

THE INFLUENCE OF HEALTHCARE PROVIDER'S PROFESSIONAL ETHICS ON PATIENT SATISFACTION: MEDIATING EFFECT OF PATIENT COMMITMENT

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Abstract

China continues to deepen its healthcare reform by prioritizing patient needs and constantly adjusting and improving medical services to promote continuous improvement in service quality. Professional ethics are crucial qualities of healthcare providers and significantly impact service quality, patient commitment, and satisfaction. This study explores the relationships among professional ethics, patient satisfaction, and patient commitment, providing insights to enhance patient satisfaction and commitment. This cross-sectional study surveyed patients who visited primary healthcare institutions in Anhui, China, using standardised electronic questionnaires within the past six months. The data collection tools included validated and reliable questionnaires on professional ethics, patient satisfaction, and patient commitment. Data analysis was performed using SPSS, employing descriptive statistics, Pearson correlation analysis, and mediating effect analysis. The mediating effect was tested and verified using causal stepwise regression. The study sample comprised 1,092 patients who visited primary healthcare institutions in China within the past six months. The correlation analysis showed a positive correlation between professional ethics and patient commitment and a significant positive correlation between professional ethics and patient satisfaction. This study also found that there is a positive correlation between patient commitment and patient satisfaction. Multiple linear regression analysis indicated that patient commitment mediates the relationship between professional ethics and patient satisfaction. The professional ethics of healthcare provider directly influence patient satisfaction and affect it indirectly through patient commitment. Measures to enhance the level of professional ethics, such as establishing ethics and conduct records, can increase patient commitment and improve patient satisfaction to a certain extent.

Keywords: primary healthcare institutions, professional ethics, patient commitment, patient satisfaction

1. Introduction

In today's healthcare landscape, advancements in medical technology have led patients to emphasise the quality of medical services and the positive experiences of healthcare providers. In the healthcare industry, establishing long-term, positive doctor-patient relationships is essential.

Hospitals must enhance service quality and build strong patient trust to improve patient commitment and satisfaction (Shie et al., 2022). Research on patient satisfaction reflects the hospital's patient-centred management philosophy in medical services and is a vital tool for dynamic management (Liu, 2014). Customer satisfaction is a fundamental determinant of long-term customer behaviour in any organisation, and this is equally true in healthcare, where patient satisfaction is crucial for maintaining and developing quality health services (Karin and Hanoku, 2022). Measuring and evaluating hospital service quality based on patient satisfaction and experience reflects patients' genuine feelings and expectations (Sandra et al., 2017), helps identify issues in hospital management, effectively improves service quality, enhances hospital performance, and promotes the development of the healthcare sector.

Current research on factors influencing patient satisfaction focuses on the quality, attitude, and efficiency of healthcare provider's services, with relatively few studies examining the aspect of professional ethics. Additionally, a few studies explore the role of patient commitment in the relationship between healthcare provider's professional ethics and patient satisfaction. Furthermore, most existing studies on patient satisfaction concentrate on tertiary hospitals in urban areas, with limited attention to primary healthcare institutions. As a critical component of China's healthcare system, improving the service quality of primary healthcare institutions will significantly advance the construction of China's medical services. Studies have shown that enhancing patient commitment facilitates long-term and continuous treatment by healthcare providers, improving patient outcomes (Huang et al., 2021). Only when patients fully trust healthcare providers will they recognize the value of healthcare services and be willing to establish a long-term loyal relationship (Huang et al., 2021). Professional ethics are the soul of healthcare providers, affecting the hospital's image and the vital interests of patients (Feng et al., 2017). Patients often regard their doctors as trustworthy experts, and this trust can be influenced by the quality, cost, communication, and coordination of their healthcare experiences (Jones et al., 2022). Healthcare providers with high levels of professional ethics focus more on communication and respect for patients during treatment (Markose et al., 2016), earning patients' trust more quickly.

Therefore, effectively enhancing the professional ethics of healthcare providers is of great significance for advancing patient treatment processes and developing healthcare services in China. This aligns with the "Healthy China" strategy, which aims to provide higher-quality and more efficient healthcare services. Based on this, the present study aims to explore the relationship between healthcare provider's professional ethics and patient satisfaction and analyze the mediating role of patient commitment in this relationship, providing insights to improve patient satisfaction.

2. Literature review and research hypotheses

Professional ethics

Professional ethics comprise a set of principles and standards that define the behaviour of healthcare providers both individually and collectively (Hoseinaliabadi et al., 2022). Physicians, nurses, and other healthcare providers must integrate these crucial ethical standards and

professional principles into their healthcare services, adhering to them voluntarily and diligently (Hoseinaliabadi et al., 2022), even without external requirements or legal penalties (Habibi et al., 2022). Professional ethics encompass honesty, trustworthiness, compassion, selflessness, and, most importantly, doing the right thing even when challenging (Lyon, 2021). Healthcare providers should regard life, human health, happiness, and alleviating patient suffering as valuable and meaningful endeavours (Lyon, 2021). Haleh et al. (2019) proposed six principles of professional ethics: respecting patient autonomy, beneficence, non-maleficence, justice, honesty, and patient privacy, emphasizing that adherence to these principles can enhance the quality of care and patient satisfaction. This is because a physician's professional ethics influence their sincere attitude and effective communication with patients (Ge et al., 2022).

In hospital management, developing professional ethics is critical to building healthcare providers' professional ethics (Yuan, 2023). Wu et al. (2020) constructed an ordered multinomial logistic regression model to analyze samples from outpatient patients in a tertiary hospital in Beijing, concluding that professional ethics positively impact overall patient satisfaction. Zhao et al. (2020) conducted a survey of inpatients in three tertiary hospitals in Qiqihar City and found that higher scores in professional ethics dimensions significantly positively affected overall patient satisfaction. These studies confirm that the level of professional ethics among healthcare providers influences patient satisfaction. However, most of these studies focus on tertiary hospital healthcare providers' professional ethics, with limited research on primary healthcare institutions in China. Therefore, we aim to verify further and explore the relationship between professional ethics and patient satisfaction, proposing the following hypothesis.

Hypothesis 1: The professional ethics of healthcare providers have a direct positive impact on patient satisfaction.

Durmuş and Akbolat(2020) indicated two approaches to handling patient satisfaction: the first is providing specific satisfaction from the first use of the service, and the second is the overall satisfaction generated after multiple uses of the service. The former represents momentary perception, while the latter focuses on the experience over time, contributing to the formation of patient commitment and potentially further fostering the relationship between patients and healthcare providers or institutions. Ludewigs et al. (2022) pointed out that the doctor-patient relationship is a fiduciary relationship built on trust or confidence, making healthcare providers trustees of patients' medical welfare. Given patients' relative lack of knowledge in the medical field, they heavily rely on and trust healthcare providers' decisions. This reliance means that healthcare providers are responsible for disclosing relevant information about patients' conditions and subsequent treatments. When healthcare providers possess high levels of professional ethics, they are more inclined to responsibly provide practical treatment recommendations, generating positive medical experiences for both first-time and repeat patients. This, in turn, fosters a psychological attitude and practical behaviour of willingness to repeatedly use medical services, thereby creating and nurturing patient commitment. Thus, we propose the following hypothesis.

Hypothesis 2: The professional ethics of healthcare providers positively influence patient commitment.

Patient commitment

Patient commitment refers to the trust-based relationship between healthcare providers and patients, manifesting as both attitudinal and behavioural commitment, where patients are willing to seek services from a specific hospital (Huang et al., 2017) repeatedly. Highly committed patients are likely to return to the same healthcare provider, spread positive word-of-mouth, and recommend the provider to others. This positive word-of-mouth can, in turn, enhance the healthcare provider's brand image (WEI et al., 2017). Research by WEI et al. (2017) shows that satisfaction is a crucial determinant of patient commitment, directly resulting from patient satisfaction. Similarly, studies by Zhou et al. (2023) indicate that patient satisfaction positively influences patient commitment. Research by Norazah and Norbayah(2011) confirms the relationships among patient satisfaction, trust, and commitment to healthcare providers. Patient satisfaction and trust, influenced by the provider's reputation, strengthen patient commitment. A positive reputation enhances satisfaction and trust, further reinforcing patient commitment. Strong patient commitment necessitates a trust-based relationship between patients and healthcare providers (Hansen et al., 2020). Moreover, studies suggest successful patient outcomes depend on patient expectations and commitment (Heineman et al., 2020).

Adela et al. (2022) and colleagues, in their study of the relationship between personal and organizational factors, organizational commitment, and job satisfaction among shipyard workers in northern Spain, noted that organizational commitment reflects the degree to which employees identify with their organization. This identification can boost work enthusiasm, with highly committed employees exhibiting strong commitment and positive attitudes toward the organization. Such employees are less likely to quit due to their emotional attachment to the organization, perceiving organizational support and being influenced by organizational commitment, thereby being willing to contribute more. Udayan and Praveen(2019), in their study on the relationship between employee satisfaction, commitment, and organizational performance in the Indian manufacturing sector, proposed that positive emotional attachment to the organization positively impacts job satisfaction.

Based on these findings on organizational commitment and employee satisfaction, we can hypothesize a similar relationship between patient commitment and patient satisfaction. When patients have a high level of identification and positive emotional commitment to a healthcare institution and its providers, they are more likely to establish ongoing and close relationships, maintaining long-term engagement. This process enhances patient trust and reliance on healthcare providers' decisions, improving patient adherence, facilitating treatment processes, and increasing patient satisfaction. Therefore, we propose the following hypothesis.

Hypothesis 3: Patient commitment positively influences patient satisfaction.

Patient satisfaction

Patient satisfaction refers to the subjective evaluation of healthcare services based on the expectations arising from an individual's needs related to health, illness, and quality of life (Lin et al., 2018). It reflects the ultimate outcomes of healthcare services (Wu et al., 2020). Goodrich and Lazenby (2023) summarize patient satisfaction as the response or result of interactions between patients and healthcare providers. They emphasize that it is not a post-treatment evaluation but an ongoing assessment during the healthcare process, measuring the current relationship between patients and healthcare providers.

Communication between healthcare providers and patients is a common factor influencing patient satisfaction. Studies have found that communication about medications and attentiveness to patient concerns are linked to patient satisfaction (Goodrich and Lazenby, 2023). Healthcare providers' responsiveness and their respectful and courteous treatment of patients also correlate with higher patient satisfaction (Goodrich and Lazenby, 2023). Audrain et al. (2019) showed that patient commitment is positively related to adherence to proposed treatments.

Previous research indicates that a hospital's brand image, directly and indirectly, affects patient commitment, and patient trust significantly influences this commitment (WEI et al., 2017). Norazah and Norbayah (2011) found that medical relationships often begin based on recommendations from family and friends, meaning that initial trust might stem from reputation.

Thus, patient satisfaction and trust are influenced by the doctor's reputation. If a healthcare provider is known for high levels of professional ethics, it could become a hallmark of the hospital, enhancing the provider's reputation and fostering positive word-of-mouth. This, in turn, might increase patients' trust in the hospital, improve their willingness to return, and boost their commitment. During this process, patients' trust in the hospital and healthcare providers is met with positive reinforcement, which sustains and strengthens their commitment (Eduardo et al., 2009). Patients repeatedly experience positive cognitive and emotional responses to the provided medical services, potentially increasing their satisfaction (Eduardo et al., 2009). Eduardo et al. (2009) introduced a patient commitment scale, including the dimension: "I will not give up this doctor's services, even if they make minor mistakes." Higher levels of patient commitment increase patients' tolerance for minor errors by healthcare providers (Durmuş and Akbolat, 2020), reducing negative emotions and providing more emotional support to healthcare providers. This support can help maintain and enhance professional ethics among healthcare providers. This analysis shows that healthcare providers' professional ethics may directly impact patient satisfaction and indirectly influence it through patient commitment. Thus, we propose the following hypothesis.

Hypothesis 4: The level of professional ethics of healthcare providers positively impacts patient satisfaction, with patient commitment serving as a mediator between the two.

3. Methodology

This study was conducted in February 2024 and focused on patients who had visited rural township health centres and urban community health service centres in Anhui Province, China, within the past six months. The survey covered 16 prefecture-level cities: Hefei, Huaibei, Bozhou, Suzhou, Bengbu, Fuyang, Huainan, Chuzhou, Lu'an, Ma'anshan, Wuhu, Xuancheng, Tongling, Chizhou, Anqing, and Huangshan. 1,092 valid questionnaires were collected through electronic surveys and field visits.

The survey questionnaire consisted of two parts. The first part gathered basic information about the respondents, comprising seven fundamental questions. The second part included 16 items across three variables: professional ethics, patient commitment, and patient satisfaction. Specifically, there were five items for professional ethics, 6 for patient commitment, and 5 for patient satisfaction.

The scales for professional ethics and patient satisfaction were not developed from scratch. Instead, they were adapted from existing scales with modifications and innovations, a process that ensures thoroughness and reliability. These scales have Cronbach's alpha coefficients of 0.963 and 0.972, respectively, indicating high reliability. The specific items in the scales are detailed in Table 1.

TABLE1: The measurement items for each variable in the questionnaire

Dimension	Measurement items	References
Professional ethics	Healthcare providers practice medicine in accordance with the law. Healthcare providers are dedicated and committed to their work. Healthcare providers maintain integrity and avoid corruption. Healthcare providers strive to provide the best care for their patients. Healthcare providers offer warm and attentive service.	Chai (2017)
Patient commitment	I want to keep the relationship with my medical doctor into the future. I am very committed to my current doctor. The relationship I have with my doctor deserves all my effort to keep it. Even if I have new alternatives, I would not quit visiting this doctor. If somebody would criticize my doctor, I would emphasize his positive traits.	Eduardo et al. (2009)

	I would not abandon this doctor's services even though he would make small mistakes.	
Patient satisfaction	Overall, I am satisfied with this medical visit. I am willing to recommend the healthcare providers from this primary healthcare institution to others. I will choose these healthcare providers again for future visits. I believe choosing these healthcare providers was a wise decision. The service provided by the healthcare providers exceeded my expectations.	Mao et al. (2020)

Each variable, professional ethics, patient commitment, and patient satisfaction was measured on a five-point Likert scale. Scores ranged from 1 to 5, representing “strongly disagree,” “disagree,” “neutral,” “agree,” and “strongly agree,” respectively. Higher scores indicated higher perceived levels of professional ethics, patient commitment, and patient satisfaction.

The study utilized SPSS 23.0 software for descriptive statistical analysis, Pearson correlation analysis, and mediating effect analysis. The mediating effect was tested and validated using the causal step regression method proposed by Baron and Kenny in 1986, a classic approach in mediating analysis (Baron and Kenny, 1986).

4. Results

Among the surveyed respondents, there were 501 males and 591 females. The age distribution was as follows: 365 respondents were ≤30 years old, 231 were aged 31-40, 249 were aged 41-50, 131 were aged 51-60, 64 were aged 61-70, and 52 were over 70 years old. Most respondents held a bachelor's degree, with 370 individuals (33.9%). Regarding occupation, there were 249 corporate employees, 204 students, 168 freelancers, and 157 government or public institution employees. Regarding health insurance, 426 respondents had urban employee medical insurance, 278 had new rural cooperative medical insurance, and 207 had urban resident medical insurance, accounting for 39.0%, 25.5%, and 19.0%, respectively. There were 503 respondents with urban household registration and 589 with rural household registration. Additionally, 913 respondents (83.6%) were first-time visitors, and 179 (16.4%) were returning patients. The mean scores for the dimensions were professional ethics 21.35±3.59, patient commitment 24.73±4.90, and patient satisfaction 21.00±3.72 (Table 2).

TABLE2:The general circumstances of patients surveyed in primary healthcare institutions/n (%)

Demographics	Grouping	n (%)
Gender	Female	501 (45.9)
	Male	591 (54.1)
Age	30 and below	365 (33.4)
	31-40	231 (21.2)
	41-50	249 (22.8)
	51-60	131 (12.0)
	61-70	64 (5.9)
	Over 70	52 (4.8)
Educational level	Illiterate	53 (4.9)
	Primary school	97 (8.9)
	Junior high school	216 (19.8)
	High school	117 (10.7)
	Technical secondary school	178 (16.3)
	Bachelor's degree	370 (33.9)
	Master's degree and above	61 (5.6)
Occupation	Corporate employee	249 (22.8)
	Student	204 (18.7)
	Soldier	4 (0.4)
	Government or public institution employee	157 (14.4)
	Farming	142 (13.0)
	Freelancer	168 (15.4)
	Other	168 (19.4)
	Health care type	Urban employee health insurance
New rural cooperative medical insurance	278 (25.5)	
Urban resident medical insurance	207 (19.0)	
At his own expense	92 (8.4)	
At public expense	11 (1.0)	
Commercial insurance	16 (1.5)	
Other	62 (5.7)	
Location	Urban	503 (46.1)
	Rural	589 (53.9)

The situation of outpatient visits	First visit	913 (83.6)
	Return visit	179 (16.4)
Professional ethics score (5 items)		21.35±3.59
Patient commitment score (6 items)		24.73±4.90
Patient satisfaction score (5 items)		21.00±3.72

The results of the correlation analysis are presented in Table 3. The analysis indicates a positive correlation between professional ethics and patient commitment ($r=0.503$, $p<0.01$); a significant positive correlation between professional ethics and patient satisfaction ($r=0.603$, $p<0.01$); and a significant positive correlation between patient commitment and patient satisfaction ($r=0.612$, $p<0.01$). These results suggest that the conditions for mediating analysis are met, supporting hypotheses 1, 2, and 3.

TABLE3: The correlation analysis table showing the relationship between pairs of variables in the study

	Professional ethics	Patient commitment	Patient satisfaction
Professional ethics	1		
Patient commitment	0.503**	1	
Patient satisfaction	0.603**	0.612**	1

** $p<0.01$

The results of multiple linear regression (Table 4, Figure 1) suggest that patient commitment may mediate between professional ethics and patient satisfaction. The linear regression of patient satisfaction on professional ethics yielded $F=624.094$, $p=0.000$, indicating that the regression model is significant. The t-test value for professional ethics was 24.98, $p=0.000$, indicating that the regression coefficient is significant, with a standardized regression coefficient of 0.60, implying that in the model $Y=cX+e1$, $c=0.60$. The linear regression of patient satisfaction on patient commitment and professional ethics yielded $F=525.527$, $p=0.000$, indicating that the model is significant; the t-test for the regression coefficients of patient commitment and professional ethics were both significant ($p<0.05$), with $c'=0.40$ and $b=0.41$. The regression of patient commitment on professional ethics yielded $F=369.293$, $p<0.001$, indicating that the regression equation is significant; the t-test value for the regression coefficient of professional ethics was 19.22, $p=0.000$, indicating that the regression coefficient is significant, with a coefficient $a=0.50$. Thus, the mediating effect of “professional ethics” on “patient satisfaction” is not completely through the mediator “patient commitment”; “professional ethics” also has a partial direct effect

on “patient satisfaction.” Specifically, after including patient commitment, the coefficient c' is less than c , indicating that patient commitment partially mediates the relationship between professional ethics and patient satisfaction, with the mediating effect accounting for approximately 34.2% of the total effect ($a \times b / c$). This supports hypothesis 4.

TABLE4: The results of the mediating effect analysis in the multivariate linear regression test

	Professional ethics			
	β	SD	t	p
a	0.50	0.04	19.22	0.000
b	0.41	0.02	16.49	0.000
c	0.60	0.03	24.98	0.000
c'	0.40	0.03	15.83	0.000

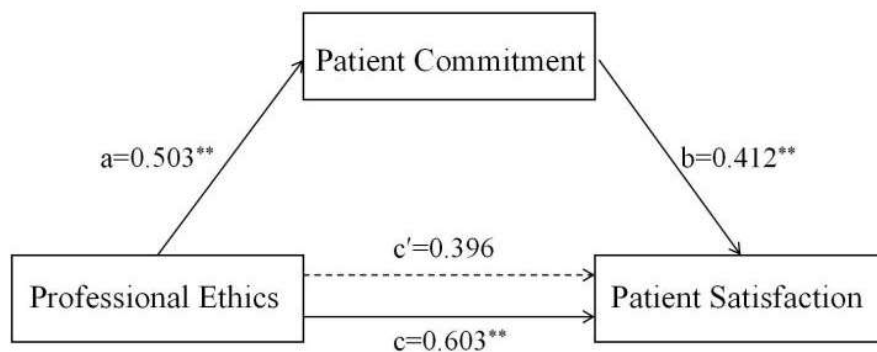


FIGURE 1 Causal stepwise regression test results for mediating effect

5. Discussion

The scores for professional ethics among healthcare providers in China’s primary healthcare institutions (21.35 ± 3.59) and patient satisfaction (21.00 ± 3.72) are relatively high. This indicates that most patients perceive a high level of professional ethics from healthcare providers in primary healthcare institutions and consequently experience high satisfaction with their medical care. The study also found a significant positive correlation between healthcare providers’ professional ethics and patient satisfaction ($r = 0.603, p < 0.01$), with patient commitment significantly mediating this relationship. This suggests that enhancing healthcare providers’ professional ethics is crucial for promoting patient commitment and satisfaction.

There are two potential pathways in the relationship between healthcare providers’ professional ethics and patient satisfaction. First, professional ethics directly impact patient satisfaction. Patient satisfaction reflects the patient’s experience with the healthcare service. Healthcare providers with high levels of professional ethics are likely to focus on effective communication, dedication to duty, and a patient-centred approach, all of which positively influence the patient’s experience and satisfaction. Second, professional ethics can affect patient

commitment, influencing patient satisfaction. Patient commitment is based on trust in healthcare providers. As Shaya et al. (2019) stated, “trust may initially be based on reputation.” Healthcare providers with high levels of professional ethics are more likely to earn patients’ trust, leading to patient commitment. Repeated positive experiences with the same healthcare providers increase patient compliance, facilitate ongoing treatment and rehabilitation monitoring, and improve the efficiency of disease recovery, thereby enhancing patient satisfaction.

However, this study has some limitations, such as being restricted to a specific region. It is crucial that future research expands to include different regions of China to gain a comprehensive understanding of the real levels and influencing factors of professional ethics in the healthcare field. This urgent need for broader research will provide a solid foundation for developing training, education, practice, and intervention strategies to improve the management of healthcare institutions, stabilize the medical workforce, and support the high-quality development of the healthcare sector.

6. Conclusion and recommendations

This study identified the direct impact of healthcare providers’ professional ethics on patient satisfaction and uncovered the mediating role of patient commitment. The findings contribute to a better understanding of how professional ethics in China’s primary healthcare institutions affect patient satisfaction. They also provide insights into patients’ current needs and satisfaction levels in primary healthcare institutions, which can aid in promoting healthcare reforms in China.

Primary healthcare institutions should establish comprehensive records on professional ethics, taking strict measures against healthcare providers with severe ethical violations following relevant regulations. This approach will help correct behaviours that contradict the core principles of medical services while enhancing and improving healthcare providers’ moral standards in both thought and action. Primary healthcare institutions should regularly offer training on moral development and proactively establish ethical guidelines for their staff to strengthen team ethics (Cheng et al., 2023), resist unethical behaviours, and reward ethical conduct. Additionally, primary healthcare institutions should focus on evaluating candidates’ traits, particularly their moral qualities, during the recruitment and hiring processes. The human resources departments can incorporate relevant ethical assessment scales into written exams or psychological tests to gauge candidates’ moral standards (Mao and Li, 2018).

The ethical atmosphere within primary healthcare institution organizations can enhance and regulate the social-moral learning of individual healthcare providers (Yuntao et al., 2019), improving their work conditions. Primary healthcare institutions can create a positive organizational environment and ethical atmosphere by fostering a harmonious team culture and excellent organizational climate (Chen et al., 2022). This approach promotes better communication and interaction among staff, helping them develop into healthcare providers with higher ethical standards. By offering high-quality professional care and compassionate service, patients will feel

more warmth and humanity in their treatment, contributing to a positive medical environment and increased patient satisfaction.

Primary healthcare institutions should focus on building their reputation, as their brand image, directly and indirectly, impacts patient commitment. A solid primary healthcare institution brand increases patient commitment and trust and enhances perceived service quality, leading to higher patient satisfaction and increased willingness to return for future care [20]. This, in turn, boosts patient compliance and commitment.

Every qualified professional needs to possess both proficient skills and high moral standards. As an ancient saying goes, “Medicine is a benevolent art; without virtue, it cannot stand.” Maintaining high ethical standards is crucial for healthcare providers in a field that directly involves saving lives. The medical profession’s core responsibility is to safeguard human life and health, and the level of professional ethics directly affects the outcomes of disease prevention and treatment. Modern medical oaths emphasize the duty to protect life and health, requiring healthcare providers always to remember their mission and responsibility.

Healthcare providers should practice caring for patients, providing appropriate treatments, maintaining integrity, continuously improving their medical skills, and upholding ethical and technical excellence (Feng et al., 2017). By adhering to medical professionalism and the ethical standards of primary healthcare institutions, they can earn patients’ respect and trust. Paying attention to patients’ physiological and psychological changes during illness is essential, as well as providing them with emotional support and comfort to reduce stress and negative emotions. This approach boosts patients’ confidence and satisfaction with their care, offering comprehensive professional and emotional support (Guo et al., 2023). Enhancing communication with patients, particularly regarding medication use, can increase their commitment to treatment and improve compliance (Paskins et al., 2021). Such ethical conduct fosters a culture that values professional ethics and promotes a positive atmosphere in the healthcare industry.

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