (45.8%)
>2 years	27 (06.5%)
Didn't attended	05 (01.2%)
Duration since attending advanced cardiac life support (ACLS) course	
<1 year	107 (25.7%)
1-2 years	244 (58.5%)
>2 years	41 (09.8%)
Didn't attended	25 (06.0%)
Duration since attending advanced trauma life support (ATLS) course	
<1 year	137 (32.9%)
1-2 years	210 (50.4%)
>2 years	32 (07.7%)
Didn't attended	38 (09.1%)
Did you have any work experience in the emergency department?	
Yes	392 (94.0%)
No	25 (06.0%)
Years of work in primary healthcare	
<1 year	172 (41.2%)
1 – 5 years	229 (54.9%)
>5 years	16 (03.8%)

Competency in Managing Emergency Cases

The competency of physicians was evaluated using 10 specific emergency management tasks (Table 2). The highest self-rated competencies were for mouth-to-mouth resuscitation (mean = 2.72, SD = 0.61), bag and mask resuscitation (mean = 2.54, SD = 0.65), and ECG interpretation (mean = 2.46, SD = 0.66). Cardiac compression received the lowest mean competency score (2.15 ± 0.58). The overall mean competency score was 24.1 (SD = 4.29). Based on predefined thresholds, 15.6% of respondents were classified as having low competency, 79.1% as average, and 5.3% as high competency (Table 2).

Regarding Satisfaction with Emergency Services

Satisfaction was assessed across 12 emergency scenarios. The highest satisfaction levels were reported for myocardial infarction (mean = 3.16, SD = 0.99), hypoglycemia (mean = 3.03, SD = 0.96), and diabetic ketoacidosis (mean = 2.99, SD = 0.95). Cardiac arrest received the lowest satisfaction score (mean = 2.83, SD = 0.87). The total satisfaction score averaged 35.4 (SD = 8.66), with 18.9% categorized as dissatisfied, 76.5% as neutral, and 4.6% as satisfied (Table 2).

Table 2: Assessment of competence and satisfaction in dealing with emergency cases (n=417)

Competency items	**Mean ± SD**
Physicians' perceived competence when dealing with emergency cases	
Mouth-to-mouth resuscitation	2.72 ± 0.61
Bag and mask resuscitation	2.54 ± 0.65
Reading ECG	2.46 ± 0.66
Nebulization and oxygen therapy	2.43 ± 0.70
Simple suture	2.43 ± 0.69
Defibrillation	2.39 ± 0.68
Inserting IV cannula	2.37 ± 0.67
Urinary catheter insertion	2.35 ± 0.67
Using IV fluid and medications	2.31 ± 0.66
Cardiac compression	2.15 ± 0.58
Competency score	**24.1 ± 4.29**
Level of competency	**N (%)**
Low	65 (15.6%)
Average	330 (79.1%)
High	22 (05.3%)
Satisfaction items	
Satisfaction of the PCP (Primary Care Physician) regarding the emergency services provided at their PHC (Primary Health Care) centers	
Myocardial infarction	3.16 ± 0.99
Hypoglycemia	3.03 ± 0.96
Diabetic ketoacidosis	2.99 ± 0.95
Anaphylaxis	2.96 ± 0.87
Convulsion	2.94 ± 0.87
Acute asthma	2.93 ± 0.88
Angina pectoris	2.92 ± 0.87
Acute GIT bleeding	2.91 ± 0.93
Acute vaginal bleeding	2.91 ± 0.86
Renal colic	2.90 ± 0.88
Severe dehydration	2.87 ± 0.88
Cardiac arrest	2.83 ± 0.87
Satisfaction score	**35.4 ± 8.66**
Level of satisfaction	**N (%)**
Dissatisfied	79 (18.9%)
Neutral	319 (76.5%)
Satisfied	19 (04.6%)

Competence items have a response ranging from "I don't know where to start," coded with 1, to "I will attempt in all cases" coded with 4.

Satisfaction items have a response ranging from "strongly disagree" coded with 1 to "strongly agree" coded with 5.

Frequency of Emergency Case Encounters

As illustrated in Figure 1, the three most frequently encountered emergency conditions seen more than three times in the past 12 months were diabetic ketoacidosis (16.3%), angina pectoris (15.8%), and convulsions (14.6%). The least encountered were cardiac arrest (4.1%), acute asthma (5.5%), and severe dehydration (6.5%).

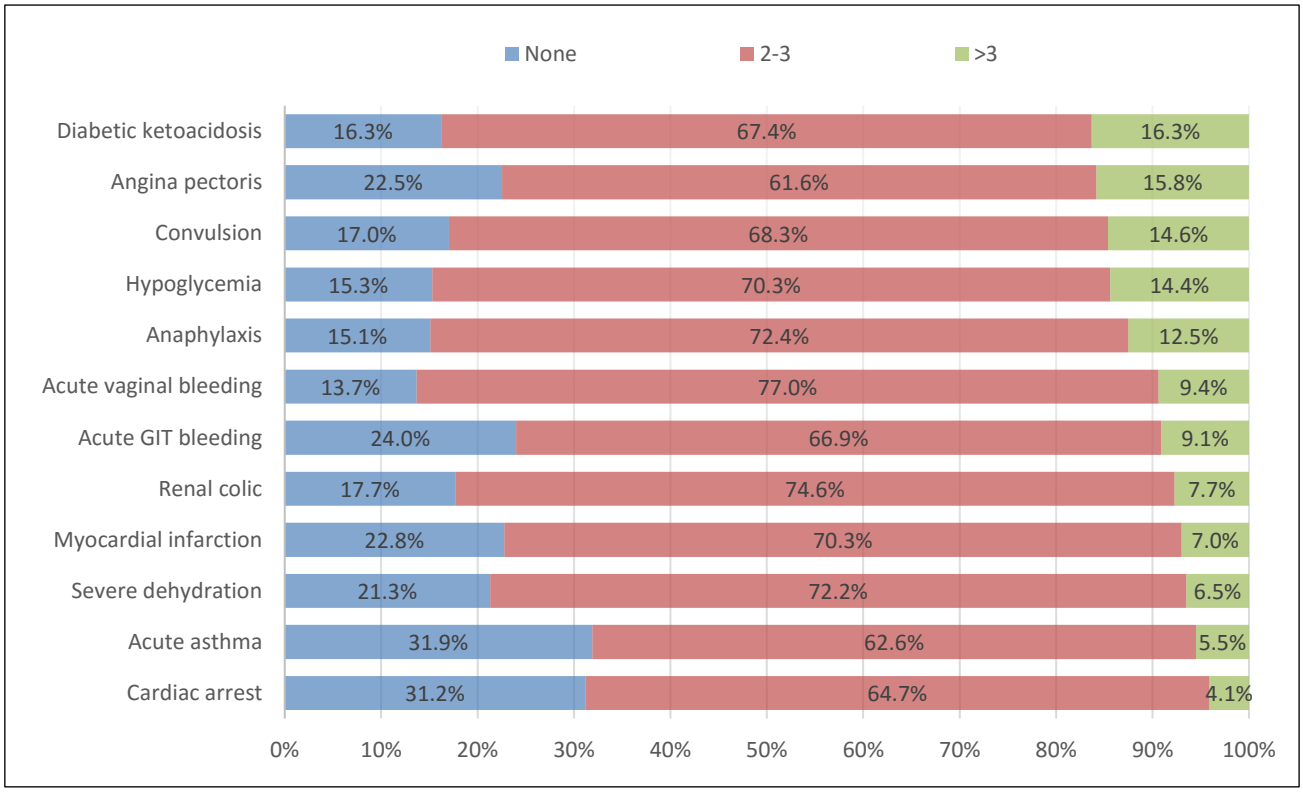

Figure 1: Frequency of emergency cases seen by primary healthcare physicians in the last 12 months

Correlation Between Competency and Satisfaction

Figure 2 demonstrates a statistically significant positive correlation between competency and satisfaction scores (Spearman's rs = 0.362; $p < 0.001$), indicating that higher perceived competency is associated with increased satisfaction.

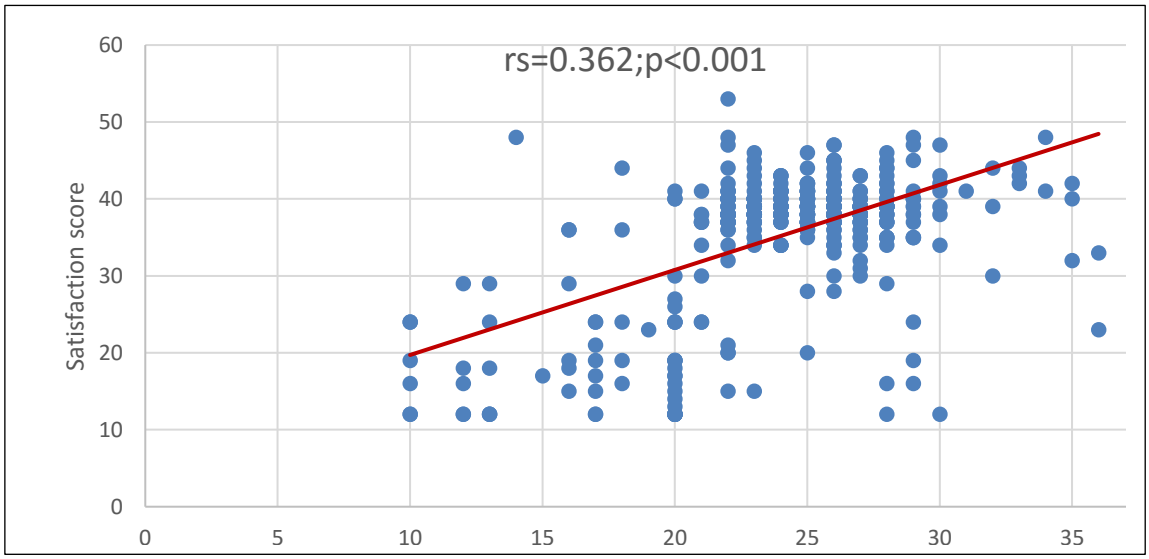

Figure 2: Correlation between Competency and Satisfaction scores

Predictors of Competency

Table 3 summarizes the association between competency scores and participant characteristics. Statistically significant higher competency scores were observed among physicians who were younger than 35 years ($p < 0.001$), female ($p < 0.001$), Saudi nationals ($p < 0.001$), those with a bachelor's degree ($p = 0.024$), and those who had attended a BLS course within the past year ($p = 0.002$). No significant differences in competency were observed in relation to the healthcare sector (MOH vs. NGHA), ACLS/ATLS course recency, emergency department experience, or years of PHC practice ($p > 0.05$) (Table 3).

Table 3: Association between competency score and the socio-demographic characteristics of the family physicians (n=417)

Factor	Competency Score (40) Mean ± SD	Z-test	P-value §
Age group			
<35 years	24.9 ± 3.49	6.814	**<0.001** **
≥35 years	20.3 ± 5.70		
Gender			
Male	20.9 ± 6.29	6.264	**<0.001** **
Female	24.9 ± 3.27		
Nationality			
Saudi	24.4 ± 4.01	4.558	**<0.001** **
Non-Saudi	18.8 ± 5.82		
Sector			
MOH	24.2 ± 3.92	0.955	**0.340**
NGHA	24.0 ± 6.82		
Highest qualification degree			
Bachelor's degree	24.6 ± 4.03	2.250	**0.024** **
Board Qualified	23.6 ± 4.56		
Duration since attending basic life support course			
<1 year	24.8 ± 3.65	3.146	**0.002** **
≥1 year	23.6 ± 4.70		
Duration since attending advanced cardiac life support course			
<1 year	24.3 ± 4.08	1.100	**0.271**
≥1 year	24.1 ± 4.13		
Duration since attending advanced trauma life support course			
<1 year	24.3 ± 4.15	1.247	**0.212**
≥1 year	24.0 ± 4.03		
Experience in the emergency department			
Yes	24.2 ± 4.22	1.280	**0.200**
No	23.2 ± 5.41		
Years of work in primary healthcare			
<1 year	23.6 ± 4.68	1.255	**0.210**
≥1 year	24.6 ± 3.97		

MOH - Ministry of Health; NGHA - National Guard Health Affairs.
§ P-value has been calculated using Mann-Whitney Z-test.
** Significant at p<0.05 level.

Predictors of Satisfaction

Exploring the association between satisfaction scores and the socio-demographic characteristics of the physicians found that higher satisfaction scores were associated with being younger (Z=5.139; p<0.001), female gender (Z=7.803; p<0.001), being Saudi (Z=6.881; p<0.001) having MBBS (Z=2.046; p=0.041), experienced in emergency department (Z=2.957; p=0.003) and having one year or more experienced in primary healthcare (Z=2.869; p=0.004). No significant associations were observed between satisfaction scores in relation to sector, duration since attending the BLS course, advanced cardiac life support course, and advanced trauma life support course (p>0.05) (Table 4).

Table 4: Association between satisfaction score and the socio-demographic characteristics of the family physicians (n=417)

Factor	Satisfaction Score (60) Mean ± SD	Z-test	P-value §
Age group			
<35 years	37.2 ± 6.28	5.139	**<0.001** **
≥35 years	26.1 ± 12.4		
Gender			
Male	25.1 ± 11.9	7.803	**<0.001** **
Female	37.7 ± 5.39		

Nationality			
Saudi	36.3 ± 7.63	6.881	**<0.001** **
Non-Saudi	17.5 ± 6.45		
Sector			
MOH	35.6 ± 8.21	1.382	**0.167**
NGHA	32.8 ± 11.7		
Highest qualification degree			
Bachelor's degree	36.9 ± 6.89	2.046	**0.041** **
Board Qualified	33.5 ± 10.1		
Duration since attending basic life support course			
<1 year	36.5 ± 6.93	0.182	**0.855**
≥1 year	34.7 ± 9.65		
Duration since attending advanced cardiac life support course			
<1 year	36.1 ± 8.05	0.693	**0.489**
≥1 year	35.5 ± 8.52		
Duration since attending advanced trauma life support course			
<1 year	35.2 ± 8.33	0.401	**0.688**
≥1 year	35.8 ± 8.32		
Experience in the emergency department			
Yes	35.7 ± 8.37	2.957	**0.003** **
No	29.4 ± 10.9		
Years of work in primary healthcare			
<1 year	34.2 ± 9.27	2.869	**0.004** **
≥1 year	36.2 ± 8.11		

MOH - Ministry of Health; NGHA - National Guard Health Affairs.
§ P-value has been calculated using Mann-Whitney Z-test.
** Significant at p<0.05 level.

Exploring the association between satisfaction scores and the socio-demographic characteristics of the physicians found that higher satisfaction scores were associated with being younger (Z=5.139; p<0.001), female gender (Z=7.803; p<0.001), being Saudi (Z=6.881; p<0.001) having MBBS (Z=2.046; p=0.041), experienced in emergency department (Z=2.957; p=0.003) and having one year or more experienced in primary healthcare (Z=2.869; p=0.004). No significant associations were observed between satisfaction scores in relation to sector, duration since attending the BLS course, advanced cardiac life support course, and advanced trauma life support course (p>0.05).

DISCUSSION

This study explores the competency and satisfaction of family physicians in dealing with emergency cases. Family physicians are often the first point of contact in emergencies, particularly in PHC settings. Hence, evaluating their competency and satisfaction helps identify knowledge, skills, and decision-making gaps.

Level of Competency

The overall level of competency of PCPs in dealing with emergency cases was less than desired. Despite nearly eighty percent having average competency levels, about sixteen percent still regarded to have low competency levels, and only five percent had high (mean score 24.1 out of 40 points). Among competency items, mouth-to-mouth resuscitation achieved the highest ratings (mean score: 2.72), followed by bag and mask resuscitation (mean score: 2.54) and reading ECD (mean score: 2.46), while cardiac compression (mean score: 2.15) showed lowest rating. None of the competency items achieved ratings of at least 3 points or more. Hence, further improvement is needed. This is consistent with the study of Fallatah & Alghamdi (2023), suggesting poor levels of competence were seen in nearly forty percent of PCPs [14]. Corroborating these reports, research done by Taraif (2023) documented a lack of competency among practicing physicians in dealing with emergency cases, particularly with multiple trauma in adults and pediatrics [15]. In contrast, PCPs from Dammam, Saudi Arabia, demonstrated better knowledge of diagnostic tests (87.3%) and had good management skills (47.6%) in managing emergency cases [10], which was consistent with the study done in Al Ahsa [14]. These differences may vary according to PCP training programs, healthcare systems, and study methodologies. Having sufficient skills in managing emergency cases is crucial among family physicians since they are the focal points in the PHC setting. Hence, improving emergency management skills can improve patient health outcomes.

Significant factor of competency

Age, gender, nationality, and degree qualification were recognized as significant predictors of competency. In particular, younger age groups, female

physicians, Saudi nationality, and bachelor's degree holders were associated with increased competency in handling emergency cases. Potential reasons for these effects include younger physicians possessing the most recent training and updated knowledge, better adaptation to new guidelines, and stronger procedural skills than their older counterparts. Likewise, female family physicians may be more likely to follow existing guidelines and more willing to collaborate than their male counterparts, while family physicians with Saudi nationality may hold better medical training and education as well as better residency training programs than non-Saudi PCPs. Interestingly, PCPs with bachelor's degrees do not commonly have higher competency levels than PCPs with higher qualification degrees; however, if they existed, this could be due to the differences in training focus and early career practical experience. Hence, further investigations are required to confirm this result. Consistent with our findings, Fallatah & Alghamdi (2023) indicated that physicians with Saudi nationality were more competent in handling emergencies [14]. This, however, was contradicted by the reports of Alruwaili *et al*. (2022). Lower perceived competencies in handling emergency cases were associated with middle age (25-35 years), females, and Saudi nationality [17]. Study population, methodology, and healthcare contexts were some of the factors influencing these variations.

Satisfaction with handling emergency cases

Same as competency, the satisfaction of PCPs in dealing with emergency cases achieved moderate levels. According to the given criteria, more than three-quarters (76.5%) were in the neutral levels, while about nineteen percent were dissatisfied and only fewer than five percent were satisfied (mean score 35.4 out of 60 points). Regarding satisfaction in managing specific emergency cases, PCPs were confident with handling cases such as myocardial infarction (mean score: 3.16), hypoglycemia (mean score: 3.03), anaphylaxis (mean score: 2.96), convulsion (mean score: 2.94), and acute asthma (mean score: 2.93). However, cases such as angina pectoris (mean score: 2.83) and cardiac arrest (mean score: 2.84) achieved the lowest ratings and may need further improvement. This is almost consistent with the study of Aloufi & Bakarman (2016). Acute asthma (47.1%), renal colic (32%), and hypoglycemia (24.3%) were reported by physicians to have higher satisfaction in terms of handling emergency cases. However, cases such as acute gastrointestinal tract (GIT) bleeding, cardiac arrest, acute vaginal bleeding, angina pectoris, and convulsions had lower satisfaction rates [6]. Evidence from a study by Mikhail Salama (2018) also showed similar results. Despite great satisfaction in handling cases such as acute asthma and angina, the majority were not exposed to cases such as cardiac arrest and severe dehydration, resulting in higher dissatisfaction rates among them [18]. Improving PCP satisfaction in handling emergency cases requires addressing multiple factors, including strengthening emergency training programs, workflow efficiency, resources, and emotional support.

Significant factor of satisfaction

Several factors have been identified influencing satisfaction. In particular, the younger age group, female gender, having bachelor's degree, experience in the emergency department, and increasing years in practice in PHC were associated with increased satisfaction in managing emergency cases. Potential reasons for these effects include younger female physicians receiving the most recent training and up-to-date skills than their counterparts. They may have less burnout and fatigue than their older peers. PCPs who were bachelor's degree holders could sometimes exhibit higher satisfaction in managing emergency cases due to lower expectations and pressure, frequent exposure, and different job expectations, while family physicians who had more experience in PHC and emergency department may possess higher satisfaction due to familiarity with emergency protocols, greater clinical experience, exposure to multidisciplinary teams and enhanced problem-solving abilities. None of the previous reports have investigated the factors influencing family physicians' satisfaction in managing emergency cases. Hence, further investigations are required to validate these results.

Unsurprisingly, we noted a significant positive correlation between competency and satisfaction scores ($p<0.001$). This indicates that whenever PCPs' competency levels increased, their satisfaction levels were also likely to increase. PCPs with higher competency levels may exhibit better clinical decision-making and improved patient outcomes. Seeing positive results boosts physicians' morale and satisfaction. Also, skilled physicians manage emergencies more effectively, reduce delays, and improve workflow, leading to a more organized and satisfying work environment [20].

Participation to courses

Participants who attended emergencies-related courses are tantamount to improved knowledge among them. In this study, more than half of PCPs attended courses related to BLS, ACLS, and ATLS in at least the previous 1 to 2 years, and attendance at BLS greatly influences competency but not satisfaction. Also, neither ACLS nor ATLS greatly influences competency and satisfaction. These results are almost comparable with that of Hamshari *et al*. (2024). Most physicians had attended BLS courses, but they were less interested in attending ACLS and ATLS courses. However, the study revealed that attendance to the ACLS course significantly improved perceived competence in managing emergency cases [20]. In contrast, Holal & Abdelwahid (2022) documented that ACLS attendance was not associated with significant improvement in terms of competency. Participation in BLS courses within the last 12 months competence was far worse than those who did not attend BLS in managing clinical

emergencies. However, ATLS course participation was linked to better knowledge in emergencies and competence if completed within one year than the other time duration [21]. These variations could be due to regional settings, workload and time constraints, cultural factors, and knowledge of training importance. These courses' role in improving family physicians' competency and skills in managing emergencies is critical. Nonetheless, these certifications ensure that PCPs are competent, confident, and capable of handling emergency cases efficiently, ultimately improving patient survival and healthcare system responsiveness.

Limitations

Several limitations should be considered when interpreting the findings of this study. First, the sample predominantly comprised younger, female, and Saudi physicians, which may limit the generalizability of comparisons across age groups (<35 vs. ≥35 years), gender (male vs. female), and nationality (Saudi vs. non-Saudi). These demographic imbalances warrant cautious interpretation and suggest a need for further research with more diverse representation.

Second, the study relied on self-reported measures to assess competency and satisfaction. Subjective assessments are inherently vulnerable to response bias, limited objectivity, and variability in interpretation, which may affect the accuracy of the reported outcomes.

Third, data collection was conducted electronically via email and social media platforms. While efficient, this approach may have introduced limitations such as delayed responses, reduced engagement, restricted opportunities for clarification, and potential technological barriers.

Finally, the cross-sectional design limits the ability to infer causality and may be subject to confounding factors. It also precludes the assessment of changes in competency or satisfaction over time.

CONCLUSION

Family physicians in Al Ahsa demonstrated moderate levels of competency and satisfaction in managing emergency cases, with higher scores among younger, female, and bachelor's degree-holding physicians. While BLS training was associated with improved competency, ACLS and ATLS showed limited effects. The positive correlation between competency and satisfaction highlights the importance of targeted interventions. Strengthening training programs, providing on-site resources, and fostering a culture of continuous professional development are essential to enhance emergency readiness, improve patient outcomes, and build a more resilient and responsive primary healthcare system.

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