

QUALITATIVE RESEARCH IN FORENSIC MEDICINE IN INDONESIA: SCOPING REVIEW OF THE CURRENT SITUATION AND POTENTIAL FOR IMPROVING EVIDENCE-BASED PRACTICE

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ABSTRACT

Purpose: Research is one of the most important efforts to increase evidence-based practice (EBP) in the field of medicine, including forensic medicine. Of the various existing research methods, qualitative methods have not been widely used in forensic medicine, especially in Indonesia. This study aims at determining the current situation of the use of qualitative research methods in forensic medicine in Indonesia and their potential application in increasing EBP.

Methods: This study is a scoping review using electronic search engines and databases with various combinations of keywords related to qualitative research methods and forensic medicine. The search was carried out on keywords in the titles and abstracts of published scientific papers, both in Indonesian journals and foreign journals written by Indonesian authors. The advantages, disadvantages, potentials, challenges, and barriers to the use of qualitative research methods in forensic medicine are also discussed.

Results: Qualitative research methods have not been widely used in the field of forensic medicine in Indonesia. Qualitative methods can be useful in researching topics that require more profound exploration of a phenomenon and its influencing factors, especially in studying new phenomena. Potential bias can indeed occur because of the relatively more prominent role of the researcher in data collection and interpretation, but this can be overcome by using research techniques that maintain scientific rigor.

Conclusion: There is still a vast potential for qualitative research to improve EBP in forensic medicine in Indonesia.

Keywords: Forensic medicine, research methods, qualitative research, scientific rigor, evidence-based practice (EBP)

INTRODUCTION

Problems are gaps between reality (*das Sein*) and expectation (*das Sollen*). Ever since the dawn of humanity, humans will try to find answers to every problem they face. More empirical answers to problems are obtained through what is known as the scientific approach, which leads to the scientific method. In science, including medicine, the effort to solve problems using this scientific method is known as scientific research.

Research is one of the most important efforts to increase evidence-based practice (EBP) in the field of medicine, including forensic medicine. Of the various existing research methods, qualitative methods have not been widely used in forensic medicine. There are several qualitative research methods, such as ethnography, grounded-theory, phenomenology, case study, and content analysis,(1–3) which could be employed in exploring complex phenomena found in forensic medicine. Because qualitative research focuses on explorative efforts, the results of a qualitative study might provide the ground for further research.

In Indonesia, forensic medicine is still developing. With the increasing number and variety of cases, one of the vital issues to be addressed is the role of research in the development of forensic medical practice. Because there are various complex and new phenomena found in forensic medicine, which cannot be understood using quantitative data alone, qualitative research could be helpful. This study aims at determining the current situation of the use of qualitative research methods in the field of forensic medicine in Indonesia and their potential application in increasing evidence-based practice (EBP) through a scoping review.

METHODS

This study is in the form of a scoping review, which was conducted per the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR)(4). A scoping review was chosen as the preferred approach because this study aims to examine a broad area of knowledge, identify gaps in the current knowledge base, and report on the types of evidence published in a certain field. It can also be used to examine the conduct of research and provide indicators of topics for subsequent systematic reviews(5).

This review was guided by the question, “What is the current situation of qualitative research in forensic medicine in Indonesia?” The search was carried out using the National Center of Biotechnology Information (NCBI) search engine and Google Scholar. Various combinations of predefined keywords in Indonesian and English related to qualitative research and forensic medicine were searched in the titles and abstracts of published papers, both in Indonesian and foreign journals written by Indonesian authors. The complete list of keywords is shown in the appendix. No filters or limits were set for the search.

The data collection method consists of four steps, namely (1) identification, (2) screening, (3) eligibility assessment, and (4) listing of included articles. The purpose of the first step was to find all articles that contain the keywords in their title or abstract. In the second step, the identified articles were screened for their relevance to the research aim based on their title and abstract. All articles that use any kind of qualitative research methods in forensic medicine were included in the third step. The third step determined which articles were eligible for inclusion. The eligibility criteria consisted of publication in Indonesian journals or foreign/international journals with at least one Indonesian author. Then, in the fourth step, the full texts of all eligible articles were imported into the web-based bibliographic manager Mendeley. The characteristics of the articles were then determined (i.e., the name of the author(s), the year of publication, the name of the journal, the research topic, the type of scientific work, and the qualitative data collection and

analysis method). All three authors participated in the article selection process using a Google Sheets spreadsheet. Lastly, all included articles were critically appraised using the Critical Appraisal Skills Programme (CASP) Checklist for Qualitative Studies.(6)

RESULTS AND DISCUSSION

Through data processing, five articles were included in the review. The figure below presents a flow diagram detailing the number of records identified from the search results, the screening process, the number of studies that meet the eligibility criteria, and the number of studies included for the review. The general characteristics of the articles included in the review are shown in Table 1, and the list of the included studies can be found in Table 2.

Table 1 Characteristic of articles included in the review (n = 5)

Characteristic	Number (n = 5)
Publication year	
< 2015	1
≥ 2015	4
Journal	
Indonesian	4
Foreign/international	1
First author	
Forensic specialist (SpFM)	2
Non-forensic doctor	1
Non-doctor	2
Topic	
Forensic medicine (general)	1
Clinical forensic medicine	2
Medicolegal studies	2
Research method	
Qualitative only	4
Mixed methods	1
Data collection method*	
In-depth interview	4
Document review	2
Focused group discussion (FGD)	1

*Some studies used >1 methods

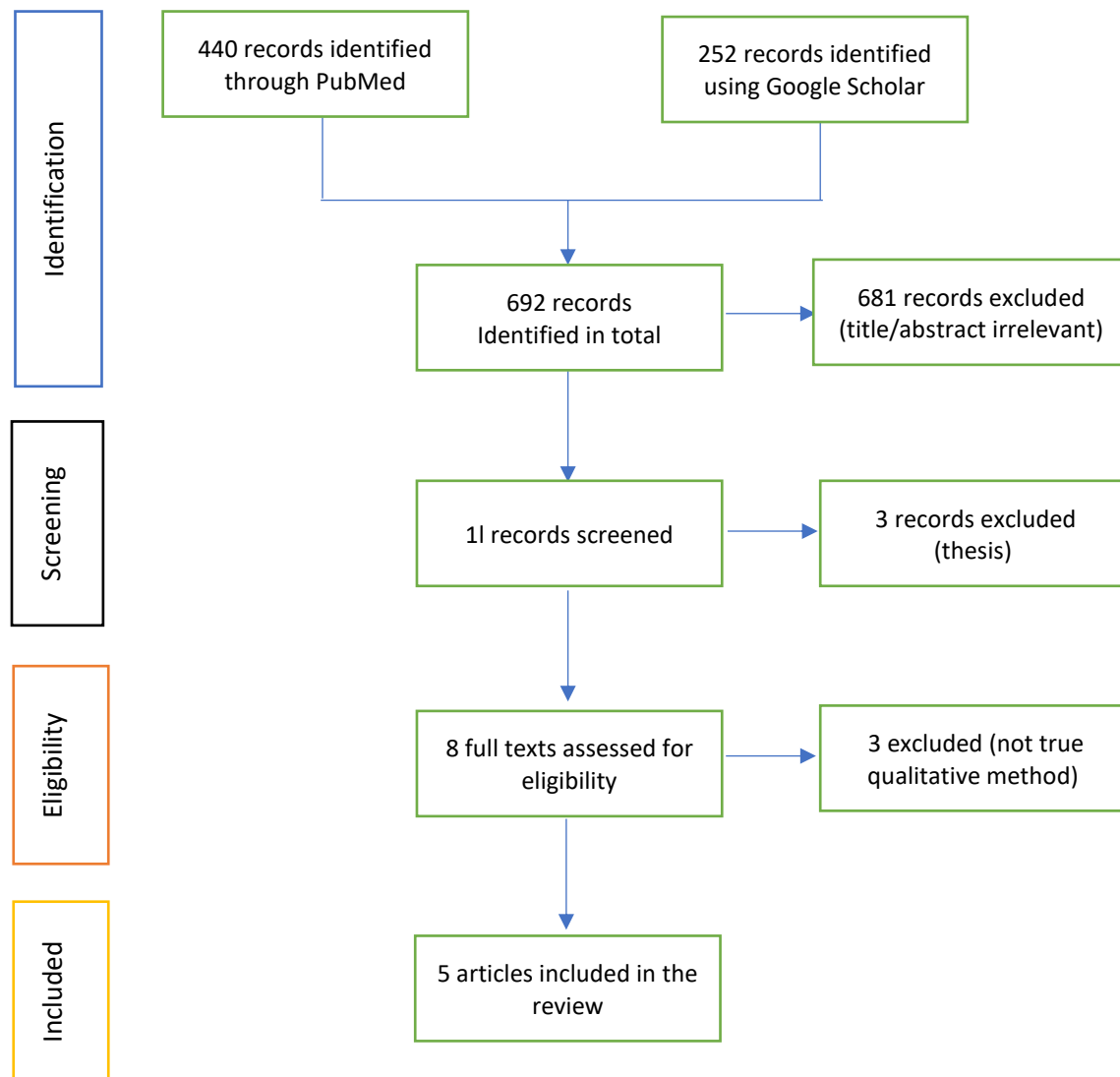


Figure 1 Flow diagram of the article selection process

Table 2 Articles included in the review

Title	Author(s)	Journal	Year of Publication	Link/DOI
Development of forensic medicine in post reform Indonesia	Yoni Fuadah Syukriani, Nita Novita, Deni K Sunjaya	Journal of Forensic and Legal Medicine	2018	https://doi.org/10.1016/j.jflm.2018.05.001
Harapan polisi di kota Bandung terhadap pembuatan visum klinik	Fadly Aufar Saptadirja, Yoni Fuadah Syukriani, Wulan Mayasari	Jurnal Sistem Kesehatan	2017	https://doi.org/10.24198/jsk.v3i1.13957
Penegakan pasal 222 juncto pasal 216 KUHP bagi keluarga korban yang menolak untuk diotopsi di Polrestabes Surabaya	Rizka Lutfitaningtyas, Pudji Astuti	Novum: Jurnal Hukum	2017	https://doi.org/10.2674/novum.v4i3.24281
Implementasi pembuktian asal-usul anak luar kawin berdasarkan ilmu pengetahuan dan teknologi dalam putusan Mahkamah Konstitusi nomor 46/puu-viii/2010	Indah Nur Utami	Novum: Jurnal Hukum	2014	https://doi.org/10.2674/novum.v1i4.11657
Analisis medikolegal terhadap kriteria derajat luka menurut Kitab Undang-Undang Hukum Pidana	Syarifah Hidayah Fatriah, Budi Sampurna, Ade Firmansyah Sugiharto	Majalah Kedokteran Indonesia	2017	http://ojs-mki.idionline.org/index.php/jinma/article/view/53

Based on the CASP Checklist for Qualitative Studies (Critical Appraisal Skills Programme 2018), all but one study stated a clear research aim. A qualitative methodology was appropriate for all studies. The research design was also appropriate to address the aims of the research in all studies. Three studies had a clear and appropriate recruitment strategy, while in two studies the strategy was unclear. Data collection was conducted in a way that addressed the research issue in all studies. However, no studies considered the relationship between researcher and participant and ethical issues. Data analysis was sufficiently rigorous in four studies, while in the remaining one, it was unclear. All studies explained their findings clearly, which were valuable contributions to the forensic medical body of knowledge.

This scoping review shows that qualitative research methods have not yet been widely used in forensic medicine in Indonesia. From over 600 records initially identified through electronic search, only five articles were relevant to the aim of this study. According to Mohajan and Slevicth, qualitative research has classically been more frequently used in anthropology, philosophy, psychology, history, and sociology. This trend is most probably because its main purpose is systematic explanation and analysis through the interpretation of non-numeric data.(7) There are circumstances in which statistics or numbers obtained through medical research cannot adequately reflect the intricacies of complicated clinical, social, and interpersonal

problems. This fact is also true in forensic medicine, where various non-medical/biological factors often coexist in creating complex phenomena that are not easily understood by studying numbers alone. In these kinds of research, qualitative methods are often appropriate in helping to solve problems requiring a complete comprehension of the phenomena as a whole.(1)

Qualitative methods are also valuable for researching topics that require deeper exploration of a phenomenon and its influencing factors, especially in studying new phenomena. This review shows that many qualitative studies that have been performed are about medicolegal issues. This finding comes as no surprise, as medicolegal issues in forensic medical practice, and medical practice in general, are often complicated and affected by social, cultural, ethical, and legal factors. Due to its focus on exploration, a caveat of qualitative research is that some questions might not be answered definitively. Because of this characteristic, some opine that qualitative research is subjective and even unscientific to the point of being unreliable. This opinion often arises, however, not from the method itself but rather from a lack of familiarity with the characteristics, strengths, and weaknesses of qualitative research.(1,7) Potential bias can indeed occur because of the relatively more prominent role of the researcher in data collection and interpretation, but this can be overcome by using research techniques that maintain scientific rigor.

This study also found that several qualitative studies were conducted as part of an undergraduate/postgraduate thesis but have not yet been published. These studies can be classified as grey literature.(8) This phenomenon could be caused by the relative shortage of forensic journals willing to accommodate qualitative research compared to quantitative research. Therefore, it is not enough to only encourage forensic researchers to employ qualitative methods more often, but forensic journals must also be urged to be more open towards qualitative research. Journal editors and peer reviewers must realize that the quality of a study is not determined by the use of statistical methods to prove a hypothesis but rather by the integrity and clarity of the philosophy and methods used.

This study has several limitations. First, this is a scoping study that aims at obtaining a general overview of the current use and future potential of qualitative research methods in forensic medicine in Indonesia. As such, it might not provide a complete picture of the topic and should be followed up by further studies. Secondly, this study does not analyse the rationale for choosing a qualitative method in each article. Lastly, some keywords and search engines might have been missed or inadvertently left out in identifying relevant studies due to time-constraints.

On the other hand, there are also some strong points of this study. To the best of our knowledge, this is the first meta-research about qualitative research in forensic medicine, especially in Indonesia. Through this study, we hope to inspire our colleagues to conduct further or similar studies and meta-research in forensic medicine. This study also shows that research in forensic medicine does not always have to aim at hypothesis-testing through quantitative methods but can be hypothesis-generating as well by using various approaches or a combination thereof.

CONCLUSION

There is still a vast potential for using qualitative methods in forensic medicine in Indonesia. The role of educational and research institutions is crucial in introducing and applying qualitative research methods to enrich research results in forensic medicine to increase EBP.

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RECOMMENDATION

Centres of forensic medicine should have a grand design of research topics that include topics fitting for qualitative research. Furthermore, future forensic medical specialists should be introduced to a wide array of research designs and methods, including qualitative research, from early on in their training. In addition, more collaboration should be established with scientists from different fields related to forensic medicine, such as criminology, psychology, and sociology, to conduct multifaceted studies using qualitative methods.

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APPENDIX.**List of Keywords Related to Qualitative Research and Forensic Medicine (Indonesian)**

First Keyword(s)	Second Keyword(s)
<i>(Kualitatif AND...)</i>	<i>(Forensik AND...)</i>
<ul style="list-style-type: none"> • <i>Metode</i> • <i>Penelitian</i> • <i>Studi</i> • <i>Riset</i> • <i>Data</i> 	<ul style="list-style-type: none"> • <i>Kedokteran</i> • <i>Patologi</i> • <i>Klinik</i> • <i>Medikolegal/mediko-legal</i> • <i>Pemeriksaan</i> • <i>Investigasi</i> • <i>Visum et repertum</i> • <i>Autopsi</i> • <i>Tanatologi</i> • <i>Asfiksia</i> • <i>Kematian pada anak/pembunuhan anak sendiri</i> • <i>Mati mendadak karena penyakit</i> • <i>Kematian perioperatif</i> • <i>Syok anafilaksis</i> • <i>Traumatologi</i> • <i>Penganiayaan</i> • <i>Kekerasan dalam rumah tangga</i> • <i>Kejahatan seksual</i> • <i>KLL</i> • <i>Histopatologi</i> • <i>Toksikologi</i> • <i>DNA</i> • <i>Identifikasi</i> • <i>Etika</i> • <i>Medikolegal/mediko-legal</i> • <i>Hak asasi manusia</i> • <i>Barang bukti</i> • <i>Pemeriksaan TKP</i> • <i>Ekshumasi</i> • <i>Saksi ahli</i>
<i>...AND...</i>	

List of Keywords Related to Qualitative Research and Forensic Medicine (English)

First Keyword(s)	Second Keyword(s)
(Qualitative AND...)	(Forensic AND...)
• Method	• Medicine
• Investigation	• Pathology
• Study	• Clinical
• Research	• Medicolegal/medico-legal
• Data	• Examination
...AND...	• Investigation
	• Expert opinion
	• Autopsy
	• Thanatology
	• Asphyxia
	• Death in children/infanticide/neonaticide
	• Sudden death
	• Perioperative death
	• Anaphylactic shock
	• Traumatology
	• Assault
	• Domestic violence
	• Sexual crimes/sexual assault
	• Traffic accident
	• Histopathology
	• Toxicology
	• DNA
	• Identification
	• Ethics
	• Medicolegal/medico-legal
	• Human rights
	• Evidence
	• Crime scene examination
	• Exhumation
	• Expert witness
