



# Professionalism in Anesthesiology; A Qualitative Meta-Synthesis

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## Abstract

**Background:** It is necessary to identify unidentified or less-concentrated issues in professionalism and anesthesiology through an extended study. This study was conducted to identify different dimensions of professionalism in anesthesiology among quantitative and qualitative research.

**Methods:** The present meta-synthesis study was done through a systematic review. The main criteria were to use quantitative and qualitative professionalism studies in which their participants were anesthesiologists. All the published and indexed articles related to professionalism in anesthesiology in PubMed and Google Scholar databases from February 2000 to December 2020 were scrutinized. Searching in these databases was done using the keywords “professionalism” and “anesthesiology”. The abstracts were screened for relevance and full articles were located, and 54 articles were selected. Data analysis was performed using qualitative content analysis.

**Results:** Generally, concepts extracted from professionalism in the anesthesiology dimension are classified in six main categories including: promoting professionalism, accountability, legal issues, self-regulation, physician well-being threats and social media, as well as 19 sub-categories.

**Conclusion:** In this meta-synthesis study, there was an effort to present a new interpretation of the previous studies. This study helped attain a more comprehensive and deeper knowledge about professionalism in anesthesiology and reveal its different aspects which were not assessed in the past. The results revealed issues such as well-being and burnout that need more efforts.

**Keywords:** Anesthesiology, Content analysis, Excellence, Professionalism, Social media

## Introduction

Professionalism has emerged as a substantive and sustained theme over the past 25 years (1). Professionalism can be defined as a set of attitudes, values, behaviors, and relationships that act as the underpinning of the health professionals' contract with society (2). It is one of the serious topics taught and learned at every level of medical education (3). Medical professionalism is a multi-dimensional concept, and its elements are an important part of what must be evaluated in residency programs (4,5). Professionalism as a concept is becoming more outstanding and increasingly focal within some research literature (6-8), approaches to practice (9-11), and can even be found as a guiding doctrine in health care policy (12-16). Much of the debate about professionalism is currently to be found within the field of anesthesiology (17,18). Scattered and incoherent studies are done on professionalism in the anesthesiology dimension. Unfolding of a body of literature within one area might be thought to better lend itself to accretion of new knowledge across the field. Anesthesiologists play a vital role in maintaining and promoting patients' mental health, in addition to protecting patients' lives. Anesthesiologists are engaged in person-to-person interactions, with patients and their families, and they must adhere to the rules of professionalism (19).

The authors of this study have spent many years teaching, researching, and working on professionalism concept (20-24). Also, one of the authors has been teaching scientific and practical workshops on the subject of professionalism in anesthesia for 8 years. Thus, the development of professional behavior in the medical field is one of their main concerns and they are considered experts in this field.

To identify approaches to attain professionalism promotion in anesthesiology, it seems necessary to start research to create cohesion among previous studies. The present meta synthesis study was conducted to identify professionalism in anesthesiology and its dimensions through a systematic qualitative review. We tried to provide a critical summary of existing published literature and background information on professionalism in anesthesiology, to identify less noticed dimensions of it, and to formulate recommendations for future research in order to

promote professionalism in anesthesiology.

## Materials and Methods

### *Study design*

The present study is a qualitative meta-synthesis. In the qualitative meta-synthesis, the emphasis is placed on interpretation of findings from a carefully selected collection of research studies in a chosen area of interest (25). In this regard, similarities and differences are compared, findings are paraphrased, and a new interpretation is presented, which can lead to a more comprehensive survey about the issues (26). In the present systematic study, studies associated with professionalism in anesthesia were qualitatively analyzed.

### *Search strategy*

The PubMed and Google Scholar databases were searched for articles published from February 2000 to December 2020.

### *Inclusion criteria*

A total of 100 articles in English were found. Any article that was not in the field of anesthesia or professionalism was excluded. Also, if another related article was found at this time, it was added to the list of articles. Inclusion criteria included:

1) The English language of the article, 2) Insertion of the word professionalism or one of the related mentioned words as well as the word "anesthesiology" or one of the related mentioned words in the title or abstract of the article, 3) Investigation of professionalism and its axes, and 4) Publication of the article in valid journals. Finally, 56 articles were included in the study.

### *Selecting studies and data extraction*

Two independent authors extracted the following article characteristics: type of article, anesthesiology field, and professionalism field. The abstracts were screened for relevance and full articles were located. Disagreements during data extraction were resolved by discussion and consensus. English search terms (based on medical thesaurus) consisted of professionalism, respect, accountability, responsibility, honor and integrity, altruism, justice, excellence, burnout, ethics, claim, giving bad

news, forensics, medical error, privacy, dress code, unprofessional behavior, confidentiality, conflict of interest, gift, substance abuse, humanity, morality, and ethical code. Words related to anesthesia included anesthesia, anesthesiology, anesthetist, pain, intensivist, and intensive care. Also, in order to optimize and collect all the published articles about the search strategy for medical terms and their use in writings, the search was set on the words MeSH. To access the MeSH words related to this study, we first referred to the MeSH website (<https://www.ncbi.nlm.nih.gov/mesh>) and then selected the relevant MeSH terms in a domain (professionalism or anesthesia) to select the keywords listed, and then each MeSH term in a domain was separated with OR. Two words were separated and combined into two MeSH terms prepared with AND to index related articles. One of the two researchers searched and extracted the articles according to their abstracts and the keywords, and sent them to the second researcher, who was an anesthesiologist. Then he reviewed the articles.

### **Data analysis**

After careful reading of the selected articles, the researchers tried to achieve an overall sense of the content of each text, and then it was coded. Repeated reading of the extracted codes helped to identify the similarities and differences of textual data, and in classifying and organizing them.

Through careful inspection and continuous data comparison, categories emerged by inductive reasoning (27). Extracted codes were managed via MAXQDA 10 software (a software program designed for computer-assisted qualitative data, text and multimedia analysis), using a content analysis approach. To elevate true value and applicability, the texts were frequently checked for accuracy, and the overall coding was reviewed and discussed by the principal investigator. Only one researcher analyzed the data to enhance consistency and reliability. All texts were coded independently by the principal investigator and the research assistant.

Over 80% of the codes were consistent between the two researchers. For each text, the results were discussed and all the revisions were agreed upon by the research team.

### **Ethical considerations**

Ethical issues (Including plagiarism, misconduct, data falsification and fabrication, double submission, redundancy) have been fully observed by the authors.

### **Results**

Data analysis reached 6 main categories that included: promoting professionalism, accountability, legal issues, self-regulation, physician well-being threats and social media, as well as 19 sub-categories. These results are shown in table 1.

#### **Promoting professionalism**

It refers to efforts for identifying and clarifying professionalism in anesthesiology practice. It is mentioned in many articles in our research. This category includes four subcategories: definition of professionalism, teaching and learning professionalism, evaluation of professionalism, and instrumentation.

#### **Defining professionalism**

The codes such as unethical and unprofessional behaviors (28), views on professionalism (29), key elements of professionalism in anesthesiology (19,29,30), historical perspectives of professionalism (17), affirmation of a definition (31), unprofessionalism outcome (32), and commitment to professional competence (33), formed this subcategory.

We choose this sentence in this regard: '*our study used a national survey to affirm the previously generated working definition of professionalism in pediatric anesthesiology, and our results confirmed the constructed validity of the prior working definition in the field of professionalism in pediatric anesthesiology*' (31).

#### **Teaching and learning professionalism**

The codes such as anesthesiologist's role in professionalism (34), feedback program (35), teaching and evaluating (4,19,30,36), how fellows learn and teach professionalism (29), enhancing feedback on professionalism (37), a framework for teaching professionalism in residency (31,38), using historical narrative in teaching professionalism (39), ethics (40), professional guidelines (16), and communication skills (41) formed this subcategory.

**Table 1.** Content of articles in the field of professionalism in anesthesiology

Category	Sub- Category
Promoting professionalism	Definition of professionalism
	Teaching and learning professionalism
	Evaluation of professionalism
Accountability	Instrumentation
	Pain management
	Patient's autonomy
Legal issues	Protection of patients' privacy
	Claim and procedure time
	Unintentional problems
Self-regulation	Event
	Conflict of interest
	Collegiality
Physician well-being threats	Excellence achievement
	Well-being
	Addiction and Substance Abuse
Social media	Workload
	Suicide
	Student expectation from SM account
	Use of Facebook account for prospective training is low
	A common tool for research

About interpersonal and communication skills, one of the authors believed: *'There are few quality studies evaluating end-of-life (EOL) communication training for surgeons and anesthesiologists. These programs frequently use role-playing to teach and assess EOL communication skills. More studies are needed to evaluate the effect of these interventions on patient outcomes. However, evaluating the effectiveness of these initiatives poses methodological challenges'* (41).

**Evaluation of professionalism**

The codes such as impact of a didactic lecture

on professionalism (42), domains for evaluation of professionalism (31), 360-degree resident evaluation (43), evaluation of knowledge transfer in professionalism teaching (42), providing OSCE experiences to residents (44) and challenges to remediating unprofessional conduct (30) formed this subcategory.

We choose this sentence in this regard: *'360-degree resident assessment tool is useful for post- anesthesia care unit rotations. It appears to correlate with conventional faculty ratings, is feasible to use, and enables formative feedback to residents with regard to their professional behaviors, interpersonal and*

communication skills' (43).

### **Instrumentation**

The codes such as faculty supervision evaluation by anesthesia residents (45), developing a valid and reliable instrument (32), and climate of respect evaluation (46) formed this subcategory.

This is a selected sentence in this regard: *'The main result of the present study was that the measurement instrument of faculty supervision we developed based on grounded theory provided highly dependable measures, with adequate face and content validity, internal consistency and unidimensional factor structure' (45).*

### **Accountability**

It means to prioritize the patients' physical and mental welfare. Three subcategories, including pain management, patients' autonomy, and protection of patients' privacy formed this category.

### **Pain management**

The codes 'psychological evaluation of patients with chronic pain' (47), 'taking responsibility in treatment of pain' (48), 'empathic response to pain' (49), and 'effective management of the pain' (50) formed pain management subcategory.

This sentence refers to an empathic response to pain: *'when we have a responsibility for others' suffering, our empathic response to that suffering is increased. Both decision processes and the conscious feeling of controlling our action, the sense of agency, explain this effect. This enhanced empathy elicited by intentional voluntary action may play a role in the regulation of moral conduct' (49).*

### **Patients' autonomy**

The codes 'enlightenment of patients' (51), and 'informed consent- a declaration on patients' rights' (52-54) formed patients' autonomy subcategory. This sentence refers to informed consent: *'This article reviews some of the basic concepts of informed consent applied to obstetrics. Obstetric patients can consent without issues of capacity and should be provided with adequate disclosure of risks of any procedures. Physicians should use written materials as educational adjuncts for obtaining informed*

*consent and generally ensure cooperative decision making in informed consent discussions with patients' (54).*

*Another sentence: 'Knowledgeable discussion by anesthesiologists with surgeons as well as enlightenment of patients and their relatives about their work will improve the quality of anesthesia care remarkably. Assessments of communication skills should be an integral part of the residency training program' (51).*

### **Protection of patients' privacy**

Besides the safety of the patients, there are still other issues to concern of, for example, patients' privacy, which is their right to preserve. This study has pointed to 'the rationality of the medical examination and harmonious doctor-patient relationship' (55) that formed protection of patients' privacy subcategory.

### **Legal issues**

This category is related to forensic in anesthesia and includes three subcategories: claim, event, and conflict of interest.

### **Claim**

The code of 'Anesthesia Claims and Procedure time' (56,57) formed the claim subcategory. We chose this sentences in this regard: *'the Medicare anesthesia claim can be utilized to construct an excellent measure of procedure time' (56).*

### **Event**

The codes of 'identify adverse events' (58), 'a safety culture in the ICU' (59), 'event reporting' (60), and unintentional problems (53) formed the event subcategory. We selected this sentence in regard to unintentional problems: *'it is usual that in smaller gynecological procedures, the gynecologists first administer intravenous analog-sedation in various modifications, which may cause possible undesired complications, even consequences arising from negligence, such as secondary apnea, and patients are usually not monitored' (53).* Regarding a safety culture in the ICU, we chose this sentence: *'Safety measurement requires a self-assessment system for quantifying what we do and how we do it to help us identify targets for improvement' (59).*

### **Conflict of Interest**

The codes of ‘conflict of interest has no impact on work’, ‘marked diffusion of conflict of interest’, and ‘potential conflict of interest’ (61) formed the conflict of interest subcategory. We chose this sentence in this regard: *“Over the course of the research, it was observed that the values and beliefs of researchers played a greater role when the evidence was not clear and that this was a source of frustration. Prior agreement on mechanisms to handle these instances helped participants work through these unavoidable roadblocks.”*

### **Self-regulation**

This category includes issues that lead to the excellence of physicians and have been formed by three codes containing collegiality, excellence achievement, and well-being skills.

### **Collegiality**

The codes of ‘knowledgeable discussion with surgeons improves quality of care’ (51) and ‘communication as a major barrier to collaborative care’ (62) formed the collegiality subcategory. *This is a sample sentence in this regard: ‘Both nurses and anesthesiologists agree that communication is a major barrier to collaborative care. The identification of barriers to collaboration is the first step towards working as our best selves, together’* (62).

### **Excellence achievement**

The codes of ‘categorize the cognitive’, and ‘mental skills required for excellence’ (63) formed *excellence achievement* subcategory.

### **Well-being skills**

This subcategory refers to establishing a curriculum for well-being for all residency and fellowship programs. This is a selected sentence in this regard: *‘it is critical for physicians to learn skills that will help to sustain their well-being throughout their career and life. Educating anesthesiology residents in topics related to individual, organizational, and cultural well-being is vital to the healthy growth and development of our specialty’* (64).

### **Physician well-being threats**

This category refers to cases that endanger the health of the anesthesiologist and consists of three subcategories including: addiction/ substance abuse, workload and suicide.

### **Addiction and substance abuse**

The codes of ‘frequency of substance abuse’ (65), ‘learn to recognize the signs and symptoms of addiction’ (66), ‘random drug testing’ (67), ‘determine the experience’ (68), ‘drugs reported to have been used by those chemically dependent’, ‘features at the time of identification’, ‘treatment outcomes’, ‘using a more proactive approach (69),’ means for addressing risk’, ‘current management’ (70), ‘prevalence’ (69), ‘careful evaluation of addicted physicians’ (66), and ‘treatment outcomes’ (71) formed addiction and substance abuse subcategory.

This is a selected sentence in this regard: *‘it is not possible to identify these people before they become addicted, it is essential that each of us learn to recognize the signs and symptoms of addiction when they become manifest, such that we may preserve the safety of both colleagues and the patients they care for’* (66). This is another sentence: *Presented strategies of monitoring and aftercare, intensive counseling and mandatory self-help meetings have not led to improved outcomes. Our data would support a more proactive approach* (71).

### **Suicide**

Suicide rates and risk factors *amongst anesthetists* were discussed in one study (72). This is a selected sentence in this regard: *‘Whatever the mechanism of identification of a problem, we each have a responsibility to act in an appropriate manner to assist a colleague in trouble’* (72).

### **Workload**

The codes of ‘the prevalence and risk factors of burnout’ (73) and ‘occupational stress’ (74) formed the workload subcategory. This is a selected sentence in this regard: *‘Preservation of health behaviors with respect to diet, physical activity level, and quality of sleep confer resiliency during periods of acute stress’* (73).

### Social media

Out of 54 studies, only one study dealt with the social media topic (75). We extracted three codes from this article: student expectations from social media accounts, use of a Facebook account for prospective training is low, and a common tool for prospective research programs.

The code resources for prospective residents, disseminating educational information, advertising social events, highlighting departmental research efforts, an avenue for general communication, and promoting interpersonal relationships are students' expectations from social media accounts.

This is the sentence we chose from the article: *'Program-specific social media accounts can be used to advertise and showcase departments while offering applicants another means to research programs. As more information becomes available for both applicants and program leadership through social media, care must be taken when posting content to confirm appropriate levels of professionalism are maintained'* (75).

### Discussion

We tried to provide a critical summary of existing published literature and background information on professionalism in anesthesiology, to identify less noticed dimensions of it, and to formulate recommendations for future research in order to promote professionalism in anesthesiology.

Our data analysis has shown that we can divide the existing published literature's content into 6 main categories, including promoting professionalism, attention to patient's rights, legal issues, clinicians' excellence, clinicians' health threats and social media. Tetzlaff believed that physicians' professional behavior can arbitrarily be divided into four parts, including accountability, humanism, ethical behavior, and physician well-being (18).

Promoting professionalism is an important subject that emerged in the present study. Out of 56 articles, 28 articles have done research on 'promoting professionalism in anesthesiology practice'. In order to improve professionalism in anesthesiology, an institutional approach to building a framework for medical professionalism that incorporates sociocultural and historical contexts is necessary

(65). It is also essential to use new learning strategies such as patients' lived experience in educating residents (67). We should work on the challenge of promoting professionalism, the hidden curriculum, and educational reform (68). Students' narratives can be used in this regard. Since efforts to improve supervision and evaluation systems in clinical environments would result in better adherence of staff to professionalism (7), we believe that it is necessary to do more serious research in the field of professionalism evaluation.

Three studies addressed 'instrumentation' topic (17, 32,33). Although in some research, clinical staff mentioned the codes of "lack of a clear checklist for evaluation" (7), Hodges *et al* believed that, given the number of existing professionalism assessment tools, it may be more important to increase the depth and quality of the reliability and validity of a program's existing measures in various contexts than to continue developing new measures for single contexts (1). Regarding the number of tools available, it is very gratifying that researchers have not spent their time making tools.

'Accountability', 'Legal issues', 'Humanism', 'Physician well-being threats', and 'Social media' are other topics that have been addressed in existing articles. We found no article in the field of clinicians and patients' communication, paying attention to the patients' concerns and patients' calm, as well as legal issues for giving feedback to the wrongdoer. Researchers should work on professionalism lapses, remediation and also on improving ability of reflection and its probable association with professionalism lapses (72). In the field of humanism, the identification of barriers to collaboration is an important issue for research.

Further study on the impact of chronic stress on residents' and clinicians' wellness could help to enrich the subcategory of 'Physicians well-being threats'. We can work on the impact of positive mental health on professionalism observance in an era of high burnout (70).

In the field of social media, we found only one article. From the authors' viewpoints, further research in the field of 'social media' could include national surveys through major societies that examine the impact of social media on the residents' application process (62).

In our view, Cyber-ethics, dangers and opportunities (73), privacy, confidentiality, information quality (74), and social media use in anesthesiology education are the gaps in this area which require more attention and research.

As the PubMed and Google Scholar databases were searched, at least two major electronic databases, among Cochrane and EMBASE, are missing, and some articles may not be included in this research, and this is one of the limitations of this research.

## Conclusion

In the present research, the researchers tried to perform meta-synthesis on studies related to professionalism in anesthesiology, and important dimensions of it. In general, the number of articles in the field of professionalism in anesthesiology is large, but there are still considerable gaps in this area. In order to promote professionalism, we should work on the challenge, the hidden curriculum, educational reform, and evaluation with existing tools. Also,

professionalism lapses, barriers to collaboration, educational reform and social media need more attention. Furthermore, we can work on the impact of positive mental health on professionalism observance in an era of high burnout. The results revealed that issues such as well-being and burnout need more efforts. In our view, Cyber-ethics, dangers and opportunities, privacy, confidentiality, information quality, and social media use in anesthesiology education are the gaps which require more attention and research. Using a student's narrative is a rich resource for gaining a deeper understanding of how our commitment to professional behavior in clinical settings affects anesthesiology trainees.

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## Conflict of Interest

There is no conflict of interest.

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