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Survey on the perceptions of Asian endoscopists to artificial intelligence

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Abstract

Background Recent studies have demonstrated the potential of artificial intelligence (AI) in diagnostic and therapeutic endoscopy for managing gastrointestinal diseases. However, there is limited knowledge of the perspective of endoscopists towards AI technology, particularly in the Asian community. This study aims to bridge this knowledge gap to guide policymakers, healthcare providers, and technology developers through an Asia AI Task Force.

Methods An online survey of 45 questions exploring (a) the perceived benefits of AI in endoscopy, (b) the barriers to adopting AI in endoscopy, (c) the priority areas and barriers to research in AI endoscopy, as well as (d) priorities for an Asia AI Task Force were distributed between November 2022 and May 2023 to endoscopists from sixteen medical institutes across ten Asian regions.

Results A total of 293 participants completed the survey. Two-fifths (41.98%, $n = 123$) report no prior exposure to AI endoscopy. The majority (73.2%, $n = 90/123$) of those without prior AI exposure express concerns about the accountability of AI and its impact on working practices. Almost all participants agree that AI enhances quality improvement (90.8%, $n = 266$) and leads to better diagnosis (90.4%, $n = 265$). 69% ($n = 202$) identify "staying up to date with AI advances" as the top challenge towards clinical adoption of AI. Notably, those without prior AI exposure express high concern regarding accountability for the wrong diagnoses (73.2% vs. 60.6%, $p = 0.03$) and lack of clinical trials (76.4% vs. 57.1%, $p = 0.001$). Most respondents prioritise developing a reference paper guide for clinicians interested in AI (81.2%) and supporting funding applications for AI research (81.5%) as key areas that an Asia AI Endoscopy task force should address.

Conclusions The survey results from Asian endoscopists emphasise the pressing need for collaborative frameworks and educational initiatives, including establishing an Asia AI Task Force, to facilitate the successful integration of AI in endoscopy practice and research across the region.

Plain language summary

Endoscopy is a medical procedure in which a flexible tube with a camera at the end is used to look inside the body. Artificial intelligence (AI) is now used during endoscopy to help doctors diagnose and treat diseases of the digestive system. However, little is known about how specialists who perform these procedures feel about using AI, especially in Asia. We surveyed 293 specialists who undertake endoscopies from ten Asian regions to explore their views. Many believed AI could improve diagnosis and patient care, but those without prior experience using AI in endoscopy raised concerns about responsibility for errors and the lack of strong clinical research. Our study shows that collaboration and education are needed to successfully introduce AI into medical practice across the region.

In recent years, there have been remarkable advancements in artificial intelligence (AI) assisted technology for endoscopic procedures[1–3]. Endoscopy is critical in diagnosing, treating, and surveilling gastrointestinal (GI) diseases. AI-assisted endoscopy relies on computer algorithms and, with the rapid development of machine learning and deep learning[4,5], has the potential to enhance the accuracy of diagnoses, increase efficiency, and improve patient outcomes. In upper GI endoscopy, AI detects and delineates lesions with dysplasia to diagnose oesophageal and gastric cancer and its premalignant lesions[2,3,6]. In colonoscopy, multiple systems have been developed to improve polyp detection[7] and the classification of polyps[8]. It is

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also being utilised in small bowel evaluation via video capsule endoscopy[9]; AI can help improve images obtained and assess the mucosal surfaces in conditions such as celiac disease[10] to help detect lesions and assess intestinal motility.

With the rapid expansion in this field, the European Society of Gastrointestinal Endoscopy (ESGE)[11] and the American Society for Gastrointestinal Endoscopy (ASGE)[12,13] have each formed an AI task force to guide the use and further research. However, the successful implementation of AI systems in endoscopy relies not only on technological capabilities but also on understanding and addressing the perceptions and concerns of healthcare professionals.

The experiences and perceptions of gastroenterologists in the United Kingdom (UK)[14] and the United States (US)[15,16] obtained through surveys showed interest in this developing field. They also shed light on physicians' concerns with implementing AI technologies in endoscopy. Due to cultural differences, the practices and mindset of physicians in these Western countries may differ from that of physicians practising in Asian countries in terms of willingness to integrate AI into clinical practice. There may also be differences in the infrastructure, education and training initiatives provided to physicians for adopting AI-assisted endoscopy. While numerous studies worldwide have explored the implications of AI in endoscopic procedures, a notable gap exists in understanding the perspectives of endoscopists within the Asian community towards this transformative technology.

This study thereby aims to bridge this knowledge gap by investigating the attitudes and perceptions of Asian endoscopists towards AI in endoscopy. The primary objective of this research is to gain insights into how endoscopists in Asia perceive the benefits and barriers associated with adopting AI in their clinical practice. Furthermore, the study explores the priorities and challenges these medical professionals encounter in AI research, shedding light on their perspectives on establishing an Asia AI Task Force to address the above issues.

In this survey, two-fifths of participants report no prior exposure to AI in endoscopy, with most of these individuals expressing concerns about accountability and the impact of AI on clinical workflows. Nearly all respondents agree that AI improves quality and diagnostic accuracy in endoscopy. Staying abreast of AI advancements stands out as the greatest challenge to clinical adoption. Notably, participants without prior AI experience express heightened concern about accountability for diagnostic errors and the limited number of clinical trials. Most respondents prioritise the development of clinician reference guides and support for funding applications as key goals for an Asia-Pacific AI Endoscopy Task Force.

Methods

Study design

This study employed a cross-sectional survey design to assess the perception of Asian endoscopists towards AI in endoscopy. The survey questions were formulated after literature synthesis, in particular references 14-16 and 20, by authors (SQ, LL, SSM), and then organized to themes (a) Perceived benefits of AI, (b) Perceived barriers to implementation, (c) Barriers to adoption, (d) Barriers to use, (e) Barriers to research, (f) Priorities for AI research, and (g) Priorities for Asia taskforce. The questions were then reviewed by a focus group of three endoscopy experts (CK, JS, JL) after consensus discussion, focusing on refining the questions to tailor the Asian endoscopists' perspectives. Following which an initial pilot was conducted (National University Hospital, Singapore) and minor adaptations were made to refine the study before its finalisation, such as using a 5-point Likert scale for all questions to improve granularity and including all endoscopists, not just gastroenterologists to reflect real-world endoscopy practice in Asia, where non-GI specialists often perform procedures.

Participants

A diverse cohort of 301 endoscopists from 16 sites across various Asian countries participated in the study. Recruitment was through a combination of purposive and snowball sampling methods. Invitations were distributed through open invitation to various medical associations such as the Asian Pacific Association of Gastroenterology, Malaysian Society of Gastroenterology & Hepatology, Gastroenterological Society of Singapore, Hong Kong Society of Gastroenterology, Korea Society of Gastroenterology, Japanese Society of Gastroenterology, Philippines Society of Gastroenterology, and others. Additionally, invitations were sent to endoscopists who had previously participated in regional conferences, such as the Asia Pacific Digestive Week (APDW), GIHep Singapore, and the International Digestive Endoscopy Artificial Intelligence Symposium. Participants had to be practicing endoscopists in an Asia-Pacific country. Participants provided information on their country of practice, sector (public or private), years of professional experience, and the number of colonoscopies performed. Seven responses were excluded due to a zero variance (neutral responses for all questions >90% of the time), leaving 293 respondents for the subsequent analysis (Table S1).

Survey instrument and data collection

The final questionnaire comprised 45 questions, employing a 5-point Likert scale (Supplementary Methods). Thematic areas covered included exposure to AI in endoscopy, perceived benefits, barriers to clinical adoption, experiences with AI research, and priorities for AI research in endoscopy. Survey participants were required to answer all questions. The survey was conducted in English. An a priori consensus threshold of >70% agreement or strongly agree was set for determining participant support for statements (Table S2).

The survey was distributed over six months, from November 2022 to May 2023. Participants accessed the survey online through Qualtrics hosted by the National University of Singapore Information Technology. Implied consent was given by the participants when they read the information in the pre-amble and agreed to complete the survey.

Ethical approval was obtained from the National Healthcare Group (NHG) Domain Specific Review Board (DSRB) (Ref. 2022/00366).

Data Analysis

Quantitative data analysis employed descriptive statistics, and comparative analyses were conducted using appropriate statistical tests. Categorical data were reported as proportions (percentages) and analysed through cross-tabulation statistics using the X2 test (or Fisher's exact test, where appropriate). A p-value of <0.05 indicates statistical significance. All statistical calculations were performed using RStudio V.1.1.1106[17].

Reporting summary

Further information on research design is available in the Nature Portfolio Reporting Summary linked to this article.

Results

Demographic characteristics of participants

The analysis included 293 participants, representing a diverse cohort of endoscopists from various Asian regions. The participants were from Hong Kong ($n = 54$), Singapore ($n = 49$), South Korea ($n = 45$), China ($n = 44$), Japan ($n = 32$), Philippines ($n = 24$), Vietnam ($n = 19$), India ($n = 15$), Malaysia, ($n = 8$) and Indonesia ($n = 3$) (Table S1). Participants from the public ($n = 75.8\%$, $n = 222$) and private sectors (24.2%, $n = 71$) were actively engaged, reflecting the varied healthcare landscapes across the region. Most participants (58.7%, $n = 172$) reported having less than ten years of professional experience, indicating a relatively early to mid-career profile. Despite their relatively shorter tenure, a noteworthy aspect of the cohort was the extensive procedural expertise demonstrated by the participants. A substantial proportion (63.8%, $n = 200$) reported performing more than 500 colonoscopies. This combination of diverse backgrounds, varied practice settings, and significant procedural experience sets the stage for a nuanced exploration of the perceptions of Asian endoscopists towards artificial intelligence in the subsequent sections of this report.

Participants' experience in AI

In exploring the participants' exposure to AI in endoscopy, it was observed that a substantial portion, constituting 42% ($n = 123$) of the respondents, had yet to encounter AI applications in their endoscopic practices. Notably, participants affiliated with public sector institutions were more likely to have experience with AI (67.2% vs 29.6%, $p = 0.01$, Table S1), suggesting a greater exposure to AI technologies in these healthcare settings. Among the participants identified as early adopters of technological advancements, a significant proportion (76.5%, $n = 130$) reported having direct exposure to AI in endoscopy. Specifically, of those exposed to AI applications ($n = 170$), 26.6% had received formal AI training, 12.8% had attended prior AI courses, and a noteworthy 83.5% had read AI research publications, indicating a proactive effort to stay informed about the latest developments in the field. The correlation between prior exposure to AI and participants' familiarity with AI research and methods is particularly striking. Participants with hands-on experience with AI endoscopy exhibited a higher awareness and understanding of AI principles, as evidenced by their self-perceived familiarity with existing AI methodologies (72.4% vs 28.5%, $p < 0.001$) (Fig. 1, Table S3).

Perceived benefits of AI in endoscopy

A consensus emerged among participants regarding integrating AI in endoscopy (Fig. 2). The survey revealed a convincing agreement, with 90.8% of participants expressing confidence that AI implementation would lead to significant quality improvement in endoscopic procedures. Similarly, 90.4% of respondents anticipated better diagnostic capabilities, underscoring the perceived potential of AI to enhance the accuracy and precision of clinical diagnoses. Furthermore, 81.9% of participants believed that AI in endoscopy could bring about automated reporting, streamline the documentation process, and potentially reduce the burden on healthcare professionals and enforce reporting standards in endoscopy. However, opinions were more nuanced regarding certain aspects of AI impact. Approximately 57.7% of participants expressed confidence that AI could contribute to faster endoscopy procedure times, suggesting a divergence in expectations within the surveyed group. Similarly, 50.9% believed that integrating AI might reduce the number of clinic appointments.

Barriers to AI clinical adoption: insights from participant responses

In exploring the perceived barriers to the clinical adoption of AI in endoscopy, participants provided valuable insights through responses to 16 questions (Fig. 3a). Only three barriers achieved >70% agreement: availability of devices with regulatory approval (82.3%), access to AI devices (79.5%), and lack of guidelines (74.1%). Further analysis revealed significant differences among participants with and without prior AI experience. Notably, those without prior exposure expressed high concern regarding accountability for the wrong diagnoses (73.2% vs 60.6%, $p = 0.03$) and lack of clinical trials (76.4% vs 57.1%, $p = 0.001$) (Fig. 3b). Other barriers identified that almost achieved 70% agreement included concerns about algorithm biases (67.2%), challenges to staying up to date with AI advances (68.9%), explainability of algorithms used (65.9%), lacking evidence for cost-effectiveness (69.6%) and procurement challenges (67.6%). Considerations with varied agreement include the potential on clinical workflow (57.3%) and potential ethical implications (54.3%).

Priority areas and barriers for AI research in endoscopy

Participants identified three critical areas for AI research in endoscopy (Fig. 4a): (1) general quality improvement — 92.2% emphasised the need to prioritise research focused on enhancing the overall quality of endoscopic procedures through AI applications. (2) Real-time endoscopic image diagnosis — 85.7% recognised swift and accurate diagnostic processes as a critical research priority. (3) Automated reporting — 72% of the respondents underscored the importance of streamlining documentation processes and efficiently reporting findings through AI technologies. However, opinions varied on the prioritisation of Natural Language Processing (NLP), with only 64.5% agreeing, suggesting differing perspectives on the role of NLP in advancing AI applications in endoscopy.

While no specific barriers achieved consensus above 70%, notable trends and concerns were identified (Fig. 4b). More than two-thirds of respondents (69.3%) emphasised concerns about the availability of high-quality annotated data, emphasising the importance of robust datasets in training and validating AI algorithms. Financial considerations also emerged as a barrier, with 64.8% expressing concern about the resources

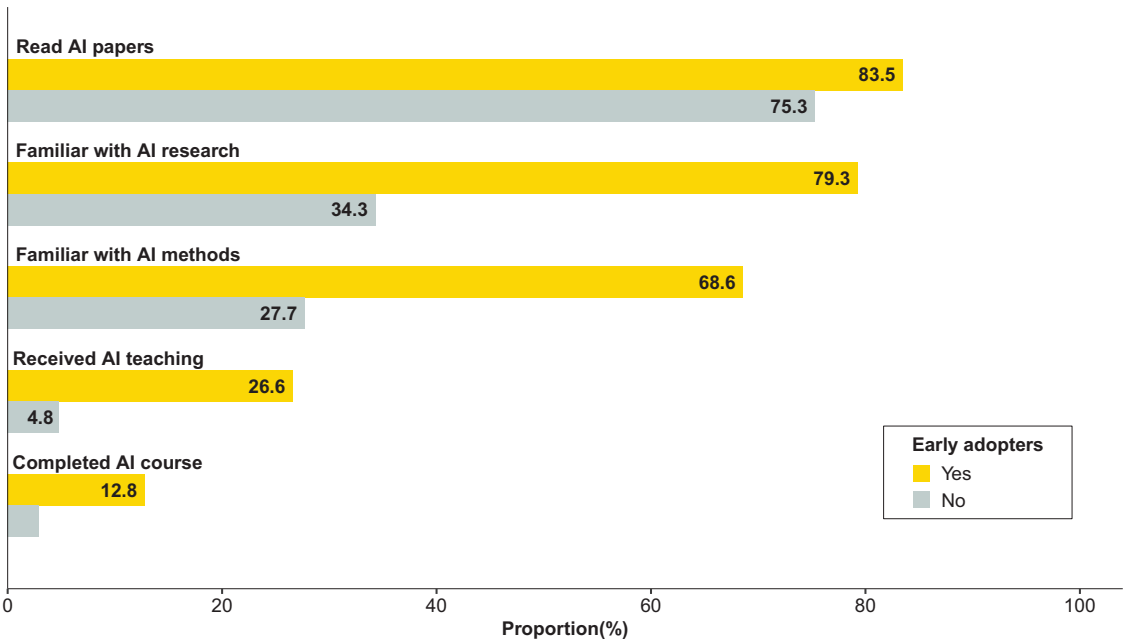

Fig. 1 | AI exposure of participants stratified by self-perceived early adopters of AI endoscopy. The proportion of participants engaged in various AI activities (completed AI course, received AI teaching, read AI papers) and familiar with AI research and methods, stratified by self-perceived early adopters of AI endoscopy (yellow) and participants that were not early adopters of AI (grey).

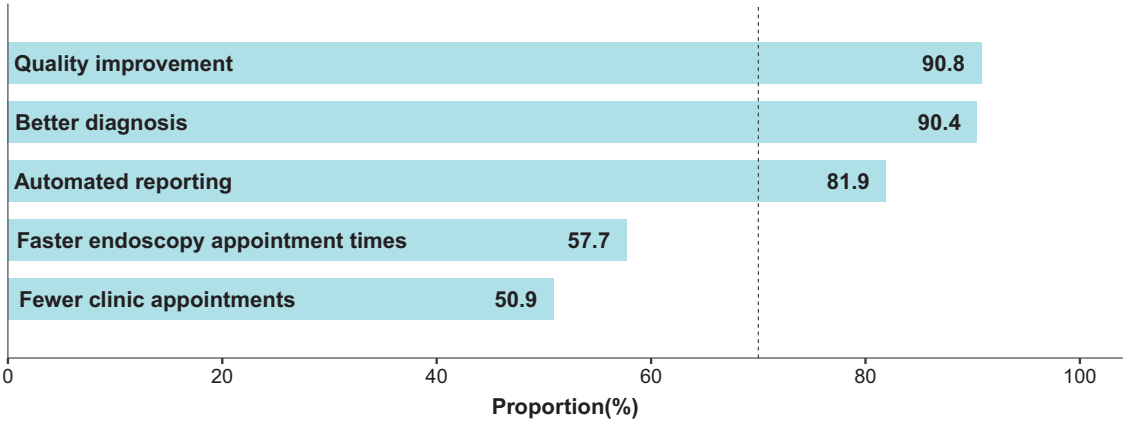

Fig. 2 | Unveiling perceived benefits of AI endoscopy. The proportion of participants agreed on the following perceived benefits (fewer clinic appointments, faster endoscopy procedure times, automated reporting, better diagnosis, and quality improvement). The horizontal dotted line marks >70 % consensus.

required to support AI research initiatives in endoscopy. However, less than half (45.4%) of the participants identified the involvement of commercial companies as a barrier, indicating a moderate concern about industry participation in research initiatives.

Of note, disparities among participants with prior AI exposure were noted, particularly in perceiving access to big data as a significant barrier (70% vs. 57.7%, $p = 0.04$) (Fig. 4c). This suggests that familiarity with AI technologies may influence the perception of data accessibility challenges.

Priority for Asia AI task force

Within the Asia AI Task Force priorities, a consensus was achieved among participants, with each of the nine posed statements garnering agreement surpassing the 70% threshold (Fig. 5a). The collective sentiments emphasised the imperative role of the task force in shaping the trajectory of AI applications in gastroenterology within the region. Specifically, participants acknowledged the need to actively identify research priorities (72.4%), highlighting the importance of steering the direction of AI applications through strategic research initiatives. Clear guidelines for adopting AI devices in clinical practice emerged as a priority (76.1%), underscoring the necessity for comprehensive frameworks to seamlessly integrate AI technologies into routine medical procedures. The endorsement of supporting multi-centre AI trials (79.9%) reflects a collaborative research approach, emphasising diverse perspectives and robust study designs for practical exploration of AI applications.

Furthermore, participants expressed the need for centralised resources, such as a dedicated webpage, to access up-to-date AI research (78.8%), recognising the dynamic nature of the field. Safety concerns were addressed through the call for a forum to report issues related to AI devices (78.5%), highlighting the proactive monitoring necessary for ensuring the safe implementation of AI technologies. Establishing a peer review process for AI research (80.2%) showcased a commitment to maintaining high scientific standards within the region. Additionally, participants stressed the importance of comprehensive training programs for using AI devices in clinical practice (79.2%), recognising the pivotal role of education in ensuring the effective and safe utilisation of AI technologies. A reference paper guide for individuals interested in AI (81.2%) was deemed essential for knowledge dissemination and accessibility. Lastly, there was overwhelming support for collectively backing funding applications for AI research (81.6%), acknowledging the financial resources required to propel advancements in AI applications. Notably, participants with no prior AI exposure placed a significantly higher emphasis on the development of a training program for using AI devices in clinical practice as a priority for Asian gastroenterologists (86.2% vs. 74.1%, $p = 0.02$) (Fig. 5b), underscoring the perceived importance of foundational education initiatives for those less familiar with AI technologies. In conclusion, the unanimous agreement on these priority statements illustrates a shared vision among participants for a collaborative and robust framework within Asia, facilitating the advancement of AI applications in gastroenterology.

Discussion

To our knowledge, our survey of 293 endoscopists from diverse Asian medical institutes is the first to evaluate the perceptions of clinicians practising endoscopy toward AI in the Asian region, providing a comprehensive understanding of the perceptions and experiences of AI in endoscopy. The demographic characteristic revealed a varied cohort, reflecting the regional diversity in terms of geographical representation and practice setting.

In examining participants' exposure to AI in endoscopy, a notable proportion had not encountered AI applications, indicating a need for broader integration. The association between AI exposure and affiliation with public sector institutions suggests a greater adoption of AI technologies in these settings. Early adopters, comprising a significant percentage of those exposed to AI, displayed active engagement with AI through training, courses, and research publications. This correlation highlights the importance of target educational initiatives to bridge the gap in AI awareness. However, only a quarter (28.2%) and one-sixth (14.1%) of all participants had attended either an organised AI teaching day or completed an AI course with certification, respectively.

Furthermore, our survey demonstrated that an increased proportion of AI-naïve participants worry more about accountability for AI-assisted diagnosis (73.2% vs 60.6%, $p = 0.03$, Fig. 3b). They also strongly emphasize the need for more clinical trial data (76.4% vs 57.1%, $p = 0.04$, Fig. 3b). These findings could represent that AI-naive endoscopists view AI as introducing new risks rather than supporting their clinical judgment. They prefer seeing concrete proof of benefits before adoption, unlike early adopters, who are more willing to embrace innovation with less evidence. This cautious attitude emerges from several understandable concerns common when adopting new medical technologies. Firstly, novice users often haven't had direct exposure to AI systems in clinical practice, making the technology seem abstract and potentially unreliable. Without practical experience, they struggle to appreciate how AI could enhance rather than replace their expertise. Thus, we thereby found participants with no prior AI exposure place a high emphasis on the development of a training program for using AI devices in clinical practice as a priority (86.2% vs 74.1%, $p = 0.02$, Fig. 5b), underscoring the perceived importance of foundational education initiatives for those less familiar with AI technologies. More should be done to explore the benefits of such courses, why so few clinicians have participated in such activities, and if there are enough opportunities for physicians interested in doing so. Through such courses and accreditation, a framework for AI can be taught, and it can build physicians' confidence and interest in using AI-assisted endoscopy.

The overwhelming consensus on the perceived benefits of AI in endoscopy aligns with the numerous previous studies demonstrating the

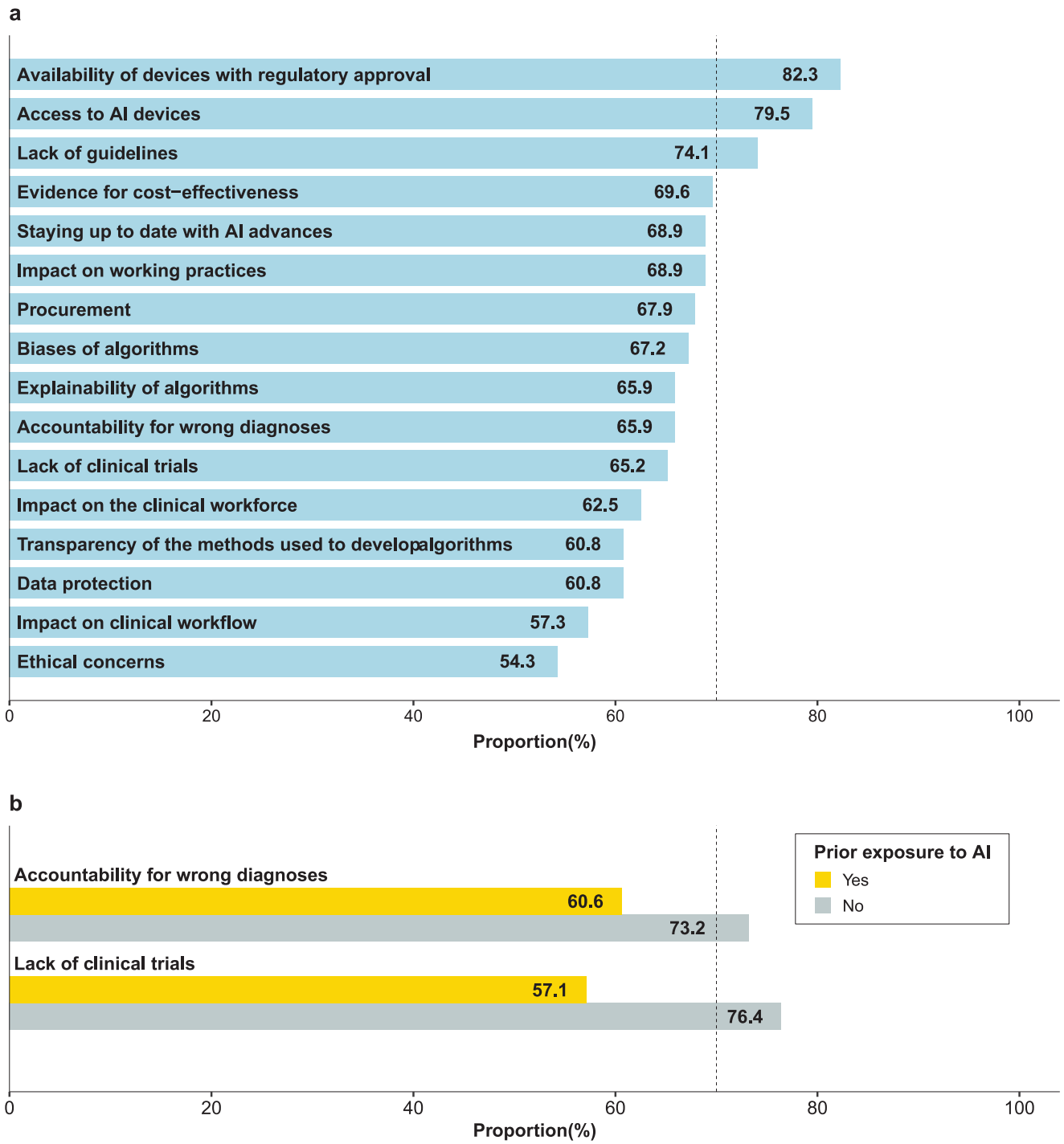

Fig. 3 | Barriers to AI clinical adoption. a Proportion of participants' perceived barriers to clinical adoption of AI in endoscopy. Of the 16 options, three barriers achieved the 70% consensus (dotted line), which included lack of guidelines, access to AI devices, and availability of devices with regulatory approval. **b** Compared to participants with prior exposure to AI (yellow), those without prior exposure (grey) were significantly more likely to perceive accountability for wrong diagnoses and lack of clinical trials as barriers to clinical adoption ($n = 293$).

benefits of AI in endoscopy to augment proceduralists in detection, lesion characterisation and even quality control. Here, the results highlight that participants foresee AI contributing significantly toward quality improvement, enhanced diagnostic capabilities and streamlined automated reporting. Furthermore, other studies[1,18] have reported perceived benefits of AI, including its speed and durable performance given that machines will not fatigue, in contrast to proceduralists whose performance may diminish with higher case volumes, and that the performance is heavily dependent on the individual endoscopist's skill and experience. However, nuanced opinions emerged regarding the impact on procedure time and clinic appointments, reflecting divergent expectations within the surveyed group.

Exploring barriers to AI clinical adoption revealed that key challenges perceived include device regulatory approval, access, and lack of guidelines. A higher proportion of participants without prior AI exposure expressed concerns about accountability, transparency and the need for clinical trials. These findings parallel international studies[19], emphasising the global need for more guidance in implementing AI-assisted endoscopy into clinical practice and addressing the difficulties faced when conducting research in

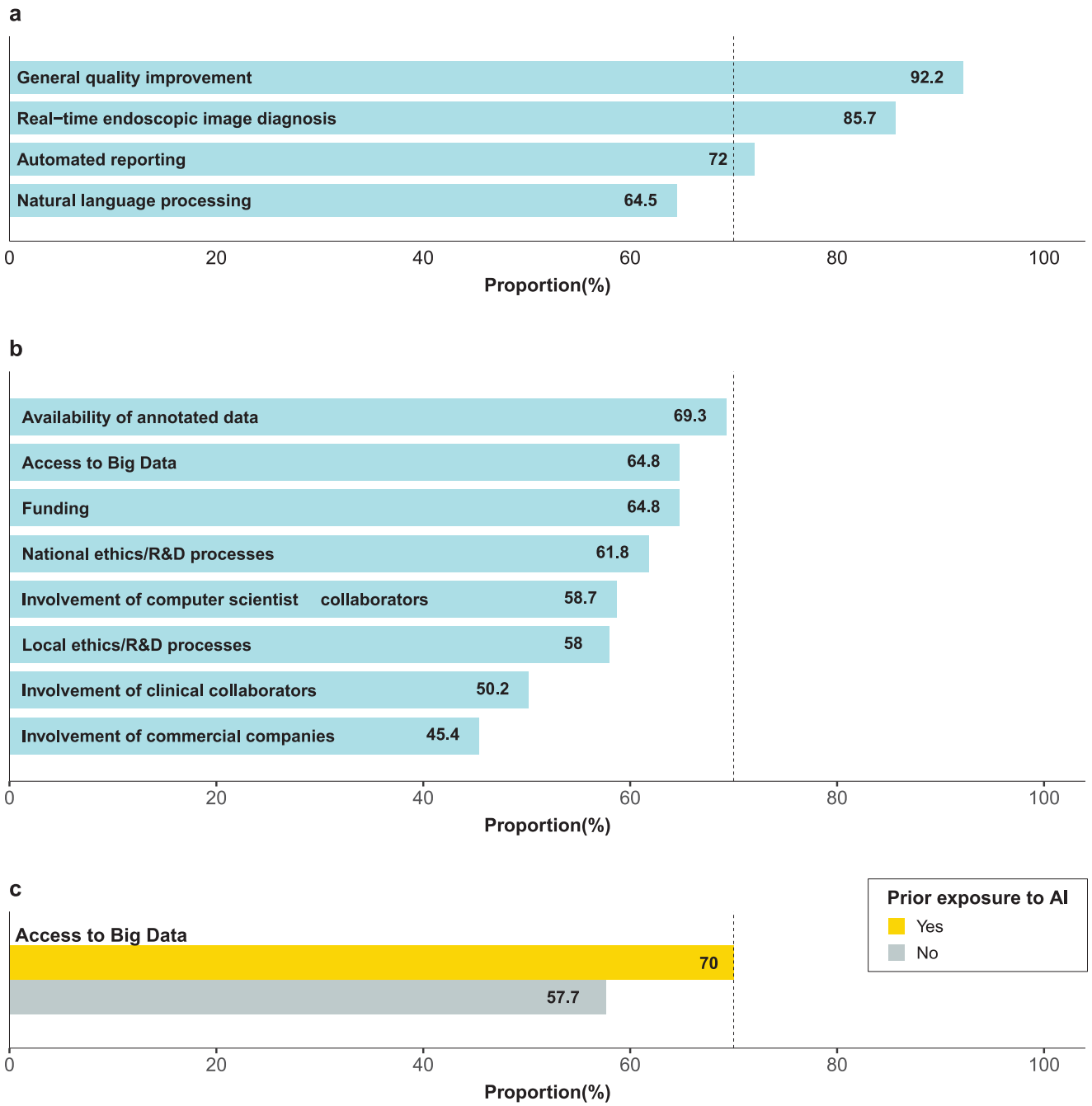

Fig. 4 | AI research in endoscopy. a The proportion of participants' who identified priority areas for AI research in endoscopy, of which 3 of the four statements achieved >70% consensus (dotted line). **b** Potential barriers for AI research in endoscopy, of which none of the eight proposed barriers achieved >70% consensus. **c** The proportion of participants' perceptions that access to big data is a significant barrier among participants with prior AI exposure (yellow) compared to those without (grey)($n = 293$).

this field. The observed disparities among participants with and without prior AI exposure underscore the influence of familiarity on perceptions, emphasising the importance of targeted education and awareness programmes. These were similar concerns raised by physicians in the studies done by Kader et al. in the United Kingdom[14] and Tian et al. in China[20], highlighting the need to address these issues.

Prioritising AI research in endoscopy, participants identified key areas such as general quality improvement, real-time image diagnosis and automated reporting. Notably, the perceived barriers to AI research, including annotated data availability and funding, highlight the need for infrastructure support and financial resources. The presence of an Asia AI Task Force is crucial, as indicated by the overwhelming agreement on priorities such as identifying research priorities, establishing guidelines, supporting multicentre trials and developing resources for up-to-date research. Though ASGE and ESGE have a guidance framework about the use of AI in clinical practice, there needs to be more guidance about AI research, and this is an area that should be developed.

When comparing our results with other similar studies done in UK[14] and US[15,16], we found that there was a shared enthusiasm for AI's potential benefits and agreement on key barriers such as accountability, guidelines, and research challenges. However, in the US, there is greater emphasis on cost and operator dependence. In contrast, Asia focuses on AI's impact on working practices and training needs, and the UK highlights accountability and bias concerns. The key similarities and differences in AI perception

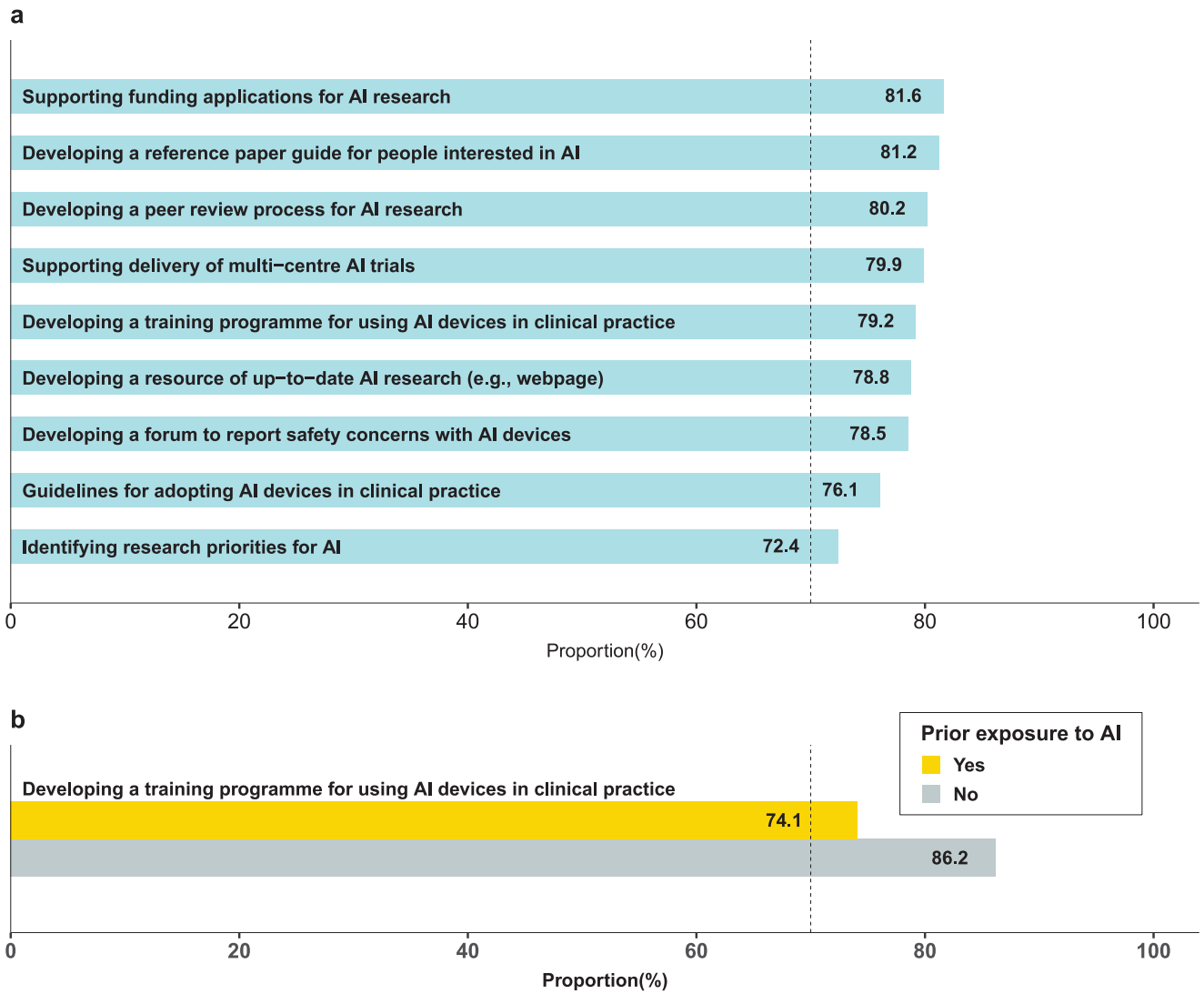

Fig. 5 | Priorities for the Asia AI task force. a Proposed priority areas for an Asia Pacific AI task force, in descending order of agreement. All nine proposed statements achieved >70% consensus (dotted line). **b** Participants with no prior AI exposure (86.2 %, grey) highlight the urgency of training programs for AI device use in clinical practice compared to those with prior AI exposure (74.1% yellow)($p = 0.02$, $n = 293$).

between Western and Asian countries have been summarised in tables S4 and S5, respectively. These variations likely stem from differences in healthcare systems, technological infrastructure, regulatory frameworks, and cultural perspectives.

While our study provides valuable insight, there are a few limitations of our study. First, regional variations within Asia and resource constraints need to be considered. AI adoption in endoscopy varies significantly across Asia, reflecting differences in healthcare infrastructure, resources, and policy support. Countries such as Japan, South Korea, and China are at the forefront of AI integration, driven by robust healthcare systems, strong government initiatives, and active academia-industry collaboration. These nations have developed proprietary AI systems for endoscopy, some of which are already clinically deployed, with ongoing studies refining their algorithms. Singapore and Hong Kong are also making steady progress, leveraging their advanced healthcare systems and placing emphasis on innovation. However, challenges such as cost and regulatory approval continue to influence the pace of adoption. Meanwhile, countries like Vietnam, the Philippines, and Indonesia face more significant barriers, including limited device accessibility, funding constraints, and insufficient training opportunities, which hinder widespread implementation. Notably, while Japan and China show high proportions of AI-experienced participants in our study, other sites in China, Korea, and Vietnam have only modest AI-experienced representation. This highlights the regional difficulties in achieving widespread clinical adoption despite leadership in AI development. Conversely, smaller geographic locations like Singapore and Hong Kong demonstrate successful localized adoption of AI in endoscopy. While our study did not explore inter- and intra-country disparities (e.g., urban vs. rural divides), such variations likely exist and represent an important area for future research. We acknowledge this as a limitation and emphasize the need for tailored strategies to bridge gaps in AI adoption across the region.

Furthermore, most participants were from tertiary academic centres. As AI endoscopy devices are being developed, supporting the cost of such equipment and its additional supporting infrastructure may be challenging in resource-constrained regions[21]. Region-specific challenges in such areas must be explored[22]. As AI continues to evolve, addressing these challenges will be pivotal for ensuring equitable access and adoption across diverse health settings.

Additionally, the survey questions were formulated based on a literature review of similar previous surveys[14,15] and the challenges faced in the field. Despite the inclusion of an opportunity for free-text remarks and additional comments in the survey, there needed to be more responses.

Consequently, unique perspectives on barriers, challenges, and priorities for regional AI endoscopy research must be adequately captured.

Conclusion

This paper presents a detailed analysis of the survey findings, highlighting key priorities and challenges identified by Asian endoscopists in the clinical adoption of AI, and underscores the urgency of establishing collaborative frameworks and educational initiatives, emphasising the role of an Asia AI Task Force guiding the region towards successful AI integration in endoscopy. The data collected serves as a valuable resource for understanding the perspectives of Asian endoscopists, ultimately contributing to the development of strategies that facilitate the seamless integration of AI in clinical practice and research within the Asia healthcare landscape.

Data availability

The source data for Figs. 1–5 is in Supplementary Data 1 and 2.

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Author contributions

Jonathan Wei Jie Lee conceived and designed the study. Jonathan Wei Jie Lee, Calvin Jianyi Koh, and Jimmy Bok Yan So developed the clinical surveys. Sabrina Xin Zi Quek, Lin Liu, and Jonathan Wei Jie Lee analysed the data. Sabrina Xin Zi Quek and Jonathan Wei Jie Lee interpreted the results and wrote the manuscript. Sabrina Xin Zi Quek, Chieh Sian Koo, Lin Liu, Wai Keung Leung, Raymond Shing Yan Tang, Hyunsoo Chung, Xuesong Zhang, Katsuro Ichimasa, Denis Ngo, Ruter Maralit, Viet Hang Dao, Vu Van Khien, Ajay Duseja, Nitesh Pratap, Yeong Yeh Lee, Kaka Renaldi, Shi Min Sim, Clement Chun Ho Wu, James Weiquan Li, Jarrod Kah Hwee Tan, Calvin Jianyi Koh, Jimmy Bok Yan So, and Jonathan Wei Jie Lee contributed to participant enrolment and data collection. All authors reviewed, discussed, and approved the final manuscript.

Competing interests

Jonathan Wei Jie Lee is a co-founder of AMILI, and serves as a member of the scientific advisory board. The rest of the authors declare no competing interests.

Additional information

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