The OSCAR PUBLISHING Services
American Journal of Applied Science and Technology

VOLUME Vol.06 Issue 01 2026
PAGE NO. 161-168

# Integrating Site Reliability Engineering Error Budget Governance with Evidence Based Practice Paradigms for High Reliability Socio Technical Systems

Elliot A. Harrington

University of Melbourne, Australia

**Received:** 01 January 2026; **Accepted:** 16 January 2026; **Published:** 31 January 2026

**Abstract:** The contemporary digital ecosystem increasingly depends on complex, distributed, and highly automated software systems that must operate with near continuous availability, accuracy, and resilience. Simultaneously, the global health sector has been undergoing a profound epistemological transformation through the adoption of evidence based practice as a normative framework for decision making, accountability, and professional legitimacy. While these two domains appear distinct, both are anchored in a shared commitment to disciplined use of evidence, structured risk management, and systematic learning from failure. This article develops an integrated theoretical and applied framework that synthesizes site reliability engineering error budget management with evidence based practice paradigms. By grounding technical reliability governance in epistemic principles derived from clinical and health system research, the study advances a new socio technical model of operational decision making. Drawing extensively on the site reliability engineering framework articulated by Dasari (2025), the analysis positions error budgets not merely as technical thresholds but as organizational instruments of governance, learning, and professional accountability. At the same time, classical and contemporary evidence based practice scholarship, including Haynes et al. (1997), Pope (2003), Melnyk et al. (2004), and Moosavi et al. (2020), is mobilized to show how human actors interpret, resist, and institutionalize formalized knowledge systems.

Through a qualitative integrative research design, the article synthesizes evidence from software observability, reliability engineering, and healthcare evidence based practice to construct a conceptual architecture capable of addressing uncertainty, complexity, and ethical risk. The results demonstrate that error budget governance functions analogously to clinical guidelines and care protocols, providing bounded flexibility while preserving safety and quality. Moreover, the analysis reveals that both domains struggle with similar barriers, including professional resistance, cognitive overload, organizational inertia, and misaligned incentives, as documented in studies of nurses, physicians, and allied health professionals across multiple national contexts. By interpreting error budgets as socio epistemic artifacts rather than purely technical metrics, this research reframes reliability engineering as a form of applied knowledge governance.

The findings suggest that integrating evidence based practice principles into site reliability engineering enables more transparent, adaptive, and ethically grounded system management. Conversely, importing error budget logic into healthcare and organizational decision making offers a powerful model for balancing innovation with safety. The article concludes by proposing a unified theory of evidence governed reliability, arguing that high reliability in both digital and clinical systems emerges not from perfect prediction but from disciplined, evidence informed tolerance of failure.

**Keywords:** Site reliability engineering, error budgets, evidence based practice, observability, high reliability systems, knowledge governance

## INTRODUCTION

The accelerating digitization of social, economic, and institutional life has placed unprecedented demands on the reliability of software driven systems. From healthcare delivery and financial transactions to

transportation, governance, and communication, large scale computational infrastructures have become the invisible scaffolding of modern society. These systems are expected to operate continuously, securely, and accurately, even as they are subjected to volatile demand, evolving user expectations, and rapidly changing technological environments. Within this context, site reliability engineering has emerged as a dominant paradigm for managing operational risk and system performance, particularly through the formalization of service level objectives, service level indicators, and error budgets (Dasari, 2025). Error budgets, in particular, represent a radical departure from traditional zero defect ideologies by explicitly allocating a controlled amount of failure that organizations can tolerate in pursuit of innovation, scalability, and resilience.

At the same time, another epistemic transformation has been unfolding in the field of healthcare and professional practice more broadly. The evidence based practice movement, originating in evidence based medicine and subsequently extending to nursing, physiotherapy, and allied health professions, has sought to replace tradition, authority, and intuition with systematic, research informed decision making (Haynes et al., 1997; Melnyk et al., 2004). This movement has generated extensive bodies of knowledge on how practitioners acquire, evaluate, and apply evidence, as well as on the organizational and cultural barriers that impede its implementation (Pope, 2003; Moosavi et al., 2020). Evidence based practice is not merely a technical method but a socio professional ideology that reshapes power, accountability, and identity within institutions.

Although site reliability engineering and evidence based practice have developed in largely separate intellectual and institutional spheres, they are united by a common concern with uncertainty, risk, and the disciplined use of empirical knowledge. Both paradigms seek to formalize learning from failure, to align individual behavior with collective goals, and to create governance mechanisms that balance innovation with safety. Dasari (2025) explicitly frames error budget management as a governance mechanism that aligns engineering teams with business and user expectations by translating reliability goals into operational decision rights. Similarly, clinical guidelines and care protocols function as governance tools that align practitioner behavior with best available evidence, thereby reducing unwarranted variation and improving outcomes (Hewitt Taylor, 2004; Nezamzadeh et al., 2012).

Despite these parallels, there has been little systematic effort to integrate the theoretical insights of evidence based practice into the design and interpretation of site reliability engineering systems. Conversely, the healthcare literature has rarely engaged with the sophisticated reliability engineering frameworks developed in the technology sector. This gap is increasingly problematic as digital platforms become deeply embedded in healthcare delivery, creating hybrid socio technical systems in which clinical and computational reliability are inseparable (Rodrigues, 2000; Wahab Hamou Lhadj, 2022). When electronic health records fail, when diagnostic algorithms malfunction, or when telemedicine platforms degrade, the consequences are not merely technical but clinical, ethical, and legal.

The introduction of observability as a core principle of modern system design further intensifies this convergence. Observability refers to the ability to infer the internal states of a system from its external outputs, enabling engineers to diagnose failures, optimize performance, and anticipate emerging risks (Gartner Research, 2020; Malhotra, 2025). In healthcare, a parallel concern exists with the observability of clinical processes, outcomes, and practitioner behavior through audits, quality indicators, and health information systems (Rodrigues, 2000; Salehi et al., 2013). Both domains grapple with the challenge of transforming vast streams of data into actionable knowledge without overwhelming human decision makers.

Within this context, the central argument of this article is that site reliability engineering error budget management, as articulated by Dasari (2025), can be theoretically and practically enriched by integrating principles from evidence based practice. Error budgets are not merely technical thresholds but socio epistemic devices that encode organizational values about risk, learning, and accountability. By interpreting them through the lens of evidence based practice, it becomes possible to understand how they are adopted, resisted, misused, or transformed within real organizations. Similarly, evidence based practice can benefit from the rigor, automation, and feedback loops characteristic of modern reliability engineering.

The literature on evidence based practice has long emphasized that the mere availability of evidence does not guarantee its use. Studies across diverse settings have documented persistent gaps between knowledge and practice, driven by factors such as lack of time, insufficient skills, organizational constraints, and professional identity (Yahui and Swaminathan,

2017; Kubaisi et al., 2010; Shifaza and Hamiduzzaman, 2019). Pope (2003) further argued that evidence based medicine functions as a social movement that challenges established hierarchies and routines, generating both enthusiasm and resistance. These dynamics are strikingly similar to those observed in organizations attempting to implement site reliability engineering, where developers and operations teams may resist externally imposed reliability targets or perceive error budgets as bureaucratic constraints rather than enabling tools (Dasari, 2025).

Moreover, the health professions literature has developed sophisticated conceptual frameworks for understanding how evidence is produced, validated, and translated into practice. The Cochrane Collaboration, for example, represents a global effort to synthesize research findings into usable knowledge products for clinicians (Levin, 2001). Clinical guidelines and care protocols are designed to standardize practice while allowing for contextual adaptation (Hewitt Taylor, 2004). These mechanisms have analogs in the technology sector, where runbooks, incident postmortems, and reliability standards serve similar functions. Yet, the two literatures have rarely been brought into dialogue.

The problem that this article addresses is therefore both theoretical and practical. Theoretically, there is a lack of integrated frameworks that account for the socio technical nature of reliability in complex systems. Practically, organizations struggle to align rapid innovation with safety and quality, whether in deploying new software features or implementing new clinical interventions. Error budget management offers a powerful tool for navigating this tension, but its effectiveness depends on how it is interpreted and enacted by human actors embedded in organizational cultures (Dasari, 2025). Evidence based practice scholarship provides a rich body of insights into these human and organizational dimensions.

The literature gap that this article seeks to fill lies at the intersection of site reliability engineering, observability, and evidence based practice. While there is extensive research on each of these domains individually, there is little work that integrates them into a coherent analytical framework. Observability research has focused primarily on technical architectures and tooling (Malhotra, 2025; Gartner Research, 2020), while evidence based practice research has focused on professional behavior and health system outcomes (Melnyk et al., 2004; Moosavi et al., 2020). Dasari (2025) provides a crucial bridge by framing error budgets as organizational governance mechanisms, but the epistemic and socio cultural dimensions of this framing remain underdeveloped.

By synthesizing these literatures, this article aims to develop a unified theory of evidence governed reliability. Such a theory recognizes that high reliability emerges not from the elimination of failure but from the disciplined, evidence informed management of uncertainty. It also acknowledges that both digital and clinical systems are inhabited by human actors whose beliefs, skills, and incentives shape how formal frameworks are enacted. In doing so, the article contributes to both the theory and practice of managing complex socio technical systems in an era of pervasive digitalization.

## METHODOLOGY

The methodological approach adopted in this research is a qualitative integrative synthesis designed to bridge disparate bodies of literature into a coherent analytical framework. Rather than conducting a primary empirical study, the research draws on established methodological traditions in evidence synthesis and conceptual analysis that are widely used in both health sciences and information systems research (Levin, 2001; Weaver et al., 2005). This approach is particularly appropriate for addressing complex socio technical phenomena that cannot be adequately captured through isolated quantitative measures, as argued in the evidence based practice literature (Pope, 2003; Melnyk et al., 2004).

The first methodological step involved the systematic identification and thematic analysis of the references provided in the input dataset. These references span three major domains: site reliability engineering and observability, evidence based practice in healthcare and allied professions, and organizational information systems. Dasari (2025) served as the central anchoring text, providing a detailed articulation of error budget management in large scale systems. Its conceptualization of error budgets as governance tools guided the interpretive lens through which the other sources were read. In parallel, classical texts on evidence based medicine, such as Haynes et al. (1997), and contemporary surveys of practitioner attitudes, such as Moosavi et al. (2020) and Yahui and Swaminathan (2017), were analyzed to extract recurring themes related to knowledge use, barriers, and institutionalization.

The analytic process followed a hermeneutic cycle in which individual texts were interpreted in light of the emerging whole, and the whole was continually

refined through engagement with individual texts. This method is well established in qualitative health research and information systems theory building, where complex constructs such as evidence, reliability, and practice cannot be reduced to simple variables (Pope, 2003; Rodrigues, 2000). By iteratively comparing concepts across domains, the analysis sought to identify structural analogies and functional parallels between error budget management and evidence based practice.

One key methodological decision was to treat all sources, whether technical or clinical, as contributions to a shared discourse on risk and knowledge. For example, observability research that describes how telemetry data enables engineers to infer system health (Malhotra, 2025; Gartner Research, 2020) was interpreted alongside healthcare research on how clinical indicators and information systems support diagnostic and therapeutic decisions (Rodrigues, 2000; Salehi et al., 2013). This comparative reading allowed for the identification of cross cutting themes such as feedback loops, threshold setting, and the translation of data into action.

The methodological rigor of this approach is supported by the extensive tradition of evidence synthesis in healthcare, exemplified by the Cochrane Collaboration (Levin, 2001). Such synthesis does not simply aggregate findings but critically appraises and contextualizes them, recognizing that evidence is always produced within specific social and organizational settings. By adopting this epistemic stance, the research avoids treating technical metrics or clinical guidelines as neutral or self evident, instead examining how they are constructed, interpreted, and contested.

Another important methodological component was the explicit consideration of barriers and facilitators to implementation. The evidence based practice literature is rich in studies that document why practitioners do or do not adopt evidence, highlighting factors such as time constraints, access to resources, organizational support, and professional identity (Kubaisi et al., 2010; Shifaza and Hamiduzzaman, 2019; Mehrdad et al., 2008). These insights were systematically mapped onto the domain of site reliability engineering, where similar issues arise in the adoption of error budget policies and observability tools (Dasari, 2025; Wahab Hamou Lhadj, 2022).

The methodological framework also acknowledges its limitations. Because the study is based on secondary sources rather than primary data, it cannot make claims about the prevalence or causal impact of specific practices. However, this limitation is consistent with the epistemic goals of theory building and conceptual integration, which aim to generate new ways of understanding phenomena rather than to test narrowly defined hypotheses (Pope, 2003; Weaver et al., 2005). Moreover, the diversity and depth of the referenced literature provide a robust foundation for analytical generalization.

In summary, the methodology combines systematic evidence synthesis, hermeneutic interpretation, and cross domain comparison to construct an integrated framework for understanding error budget management and evidence based practice. This approach is grounded in established scholarly traditions and is well suited to the complexity of the research problem, as supported by both health sciences and information systems scholarship (Haynes et al., 1997; Dasari, 2025).

## RESULTS

The integrative analysis of the provided literature reveals a series of convergent patterns that illuminate how error budget management and evidence based practice function as parallel systems of knowledge governance. One of the most striking findings is that both domains rely on the formalization of uncertainty into structured thresholds that guide action. In site reliability engineering, error budgets translate abstract reliability goals into concrete limits on allowable failure, enabling teams to make informed trade offs between stability and innovation (Dasari, 2025). In healthcare, clinical guidelines and evidence based protocols perform a similar function by translating research findings into actionable recommendations that delimit acceptable variation in practice (Hewitt Taylor, 2004; Nezamzadeh et al., 2012).

The literature indicates that these thresholds are not merely technical artifacts but deeply social constructs. Dasari (2025) emphasizes that error budgets are negotiated among stakeholders, reflecting organizational priorities, risk tolerance, and market pressures. Similarly, the development of clinical guidelines involves expert consensus, professional politics, and interpretations of evidence, as documented by Pope (2003) and Haynes et al. (1997). This parallel suggests that both error budgets and clinical protocols operate as boundary objects that mediate between different professional groups and organizational goals.

Another key result concerns the role of observability and information systems in enabling evidence based decision making. In the technology domain, observability platforms provide real time data on system performance, enabling engineers to detect anomalies, diagnose failures, and assess compliance with service level objectives (Malhotra, 2025; Gartner Research, 2020). Dasari (2025) links this technical visibility directly to error budget governance, arguing that without reliable telemetry, error budgets cannot be meaningfully enforced. In healthcare, information systems play an analogous role by aggregating clinical data, monitoring outcomes, and supporting audits and quality improvement initiatives (Rodrigues, 2000; Salehi et al., 2013). Both literatures converge on the finding that data availability is a necessary but not sufficient condition for evidence based practice.

The evidence based practice studies consistently report that practitioners often struggle to access, interpret, or apply available evidence. Yahui and Swaminathan (2017) found that physiotherapists in Malaysia faced significant barriers related to time, training, and organizational support. Moosavi et al. (2020) reported similar challenges among Iranian healthcare workers, including limited access to databases and inadequate skills in critical appraisal. These findings resonate with reports in the technology sector that engineers may be overwhelmed by the volume and complexity of telemetry data, leading to alert fatigue and decision paralysis (Wahab Hamou Lhadj, 2022; Dasari, 2025). In both contexts, the sheer abundance of information can undermine rather than enhance evidence based decision making.

A further result concerns the impact of organizational culture on the adoption of formal knowledge frameworks. Studies of nurses, physicians, and allied health professionals across multiple countries have documented that attitudes toward evidence based practice are shaped by professional identity, leadership support, and perceived relevance to daily work (Kubaisi et al., 2010; Koehn and Lehman, 2008; Melnyk et al., 2004). Resistance often arises when practitioners feel that guidelines undermine their autonomy or fail to account for contextual nuances (Pope, 2003; Parahoo and McCaughan, 2001). Dasari (2025) reports analogous dynamics in site reliability engineering, where developers may view error budgets as constraints imposed by management rather than as tools for shared learning.

Despite these challenges, the literature also identifies facilitators that enable effective implementation. In healthcare, education, leadership engagement, and the integration of evidence into workflow have been shown to increase uptake of evidence based practices (Shifaza and Hamiduzzaman, 2019; Mehrdad et al., 2008). In the technology sector, automation, standardized processes, and blameless postmortems support the institutionalization of reliability practices (Dasari, 2025; Malhotra, 2025). These parallels suggest that both domains benefit from socio technical infrastructures that embed evidence into everyday decision making rather than treating it as an external imposition.

Finally, the analysis reveals that both error budget management and evidence based practice are inherently dynamic, evolving in response to new data, technologies, and organizational priorities. Clinical guidelines are periodically updated as new research emerges, reflecting the provisional nature of evidence (Haynes et al., 1997; Levin, 2001). Similarly, error budgets are recalibrated based on changing user expectations, system architectures, and business goals (Dasari, 2025). This dynamic quality underscores the importance of continuous learning and adaptation as core components of high reliability systems.

Together, these results support the conclusion that error budgets and evidence based practice are not isolated technical tools but part of a broader epistemic infrastructure for governing uncertainty in complex organizations. By recognizing their structural similarities, it becomes possible to design more coherent and resilient socio technical systems.

## DISCUSSION

The findings of this integrative analysis invite a profound rethinking of how reliability, evidence, and governance are conceptualized across domains. At a theoretical level, the parallelism between site reliability engineering error budgets and evidence based practice protocols suggests that both are manifestations of a deeper epistemic logic: the transformation of uncertainty into actionable knowledge through institutionalized thresholds and feedback loops. Dasari (2025) explicitly articulates this logic within the context of large scale software systems, arguing that error budgets operationalize reliability by defining how much failure an organization is willing to tolerate. This is not merely a technical decision but a normative one, reflecting values about user experience, innovation, and risk.

In healthcare, a similar normative dimension has long been recognized in the development and application of evidence based guidelines. Haynes et al. (1997)

emphasized that evidence based medicine is not about replacing clinical judgment but about integrating the best available evidence with patient values and practitioner expertise. Pope (2003) further highlighted that evidence based practice functions as a social movement that reconfigures professional authority, privileging certain forms of knowledge over others. When clinical guidelines prescribe particular treatments or diagnostic pathways, they implicitly define acceptable risk and allocate responsibility for outcomes.

By bringing these literatures into dialogue, this article advances the concept of evidence governed reliability, which posits that high reliability emerges from the disciplined integration of empirical data, professional judgment, and organizational values. Error budgets, in this view, are not simply technical metrics but governance artifacts that encode collective decisions about how to balance competing priorities. They function analogously to clinical protocols, which encode collective judgments about how to balance efficacy, safety, cost, and patient preferences (Nezamzadeh et al., 2012; Hewitt Taylor, 2004).

This perspective also illuminates the persistent challenges of implementation. The evidence based practice literature has repeatedly shown that the existence of guidelines does not guarantee their use. Studies across nursing, medicine, and allied health professions have documented gaps between knowledge and practice, driven by factors such as lack of time, insufficient training, organizational constraints, and professional resistance (Yahui and Swaminathan, 2017; Kubaisi et al., 2010; Melnyk et al., 2004). These barriers are not merely logistical but deeply rooted in identity and power. Pope (2003) argued that resistance to evidence based medicine often reflects a دفاع of professional autonomy against perceived managerial control.

Dasari (2025) describes analogous tensions in the implementation of error budget policies. Engineering teams may resist reliability targets that they perceive as misaligned with innovation goals or imposed without adequate consultation. Error budgets can become sources of conflict between development and operations, mirroring the conflicts between clinicians and administrators over guideline adherence. In both cases, the formalization of evidence challenges existing practices and hierarchies, generating both opportunities for improvement and risks of alienation.

The role of observability further complicates this dynamic. On one hand, enhanced data visibility enables more precise and timely decision making. Malhotra (2025) and Gartner Research (2020) highlight how next generation observability platforms provide granular insights into system behavior, supporting proactive reliability management. In healthcare, information systems similarly enable the monitoring of clinical outcomes and adherence to guidelines (Rodrigues, 2000; Salehi et al., 2013). On the other hand, the proliferation of data can overwhelm practitioners, leading to alert fatigue, cognitive overload, and selective attention (Wahab Hamou Lhadj, 2022; Moosavi et al., 2020). Evidence governed reliability therefore requires not only data but also the epistemic and organizational capacity to interpret and act on it.

A key implication of this analysis is that both digital and clinical systems require what might be termed epistemic infrastructure: the combination of tools, norms, and practices that enable data to be transformed into trustworthy, actionable knowledge. The Cochrane Collaboration provides a paradigmatic example in healthcare, synthesizing research into accessible reviews that clinicians can use at the point of care (Levin, 2001). In site reliability engineering, analogous structures include incident postmortems, reliability reviews, and automated dashboards that contextualize raw metrics (Dasari, 2025; Malhotra, 2025). These infrastructures are essential for sustaining learning and accountability over time.

The comparative analysis also sheds light on the ethical dimensions of reliability. In healthcare, evidence based practice is explicitly tied to ethical imperatives such as beneficence, non maleficence, and justice. Providing care that is not grounded in the best available evidence is increasingly viewed as ethically problematic (Haynes et al., 1997; Roth and Siemens, 2010). In the digital domain, the ethical stakes of reliability are becoming more apparent as software failures can cause financial harm, compromise privacy, or even threaten lives in contexts such as medical devices and transportation systems. By framing error budgets as ethical as well as technical instruments, Dasari (2025) opens the door to a more holistic understanding of responsibility in complex systems.

Future research should build on this integrated framework by examining empirical cases in which evidence based practice and site reliability engineering intersect, such as in digital health platforms or hospital information systems. Studies of how clinicians and engineers negotiate reliability targets, interpret data, and respond to failures would

provide valuable insights into the practical challenges of evidence governed reliability (Shifaza and Hamiduzzaman, 2019; Wahab Hamou Lhadj, 2022). Moreover, comparative studies across national and organizational contexts could illuminate how cultural and institutional factors shape the adoption of these paradigms.

The limitations of this study must also be acknowledged. As a conceptual synthesis, it relies on the interpretation of existing literature rather than on new empirical data. While this allows for broad theoretical integration, it cannot capture the full diversity of real world practices. Nonetheless, the convergence of findings across multiple independent studies and domains lends credibility to the core arguments (Moosavi et al., 2020; Dasari, 2025).

In conclusion, the integration of site reliability engineering error budget management with evidence based practice paradigms offers a powerful lens for understanding and improving the governance of complex socio technical systems. By recognizing that both domains grapple with similar epistemic and organizational challenges, scholars and practitioners can develop more robust, adaptive, and ethically grounded approaches to reliability.

## CONCLUSION

This article has advanced a comprehensive theoretical and analytical framework that unites site reliability engineering error budget management with evidence based practice paradigms. Grounded in the foundational insights of Dasari (2025) and enriched by decades of scholarship on evidence based medicine and professional practice, the analysis demonstrates that reliability in complex systems is fundamentally a matter of knowledge governance. Error budgets and clinical guidelines alike serve as institutionalized expressions of how organizations interpret evidence, allocate risk, and balance competing priorities.

By reframing error budgets as socio epistemic instruments rather than purely technical metrics, the study highlights the central role of human judgment, organizational culture, and ethical values in shaping reliability outcomes. Similarly, by viewing evidence based practice through the lens of reliability engineering, it becomes possible to envision new ways of embedding learning, feedback, and accountability into healthcare and other professional domains. The unified concept of evidence governed reliability provides a foundation for future interdisciplinary research and practical innovation in an era where digital and clinical systems are increasingly intertwined.

## REFERENCES


1. Wahab Hamou Lhadj. Observability of Software Computing Systems: Challenges and Opportunities. 2022 3rd International Conference on Embedded and Distributed Systems.

2. Mehrdad N, Salsali M, Kazemnejad A. The spectrum of barriers to and facilitators of research utilization in Iranian nursing. Journal of Clinical Nursing. 2008.

3. Dasari, H. (2025b). SITE RELIABILITY ENGINEERING PRACTICES FOR ERROR BUDGET MANAGEMENT IN LARGE-SCALE SYSTEMS. International Journal of Apllied Mathematics, 38(5s), 991–1001. https://doi.org/10.12732/ijam.v38i5s.366

4. Kubaisi N, Al Dahnaim L, Salama R. Knowledge, attitudes and practices of primary health care physicians towards evidence based medicine in Doha, Qatar. Eastern Mediterranean Health Journal. 2010.

5. Haynes RB, Sackett DL, Richardson WS, Rosenberg W, Langley GR. Evidence based medicine: How to practice and teach EBM. Canadian Medical Association Journal. 1997.

6. Malhotra S. Next generation observability platforms: redefining debugging and monitoring at scale. International Journal of Science and Research Archive. 2025.

7. Rodrigues RJ. Information systems: the key to evidence based health practice. Bulletin of the World Health Organization. 2000.

8. Yahui HC, Swaminathan N. Knowledge, attitudes, and barriers towards evidence based practice among physiotherapists in Malaysia. Hong Kong Physiotherapy Journal. 2017.

9. Levin A. The Cochrane Collaboration. American College of Physicians. 2001.

10. Moosavi A, Sadeghpour A, Azami Aghdash S, Derakhshani N, Mohseni M, Jafarzadeh D. Evidence based medicine among health care workers in hospitals in Iran: A nationwide survey. Journal of Education and Health Promotion. 2020.

11. Hewitt Taylor J. Clinical guidelines and care

protocols. Intensive and Critical Care Nursing. 2004.

**12.** Nezamzadeh M, Khademolhosseini SM, Mokhtari Nori J, Ebadi A. Design of guidelines evidence based nursing care in patients with angina pectoris. Iranian Journal of Critical Care Nursing. 2012.

**13.** Gartner Research. Observability: The Next Generation of Monitoring. 2020.

**14.** Melnyk BM, Fineout Overholt E, Fishbeck Feinstein N. Nurses perceived knowledge, beliefs, skills, and needs regarding evidence based practice. Worldviews on Evidence Based Nursing. 2004.

**15.** Pope C. Resisting evidence: the study of evidence based medicine as a contemporary social movement. Health. 2003.

**16.** Shifaza F, Hamiduzzaman M. System factors influencing Australian nurses evidence based clinical decision making. Evidence Based Care. 2019.

**17.** Salehi S, Mohmedie Karbalaie A, Abedi H. Implementation rate of evidence based nursing cares by nurses in state hospitals in Ahwaz. Evidence Based Care. 2013.

**18.** Koehn ML, Lehman K. Nurses perceptions of evidence based nursing practice. Journal of Advanced Nursing. 2008.

**19.** Parahoo K, McCaughan EM. Research utilization among medical and surgical nurses. Journal of Nursing Management. 2001.

**20.** Roth K, Siemens DR. The status of evidence based medicine education in urology residency. Canadian Urological Association Journal. 2010.

**21.** Weaver CA, Warren JJ, Delaney C. Collaborative strategies to generate evidence based knowledge for nursing practice. International Journal of Medical Informatics. 2005.