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Editorial

Mark Skues, Editor-in-Chief

Welcome to the September issue of *Ambulatory Surgery*. This edition contains the usual four papers, together with exciting news of an IAAS event taking place at the end of October. Given the unfortunate cancellation of the European Symposium in Madrid last April, the Association is looking to develop additional links and learning with international colleagues, with a decision made to host an online Conference. This will occur on Saturday 31st October at a time making it feasible for colleagues from around the globe to participate. The content will include various aspects of running Ambulatory Surgery services for patients and staff as we emerge from the COVID pandemic, with two 90 minute sessions facilitated on 31st October. The following week on 7th November, there will be a free paper session, for which, abstract submissions are requested. All abstracts will be published in this Journal with the best six being judged by the Scientific Committee, and a prize of free registration for the next International Congress in 2022 for the best presentation on the day. Registration is on the IAAS website at a nominal cost of twenty five Euros, representing exceptional value, so well worth applying.

The first paper in this edition of the Journal comes from the United KIngdom and has a familiar theme given the current worldwide emphasis on suppression and eradication of coronavirus. The authors consider the requirements needed within the ambulatory pathway to ensure that safety for patients and staff is maintained. The paper is divided into sections mirroring the overall pathway, and the authors provide contemporary worldwide evidence to substantiate the views reached. I suspect this paper will form the evidence base for one of the talks in October.

There are two papers from Portugal examining the effects on nursing care after implementation of a questionnaire to evaluate evidence based practice (EBP). The first one describes the results of a questionnaire disseminated to 49 ambulatory care nurses. The questionnaire evaluated several dimensions (Attitudes, Knowledge and Skills and Practices), and found that all scored highly in all dimensions. However, several barriers still existed to the adoption of EBP, namely, excessive working hours, lack of time, lack of training and adequate tools within the workplace. The second paper evaluated the assessment of pain and clinical recording after ambulatory surgery by nurses. Questionnaires were provided and results were compared between nurses, supervisors and electronic pain records to evaluate the type of recording provided. Numeric rather than qualitative scales were more frequently used with good concordance between nurses and their supervisors.

The fourth paper is a brief case report detailing dental damage in a patient undergoing endoscopy, where, paradoxically, the bite block inserted to prevent damage to equipment caused crown dislodgement. The author advocates that risk of such damage be explicitly stated in the consent process whenever bite blocks are used.

And finally… as we move towards the end of the year with the hope of resumption of normal working after the pandemic, I would encourage you to consider abstract submission for the imminent online Conference. Who knows? Perhaps it will be your name mentioned in the next edition rather than mine.

Mark Skues
Editor-in-Chief

Reflections on Ambulatory Pathways in the Post-Covid Era

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Abstract

The worldwide COVID-19 pandemic halted elective surgery in many countries, either as a result of staff and patient safety, or due to the loss of ambulatory facilities which were converted to assist in the management of COVID positive patients. The reintroduction of ambulatory surgery has required changes in the patient pathway for the foreseeable future to reduce the risks of viral infection. While the components of the ambulatory pathway remain unchanged, the delivery of the patient process now involves fewer face-to-face interactions between patient and health care professionals with unnecessary visits to the healthcare facility eliminated. When face-to-face interactions do occur, then appropriate Personal Protective Equipment (PPE) is required. Without doubt, the perioperative process has become more difficult to deliver, but in contrast, the preassessment component of the pathway and discharge processes have become more streamlined due to the enforced changes precipitated by COVID-19.

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Introduction

The classical ambulatory pathway consists of a planned series of steps, to allow the patient a seamless admission and discharge for their surgery, on the same working day (1). The COVID-19 pandemic has created new challenges for the ambulatory team, but also created new opportunities to streamline and modify the existing components of the pathway (Figure 1).

As elective ambulatory surgery is reintroduced as COVID-19 comes under control, the patient journey may continue as before – but with COVID precautions for both patients and staff. However, the more contacts each member of the multidisciplinary team has with the ambulatory patient, the greater risk of contracting the virus. Moreover, the more contacts, the more PPE required, most of which is disposable and therefore adds to costs. Therefore, as an ongoing process, changes are occurring in many centres to reduce patient contact by eliminating any unnecessary visits to the ambulatory unit before and after day surgery and reducing patient contact while attending for treatment. Our knowledge and understanding of the virus is constantly updated and pathway advice may change over time. However, while COVID remains a worldwide threat, infection precautions must remain in place.

Preassessment Pathway
Patient Referral

In countries where a primary care service exists, most consultations between patient and doctor can be conducted by telephone or video call rather than face-to-face. Demand for non-COVID consultations has dropped and the number of serious conditions undiagnosed is unknown. This may represent a genuine fear of patients to seek medical help or an elimination of consultations on trivial matters, or both.

The second level of triage occurs in the surgical out-patient department. Again, consultations may be conducted by telephone or video call. Successful remote consultations rely heavily on clinical experience to focus on the salient features of the patient's history without the aid of clinical examination. Many diagnoses of ambulatory procedures can be successfully accomplished with an accurate clinical history, and if required, the patient can send clinical pictures to the specialist or conduct the consultation by video call. If neither of these aids are available, then face-to-face consultation is required. This COVID experience of remote consultations has demonstrated that many face-to-face consultations may be unnecessary, especially when follow-up consultations are considered. On arrival at the
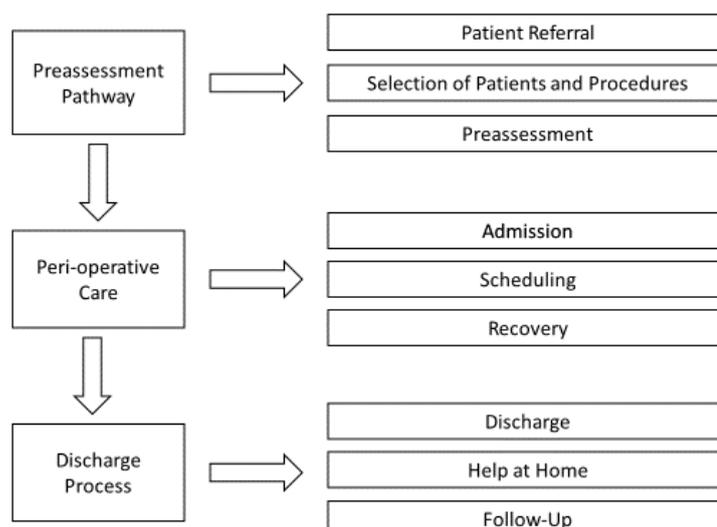

Figure 1 The Ambulatory Surgery Pathway.

clinical facility, patients commonly are questioned regarding potential COVID symptoms and their recent travels. Patients' temperatures can be quickly measured with forehead readings using infrared non-contact thermometers.

Selection of Patients and Procedures
There is now considerable epidemiological evidence regarding individual risk to COVID-19. Epidemiological data is constantly being updated and risk factors are complex and often inter-related. However there is a consensus that age, male sex, obesity (BMI>30), respiratory disease such as COPD and asthma, heart conditions such as coronary heart disease and cardiomyopathies, uncontrolled diabetes, sickle cell disease, and immunocompromised patients are more at risk than the general population (2,3). However, these risk factors may vary in different countries and within different ethnic groups.

A further risk factor is surgery itself. Any surgical procedure conducted on a COVID-19 positive patient carries a significant risk of postoperative pulmonary complications in half of cases and delaying non-essential surgery or seeking a non-surgical treatment is recommended (4). One of the benefits of the COVID crisis has been to focus on unnecessary surgery, which may be defined as any surgical intervention that is either not needed, not indicated, or not in the patient's best interest when weighed against other available options, including conservative measures (5). While there is mounting evidence that certain procedures are of low clinical value, the individual clinician requires more than ever to balance the risk of surgery in the individual patient for all interventions. For many patients, this may simply be a delay to their treatment, but for others, perhaps an unnecessary intervention has been avoided.

Preassessment
Even before the pandemic, there was a move away from universal face-to-face preassessment towards telephone or video interviews (6) due to the decreased costs involved. COVID-19 has certainly accelerated this process. This process can be aided by the use of online preassessment systems where the patient is given access to a secure portal and answers the assessment questionnaire. The results of this are reviewed online by the anaesthetic team and patient contacted by telephone or video call for further intervention (7).

Patients who are found to have comorbidities requiring further diagnostics are referred to a clinical facility for face to face evaluation under PPE conditions. Fortunately, very few patients requiring ambulatory surgery require preoperative tests providing there is adherence to strict protocols and guidelines (8).

Perioperative Care
Scheduling
The scheduling of ambulatory procedures requires advanced planning for the admissions team to book the patient and the scheduling team to formulate the content and order of individual lists. The ideal planning schedule commences several weeks ahead with a cohort of potential patients contacted regarding their availability. Suitable patients can then be remotely preassessed, allowing sufficient time to organise face to face diagnostics if required. While lockdown of ambulatory lists is normally scheduled for 2 weeks before surgery, it has always been possible to replace late unavoidable cancellations with substitute patients, providing preassessment can be conducted at short notice. Unfortunately, this is no longer possible as the incubation period for COVID-19, which is the time between exposure to the virus (becoming infected) and symptom onset, is on average 5-6 days, but can be up to 14 days (9). However, some people can test positive for COVID-19 from 1-3 days before they develop symptoms (10). On these data, patients are requested to self-isolate 14 days before their ambulatory procedure and are COVID-tested 72 hours before their surgery, the timing of testing is dependent on the turnaround time of COVID testing.

Admission
Patients should be admitted to the ambulatory facility on their own without a friend or relative accompanying them to decrease possible infective contacts. The exception, of course, is a parent accompanying their child or when caring for the vulnerable adult, but this may be dictated by local policy. Patient admission on the day of surgery requires both patient and clinical staff to wear loose-fitting surgical facemasks covering the nose and mouth. These facemasks are designed for one way protection, to capture bodily fluid such as large-particle droplets leaving the wearer, and are not designed to protect the wearer. In contrast, non-valved respirators are tight-fitting masks, designed to create a facial seal and provide good two-way protection by filtering both inflow and outflow of air. These are designed protect the wearer (when worn properly), up to the safety rating of the mask. In Europe, two different standards are used. The FFP (Filtering Face Piece) score is regulated by EN standard 149:2001 and the P1/P2/P3 ratings covered by the EN 143 standard. In the USA, respirator standards are maintained by NIOSH (National Institute for Occupational Safety and Health) and rated as NX, where N relates to resistance to non-oil particulates and X relates to the filter capacity. A comparison of European and USA standards is shown in Table 1 (11,12).

Table 1 Classification of Respirators.

Respirator Class	Filter Capacity (removes x% of all particles 0.3 microns or larger)	Function
FFP 1 and P1	Minimum 80%	Dust Mask eg DIY tasks
FFP 2 and P2	Minimum 94%	Protection against Influenza virus, Bubonic Plague, Tuberculosis
N95	Minimum 95%	
FFP 3 and N99	Minimum 99%	Protects against very fine particles such as asbestos and COVID-19
P3	Minimum 99.95%	Protects against very fine particles such as asbestos and COVID-19
N100	Minimum 99.97%	Protects against very fine particles such as asbestos and COVID-19

The equivalent respirator class to FFP2 and N95 in China is KN95, in Australia and New Zealand AS/NZ P2, in Korea 1st Class, and in Japan DS FFRs.

Full personal protective equipment (PPE) is required in the operating room when performing a procedure on a patient with proven or suspected COVID-19 and due to the dangers of asymptomatic infection, has become the 'new norm'. In addition to an FFP3 respirator, the operator and scrub-team require protection for the eyes, through a visor or goggles, fluid resistant disposable gowns and double disposable gloves. Local policy specifies procedure for donning and doffing PPE before and after operating.

The World Health Organisation operating room briefing, and safety checklist (13) has not only improved patient safety but also improved efficiency through better communication among all the healthcare professionals involved. It is recommended that day surgery units follow this checklist or an equivalent nationally agreed checklist that may have additional components (14). Post-Covid, the most important additional question relates to confirmation that a COVID test has been performed 72 hours before surgery and that the test is confirmed negative.

The operating room is a potential rich source of possible Covid vectors. Current knowledge confirms the virus has been identified in respiratory tract, in faeces, blood, serum, saliva and lymph (15). The greatest risk to operating room personnel is likely from aerosol generating procedures (AGP's), primarily as a result of procedures involving open suctioning of the respiratory tract (Table 2). Therefore all procedures performed under general anaesthesia are categorised as AGP's but in terms of specific interventions, upper ENT airway procedures and upper GI endoscopy are other obvious AGP's. In addition, many orthopaedic operations become AGP's when high speed devices such as drills are used. There is also a theoretical risk of transmission of COVID 19 during laparoscopy via possible release of virus in the form of an aerosol with CO2, creating oral, nasal and ocular exposure (16). However, in the absence of evidence supporting this theoretical consideration, there is at present no need to exclude laparoscopic procedures from ambulatory surgery and theoretical risk that should be weighed against the benefit of laparoscopy (17).

Aerosol Generating Procedures (AGPs) are currently considered to be potentially infectious AGPs for COVID-19 (18) and are shown in Table 2.

Table 2 Selection of Common Aerosol Generating Procedures.

Intubation, extubation and related procedures e.g. manual ventilation and open suctioning of the respiratory tract (including the upper respiratory tract)
Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
Bronchoscopy and upper ENT airway procedures that involve suctioning
Upper Gastrointestinal Endoscopy where there is open suctioning of the upper respiratory tract
Surgery and post mortem procedures involving high-speed devices
Some dental procedures (e.g. high-speed drilling)
Non-invasive ventilation (NIV) e.g. Bi-level Positive Airway Pressure Ventilation (BiPAP) and Continuous Positive Airway Pressure Ventilation (CPAP)
High Frequency Oscillatory Ventilation (HFOV)
Induction of sputum
High flow nasal oxygen (HFNO)

To reduce aerosol transmission, ventilation in both laminar flow and conventionally ventilated theatres should remain fully on during surgical procedures. Clearly, those closest to aerosol generation are most at risk, but the dilution of aerosols by operating room ventilation, offers some protection to operating room personnel. At the completion of an AGP, droplets remain suspended in the air of the operating room. What time should elapse before it is safe to return to the operating room to commence the next case? The rate of clearance of aerosols in a confined space is dependent on the degree of ventilation. It is generally assumed that a single air change removes 63% of aerosol contamination (19) and that 5 air changes are sufficient to remove more than 99% of airborne contaminants (20). The aerosol clearance time (ACT) is the time in minutes for a complete air exchange in a room and is calculated by dividing 60 minutes by the number of air changes per hour. Different operating rooms are built with differing air exchange rates and an accurate assessment of an operating room's ACT requires this data. However, the American Institute of Architects Guidelines for Healthcare (21) recommends a minimum exchange rate of 15 air changes per hour for staff safety regarding anaesthetic gases. Therefore, most operating rooms are constructed with this minimum standard in mind. When considering COVID safety, this would equate to an ACT of 20 minutes, meaning that it is not safe to enter the operating room without wearing airborne PPE for at least 20 minutes. In practice, most operating rooms have more than 15 air changes per hour. Laminar flow theatres can have up to 300 air changes per hour, for which the ACT would be 1 minute. Between cases, and at the completion of the operating list, the operating room should be cleaned as per local policy for infected cases paying particular attention to hand contact points on the anaesthetic machine (22).

Recovery
If the pandemic overcomes the capacity of a hospital's intensive care facilities, the stage 1 recovery area or the post-anaesthesia care unit (PACU) can provide temporary overflow. If utilised for patient recovery, patients with COVID-19 must be physically separated from non-COVID patients (23). However, as patients undergoing ambulatory surgery are usually elective, are treated in a separate facility from in-patients, and have been COVID-tested 72 hours before admission, then the ambulatory PACU is considered a non-COVID area. Nevertheless, appropriate PPE is recommended for PACU personnel. COVID-testing can produce false-negative results and there is also a risk that the patient becomes COVID-infected after their test and before surgery but are pre-symptomatic or asymptomatic. Furthermore, the recovering patient is liable to coughs or sneezes due to airway irritation. As PACUs are open facilities, each unit must determine how to maintain adequate space between patients. A two metre distance apart is considered adequate and patients should be transferred from the operating room to PACU with a face mask in place (24).

Discharge Process
Discharge
Discharge, as always, is best conducted by an agreed Ambulatory Unit protocols, rather than delaying discharge while awaiting clinician decisions. The patient is accompanied by an ambulatory staff member to a waiting area outside the facility to meet the friend or relative who will ensure a safe journey home, thereby reducing the risk of transmission to other members of the ambulatory team. Both patient and helper are advised to use face-coverings

Help at Home
For elderly patients discharged after a day case procedure, help at home is essential. Their return is often a worry and any physical disability as a result of their operation is often magnified and is a source of concern as to how they will cope with everyday activities in the immediate postoperative period. Add in the lingering effects of sedation and anaesthesia, and it is quite clear that it is essential to have help present on the first night home as the patient adjusts to their

new situation. However, in this post-COVID era, with age being a risk factor for the infection, the helper should also wear a face covering and observe social distancing where possible, unless they normally live with the patient.

For others, the situation is less clear. Many people nowadays live alone, and unless essential, many would prefer not to have anyone accompanying them at home in the postoperative period. Nevertheless, patient safety is a priority.

A pragmatic approach is to ensure anyone who could suffer covert bleeding, as with operations in the abdominal cavity, such as laparoscopic cholecystectomy, should have help available on the premises and able to act if the patient's health deteriorates. For others where the surgical procedure is non-invasive, such as hernia repair or removal of 'lumps and bumps', any postoperative haemorrhage is overt and take the form of a haematoma or be controllable with simple pressure. Where the patient is aware of their complications, the availability of nearby help, contactable by telephone, is all that is required. Procedures where postoperative bleeding can affect the airway, such as after tonsillectomy or thyroid surgery, then the presence of help at home actively monitoring their charge is essential (25).

Follow-up

For discharge support, a 24-hour telephone number should be available for the patient (or their helper) to contact is case of complications or forgotten questions. Many units routinely contact the patients the following morning while others offer a dedicated day-time contact for advice or information.

There is increasing experience with the use of teleconsultation to reduce the need for patients to visit the hospital during the post-operative period. Examples include the follow-up of patients' wounds or the monitoring of surgical drains at home, following more complex surgery (26). The next development is the ability to include remote monitoring of patients' vital signs. In its simplest form, patients record their BP, temperature, pulse and saturation using conventional monitors and enter the data onto an App or web-portal but more sophisticated systems under development can upload data to a secure cloud server where it can be reviewed by clinical staff. Many sensors are wearable like a watch or a patch attached to the patient and can provide several days of recordings of heart rate, respiratory rate, temperature and movement (27).

Follow-up for many ambulatory patients is not routinely required as day surgery procedures are usually straightforward. If out-patient follow-up is required, then this can be conducted by telephone or video-call to reduce the number of face-to-face consultations in the out-patient clinic. A welcome consequence of the move to teleconsultation has been a reduction of 'Did Not Attend' rates with one study reporting a fall from 25% to 10% (26)

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Supervision in Clinical Practice Indicator: Evidence Based Practice in the Context of Outpatient Surgery

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Abstract

Clinical supervision and evidence-based practice in nursing should be understood as complementary and indissociable as they go hand in hand towards the same objectives. Therefore, the supervising process should boost the evidence-based practice in order to promote better nursing care. The purpose of this study was to evaluate nurse's predisposition to incorporate evidence-based practice into their care and to identify barriers to its application with the purpose of proposing contributions for the implementation of a nursing clinical supervision model that encourages the use of the best evidence available into the daily practice. The study is integrated into the research project "*SAFECARE – Supervisão Clínica para a segurança e qualidade dos cuidados*". It was developed as an exploratory-descriptive study in an ambulatory surgery unit of a University Hospital in Porto, Portugal. It had a target population of 59 nurses, and it was used the "Evidence-Based Practice Questionnaire" as a method of collecting data. From the 49 questionnaires collected, we find that the subscale "Practices" has an average score of 4.89, the subscale "Attitudes" 5.36 and the subscale "knowledge/skills and competences" 5.08.

These results showed that nurses have a low use of evidence-based practice when compared with the level of knowledge, skills and competences shown, although they seem to have a positive attitude towards this subject. These results can be partially explained by the overburden felt by the nurses, which identified the lack of time and motivation, but also inappropriate training and scarcity of team meetings and proper tools in the workplace as barriers.

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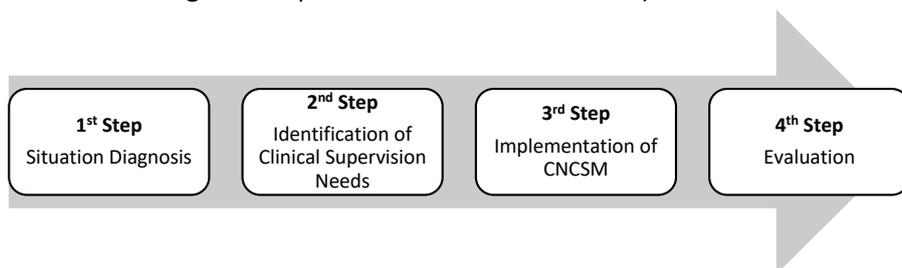
Introduction

Currently, in Portuguese health care institutions it is not yet possible to verify a standard use of clinical supervision in nursing practice. In order to overcome that limitation, the SAFECARE Project has been developed. It aims to implement a Contextualized Nursing Clinical Supervision Model (CNCSM) in different departments of several Portuguese hospitals to promote the safety and quality of nursing care.

The SAFECARE project results from a partnership between the Escola Superior de Enfermagem do Porto (ESEP) and the Centro Integrado de Cirurgia de Ambulatório (CICA) and it is based on four structuring axes: context (refers to the set of elements and circumstances where care is developed and provided), nursing care (focuses on the interpersonal relationship between a nurse and a client, or between a nurse and a group of clients), professional development (refers to the nurse's need in continuing their training during their professional activity that meets their personal goals, care clients, and context/organizational culture) and clinical supervision (based on concept defended by the Portuguese Nurses Order).

The SAFECARE project includes four steps (Figure 1). In the first one, a diagnosis of the current situation is performed to assess sensitive indicators to the nurse's personal and professional practice. This sensitive indicator will be important during the implementation of the project because they can serve as process indicators, and later, in the last phase of the project, they will be evaluated as results indicators. In the second step, the main objective is to identify the clinical supervision needs felt by nurses. This is a fundamental step because, in addition of identifying the nurse's needs, it allows the effect of an "ice breaker" between all the participants, which is important for professionals to establish bonds of trust in the process. On the third step, the CNCSM is implemented: group supervision sessions between the supervisors and the supervisees take place. In this third phase, nurses have the chance to discuss various work problems and doubts, related to their daily routine so they can feel more secure and supportive. In the four and last step, the process of the CNCSM implementation is evaluated. In order to do that, the indicators found has sensitive towards the process of clinical supervision are again evaluated with the same "modus operandi".

Figure 1 Steps of CNCSM from SAFECARE Project.

1st Step	2nd Step	3rd Step	4th Step
Situation Diagnosis	Identification of Clinical Supervision Needs	Implementation of CNCSM	Evaluation

Several indicators were found to be sensitive to the clinical supervision process, and once this project was set in an ambulatory surgery unit, the chosen indicators were post-surgical pain, surgical wound and clinical efficiency and evidence-based practice. This, has was already referred, were the topics used to evaluate the effectiveness of the Clinical Supervision process.

The concept of Clinical Supervision in Nursing (CSN) is not yet agreed between different authors, with some definitions based on the objectives and purposes of the CSN, others focusing in the supervised person, the supervising strategies or even in the relations that emerge in the process. However, despite those differences, most authors agree that the main objective of Clinical Supervision is the constant improvement of work developed by nurses. Therefore, we can consider that Clinical Supervision is a formal way of accompaniment and development with the aim to promote the security and quality of nursing care (1). This definition goes along with the definition of the Department of Health that define Clinical Supervision as a "formal process of professional support and learning which enables practitioners to develop knowledge and competence, assumes responsibility for their own practice and enhance safety of care in complex situations". For Butterworth & Faugier (2), it is also an exchange between practitioners who enable them to develop their professional skills.

According to the literature review, clinical supervision is crucial for the quality of nursing care and it is an important mechanism to support nurses in their clinical practice.

Concerning Evidence-based practice (EBP), authors designate the concept as being a methodological approach that promotes health care delivery from clinical decision-making based on the best evidence available, clinical expertise and patients' preferences and values, in the context of the available resources (3).

It is crucial to implement mechanisms that support nurses in clinical practice, in order to promote reflective questioning. Individual and organizational Evidence-based practice (EBP) change efforts are more likely to succeed and carry when reflective practice is part of the organizational culture.

That way, evidence-based practice has positive outcomes, such as improved quality of care and patient outcomes and lower hospital costs with a safe practice environment.

Authors' findings confirmed that nursing education and namely specialization degree are associated with a positive attitude towards EBP, positive intentions to use research in practice and is also a key predictor of the self-reported EBP competencies.

Commonly, nurses have a positive attitude towards EBP. Although it remains a poor intake of the application and implementation of the process, leading researchers to analyze barriers and facilitators to EBP adoption. Clinical supervision plays a crucial role in professional development through reflective practice and also regarding clinical excellence, quality improvement activities and patient safety. In this way, it is important to examine the relationship between clinical supervision and EBP competency.

Evidence-based practice should embrace different types of knowledge, and it's very important to complement the evidence derived from clinical research with the knowledge acquired with the clinical expertise. To do so it's necessary that all this knowledge is shares so it can be analysed and developed. The Clinical Supervision can play a major role in promoting the EBP because it not only helps the nurses to reflect its practices, but also promotes the fusion of the knowledge's derived from different sources (4).

For Melnyk et al (5), it may be unreal to expect bedside nurses to add EBP activities to their daily practice if they are not compensated for the time and have the support of prepared nurses to serve as EBP mentors.

There are barriers and facilitators to EBP adoption at the individual and organizational levels. At a nurse-level factor the lack of EBP knowledge and skills, negative attitudes toward research, perceived or real lack of support and beliefs about organizational readiness for EBP can be a negative factor toward EBP. Solutions to the barriers need to be guided to the dimension where the barrier occurs while recognizing that multidimensional approaches and are crucial to the success of overcoming these barriers, involving nurses, managers and the organization.

The relationship between EBP research and quality improvement (QI) research are distinct but related areas. QI activities can provide the local context for EBP efforts. One of the objectives of QI is empowering its practitioners to improve quality on a daily basis.

In Portugal, clinical supervision in nursing is not yet a daily practice, and there are still few national studies conducted in this area. Nurses in clinical practice need to demonstrate flexibility and be ready for complex and demanding situations. Health benefits can be attained through clinical supervision since nurses are able to develop their expertise, improve and develop the quality of the care they provide to their clients, reduce stress, optimize their coping resources and emotional intelligence skills. Thus, the awareness of nurses regarding their place in the organization and in the continuous improvement politics, is fundamental. Clinical supervision plays a crucial role in professional development through reflective practice and also regarding clinical excellence and patient safety. In this way, it is important to explore the relationship between clinical supervision and EBP competency.

Objectives

The main objective of this study was to evaluate nurses' predisposition to incorporate evidence-based practice into their care, analyzing this predisposition with some sociodemographic, academic and professional variables and identify barriers to the implementation of EBP into their worksite. This will enable to propose contributions for the implementation of a nursing clinical supervision model that encourages the uses of the best evidence available into the daily practices into their workplace, which will improve the security and quality of the nursing care.

Methods

This is an exploratory descriptive study, that took place in an ambulatory surgery unit in a University hospital in Porto, Portugal and it is derived from the broader research project "Clinical Supervision for the Safety and Quality of Care" (SAFECARE). The study population was the unit's nursing staff.

The Evidence-Based Clinical Efficacy and Practice Questionnaire (QECPBE-20) was developed by Upton and Upton in 2006 and translated and validated for the Portuguese version by Pereira et al (6). This questionnaire is split into three subscales: practices, attitudes, knowledge / skills and competences, and it was used as the data collection instrument for this study.

The "Evidence-Based Practice Questionnaire" (EBPQ), makes it possible not only to evaluate practices, attitudes, knowledge, abilities and skills but also the support of nursing interventions in order to improve them and the professionalism of nursing staff. It can be useful for the development and evaluation of educational programs, policy developments and for the management of initiatives for nurses and other healthcare professionals. The original version is constituted by 24 questions that are evaluated by a differential semantic scale,

organized in three dimensions. The first one evaluates practices, using Likert scale that goes from 1 (never) to 7 (usually), that incorporate 6 items. The second component evaluates attitudes, by verifying the proximity of position adopted in each pair of questions, in a total of 4 items. Finally, the third dimension aims to evaluate knowledge or abilities and skills through a Likert scale, that goes from 1 (the worst) to 7 (the better), in a total of 14 items.

The QECPBE-20 was based on the recognition of the applicability in the Portuguese reality and contemplates only 20 items and statistical values that are superior when compared to the Spanish version. In this study the following open-response question was added to the QECPBE-20: "In your opinion, what are the main barriers / obstacles to an evidence-based practice?" which has been included to identify barriers and obstacles to EBP and it is possible to produce contributions to minimize these same difficulties identified by professionals.

The modified questionnaire is constituted by 3 dimensions: practices, attitudes, knowledge/abilities and skills. The first dimension evaluates practices using a Likert scale that goes from 1 (never) to 7 (usually), that incorporate 6 items. The second component evaluates attitudes, by verifying the proximity of position adopted in each pair of questions, in a total of 3 items. Finally, the third dimension aims to evaluate knowledge or abilities and skills through a Likert scale, that goes from 1 (the worst) to 7 (the better), in a total of 11 items.

The present study is part of a larger work, granted authorization by the Ethics Committee of the university hospital and all the participants involved. Participants' consent was considered valid after the submission of the completed questionnaire. The remaining ethical considerations were guaranteed and secured, namely, anonymity and confidentiality of the data. The objectives of the study and contact of the researcher were clearly stated in the cover page of the instrument.

All data was processed using the IBM SPSS software version 24.0. In a first step, the data was submitted to descriptive statistics, analysed its distribution through measures of central tendency, distribution, symmetry, kurtosis and the presence of outliers. The total score of the QECPBE-20 scale, as well as the dimensions, was obtained by the following expression: the sum of the items of the dimension or scale/number of items of the dimension or scale). An exploratory factor analysis of the QECPBE-20 scale was performed and the extraction of the main components using varimax rotation was applied. The number of factors to be preserved was obtained using the eigenvalue criterion (factors retained for values greater than 1). The saturation of each item was considered to determine the factors, and each item was added to the factor with the highest factorial weight. The variance of each dimension and factors was also calculated.

The exploratory data analysis was performed using descriptive statistics and factorial validity and internal consistency of the questionnaire were evaluated using factorial confirmatory analysis and Cronbach's alpha coefficient. Finally, t-Student and ANOVA tests were performed to compare results between groups, considering sociodemographic and academic variables.

Internal consistency was assessed using item total correlations and Cronbach's . Construct validity was assessed by comparison of questionnaire scores and an independent measure of awareness of a local clinical effectiveness initiative.

Afterwards, an analysis was performed whether to verify if the QECPBE-20 fit the three-factor model suggested by Pereira (6), using AMOS version 24.0. The analysis was conducted with 20 observed variables, 23 unobserved variables and 3 latent variables. In order to estimate the parameters of each item, to scale each factor, the variance was set at 1. The covariance matrix was considered as input, applying the Maximum Likelihood Method of estimation. The existence of outliers was examined by the squared Mahalanobis distance and normality, by the coefficient of asymmetry and univariate and multivariate kurtosis. No asymmetry values were found <a |3| and kurtosis <a |10|. The quality of the fit model was conducted according to the index and respective reference values. The local fit was evaluated by the factorial weights and the individual reliability of the items. The Comparative Fit Index (CFI), Root Mean Square Approach (RMSEA), and confidence intervals (CI) were also considered. The fit of the model considered the theoretical considerations.

The analysis of the linear association between the dimensions and the total scale as well as between scales was executed using the Pearson correlation coefficient. The identification of potential predictive factors (gender, age, professional practice, academic qualifications, the legal status of employment, and place of work, time of service, professional experience and training in clinical supervision) of the full scale, as well as of each one of the dimensions was performed by simple linear regression. Finally, adjusted linear regression models were done in order to identify factors independent of each of the dimensions and of the total scale.

The cross-sectional study has a target population of fifty-nine nurses, being this non-probabilistic sample intentional. From the population eight nurses were excluded from the study due to prolonged absence from the service and two did not respond. Everyone involved in the study signed an informed consent.
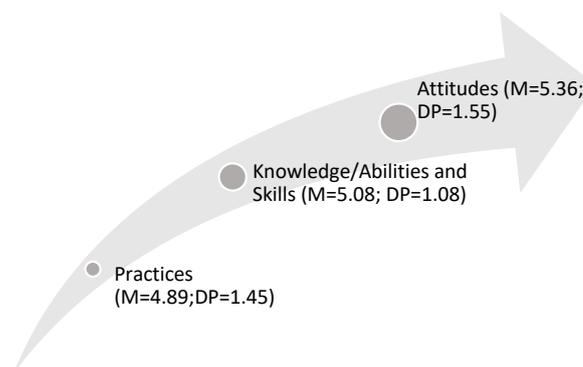
Results

Forty-nine nurses (96% of the unit's nursing staff) participated in the study, 93% were female, average age was 44 years and average professional exercise time was 20 years. Of the respondents, 80% are nurses and 20% are specialist nurses. The percentage of nurses without experience or training in clinical supervision is 90%.

The analysis of the results (Table 1) prove that the nurses in this study had the highest score and considered more favourable to the EBP, the subscale "Attitudes" (M=5.36), followed by the dimension "Knowledge /skills and competences" (M=5,08) and the dimension "Practice" (M=4.89).

Table 1 Analysis of the results subscale Attitudes, Knowledge/abilities and skills, Practices.

	QECPBE-20 (Present study)	QECPBE-20 (Pereira, 2016)
Subscale "Attitudes"	M=5.36; DP=1.55	M=5.98; DP=0.97
Subscale "Knowledge/ abilities and skills"	M=5.08; DP=1.08	M=5.07; DP=0.90
Subscale "Practices"	M=4.89; DP=1.45	M=4.43; DP=1.38

Attitudes (M=5.36; DP=1.55)

Knowledge/Abilities and Skills (M=5.08; DP=1.08)

Practices (M=4.89;DP=1.45)

Regarding the internal consistency the original version of the QECPBE presents the results in three subscales: Practices (= 0.85); Attitudes (= 0.79); Knowledge / Skills and Competencies (= 0.91); and has overall internal consistency of = 0.87.

Pereira's study (2005) using QECPBE-20, obtained the follow values: Practices = 0.74, Attitudes = 0.75, and Knowledge/abilities and skills = 0.95, showing an intern consist of = 0.74.

Through the table (Table 2) it is possible to verify that the present study presented an internal consistency superior to the original version of the QECPBE and the study of Pereira 6: Practices (= 0.930); Attitudes (= 0.915); Knowledge / Skills and Competencies (= 0.967).

Table 2 Dimensions Internal consistency in each study.

	Internal consistency (Chronbach's alpha)		
	Present study	**Upton and Upton (2006)**	**Pereira (2015)**
Subscale "Practice"	$\alpha=0.930$	$\alpha=0.85$	$\alpha=0.74$
Subscale "Attitude"	$\alpha=0.915$	$\alpha=0.79$	$\alpha=0.75$
Subscale "Knowledge/ Abilities and Skills"	$\alpha=0.967$	$\alpha=0.91$	$\alpha=0.95$

The assessment of the linear association between the dimensions and the scale was also performed (Table 3) (near here), and the dimensions were positively and significantly correlated with each other and with the total scale ($p<0.001$ for all calculated correlations). The "Knowledge" dimension displays the highest correlation with the total scale ($r=0.670$), with the "Attitudes" dimension having the lowest correlation ($r=0.442$). The Practices/ Knowledge pair is the one with the highest correlation ($r=0.511$).

Table 3 Correlation between subscales.

	Correlation between subscales (Person correlation coefficient)	
	Knowledge/Abilities and Skills	**Attitude**
Practice	r = 0.670; p = 0.002 (Pereira, 2015 r=0,47; p = 0,001)	r = 0.442; p < 0.001 (Pereira, 2015 r=0.23; p < 0.001)
Attitude	r = 0.511; p < 0.001 (Pereira, 2015 r=0.21, p < 0.001)	

Through the open response question the following barriers to the adoption of EBP were identified by 20% of respondents: Excess of weekly working hours; Lack of time for care; Lack of professional motivation; Lack of training of nurses regarding EBP; Lack of team meetings to exchange experiences; Lack of adequate tools in the workplace.

With the intention of identifying potential predictors for the full scale and for the dimensions, the linear regression models (fit and unfit) were calculated. Considering the academic degrees Bachelor and Licentiate, these study results show that participant nurses with a Specialty presented higher score values on the "Attitudes" dimension than participants with only a Bachelor or Licentiate degree, when fit to the spare variables. Only 6.8% of the variation on the "Attitudes"

dimension can be attributed to the variables that integrate the fit model.

From our sample, the nurses are favourable to an EBP, with the dimension Attitude reaching the highest average score, followed by Knowledge and Skills and finally the dimension Practice. Participants with training in Clinical Supervision showed higher values on the dimension Knowledge than participants with no Clinical Supervision training. On the other hand, the nurses with a Specialty presented higher score values on the dimension "Attitudes" than the others.

On the other hand, participants with training in Clinical Supervision presented higher values on the "Knowledge" dimension than the participants without Training in Clinical Supervision, when fit to the remaining variables. Only 9.5% of the variation of the "Knowledge" dimension can be attributed to the variables that integrate the fit model.

Discussion

The analysis demonstrated empirical evidence on the questionnaire, being valid and adequate for use in the Portuguese context, with robust internal consistency. Given the results obtained, the dissemination and systematized use of QECPBE-20 can be promoted.

The satisfactory results of this validation process reinforce its importance, considering, above all, the respective practical implications. These can be verified at several levels, such as in education, promoting skills and abilities, and in the direct provision of care or nursing research itself, involving professionals. The evaluation of practices, attitudes, knowledge and skills should be a structural support strand and a foundation in the definition of personalized and targeted interventions to specific organizational groups and contexts, aiming to promote and stimulate PBE among nurses.

The participants in this study report a positive attitude towards EBP, recognizing it as a key element to support practice. Similar results were also found by Pereira (6).

Nevertheless, there are a lot of obstacles that force an effective EBP application on regular bases. Nurses' believe that EBP is important to professional development and to improve care. It is vital to assess nurse's attitudes, barriers and practices in terms of EBP to outline tailored and specific interventions regarding EBP promotion and dissemination. Among these, academic qualification/long life learning and the organizational commitment seem to be key elementarily.

Our findings support that level of nursing education, namely specialization degree, is related with a positive attitude towards EBP. But also, higher levels of education and certification are associated with positive intentions to use research in practice. Other authors further refer to education as a key predictor of the self-reported EBP competencies (5). On the other hand, participants with training in Clinical Supervision presented higher values of knowledge dimension than participants without it, which demonstrates that clinical supervision can play an important role in the development of evidence-based practice competency. It becomes fundamental to implement mechanisms that support nurses in clinical practice, in order to promote reflective questioning. Without it, individual and organizational EBP change efforts are not likely to succeed and sustain5. Also, cultivating the spirit of critical thinking, promotes positive attitudes and beliefs for the development of EBP competency.

This study happened in a university hospital in Portugal and our sample does not have representativeness and was not randomized.

The fact that the study was done in a single hospital organization should be considered another possible limitation. Thus, it is accepted the importance of carrying out further studies, in other contexts,

regarding primary health care, to verify results with concordant or divergent values.

Despite these limitations, important data was revealed and showed us the importance of the implementation of a clinical supervision model for the development of EBP competence in our context.

Even with the limitations of our study, it shows the importance of some key predictors for the development of EBP competence, such as educational level and clinical supervision.

Future research is required to explore the relationship between the implementation of a clinical supervision model and the development of EBP competency, namely, attitudes and beliefs, by promoting reflective practice and also supporting individual and organizational changes.

However, this study has implications also at other levels: continuing education and training, professionals' accountability and awareness and the need for greater organizational support. Behavioural changes are likely to occur; however, it requires a systemic vision at various levels, including teamwork, organizations and even the working environment from a comprehensive perspective.

This study enhances the importance of clinical supervision in daily practice as a key factor for the development of EBP competence, which brings us closer to the development and testing of tailored interventions using clinical supervision as important support for individual/behavioural and organizational change in practising nurses.

Conclusion

This study found higher average scores for all dimensions of the questionnaire than previously reported by Pereira (7). However, several limitations to EBP were identified by the participants. Another situation that should also be part of our concern as a possible limitation of the study, is related to the fact that the sample is constituted only by professionals from just one hospital institution, even though it was used a large sample insert in an academic context. In order to overcome those limitations, it has been considered the importance of creating future studies applied to other contexts, in order to verify if the results are similar or divergent.

All in all, this study also supports the importance of the local implementation of protocols for clinical supervision in nursing practice in order to improve evidence-based practice and ensure quality care in the ambulatory surgery setting.

In all studies it is possible to verify that Attitudes dimension presents most favorable dimension to EBP, showing the higher scores with a M=5.36 in the present study, followed by Knowledge/abilities and skills (M=5.08) and finally Practices (M=4.89).

This study enhances the importance of clinical supervision in daily practice as a key factor for the development of EBP competence, which brings us closer to the development and testing of tailored interventions using clinical supervision as an important support for individual/behavioural and organizational change in practising nurses and APNs.

Still, the level of nursing education, namely specialization degree, is associated with a positive attitude towards EBP. In addition, participants with training in Clinical Supervision showed higher values of knowledge dimension.

Clinical supervision can play an important role in the development of evidence-based practice competency.

We can conclude that, the evaluation of practices, attitudes, knowledge / skills and competences should be a structural support strand and a foundation in the definition of personalized interventions directed to specific groups and organizational contexts, aiming to promote and stimulate PBE among nurses.

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Supervision in Clinical Practice Indicator: Analysis of the Evaluation of Pain in the Context of Ambulatory Surgery

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Abstract

Clinical supervision, as a formal process of monitoring professional practice, aims to improve decision-making to contribute to safety and quality of care through reflection processes and analysis of clinical practice. This study aimed to compare the postoperative pain evaluation and clinical recording procedures performed by nursing staff and clinical supervisors in ambulatory surgery patients.

The study was integrated into the research project "SAFECARE". It was developed a descriptive cross-sectional quantitative study in an ambulatory surgery unit of a University Hospital in Oporto, Portugal. The study population was the nursing staff with an intentional non-probabilistic sampling method. A questionnaire was constructed and evaluation of postoperative pain, patient clinical and demographic variables was included. This instrument was applied in 116 patients matched by 12 surgical specialties. Results were compared between nursing staff, clinical supervisors and electronic nursing records. Patients had an average age of 48.6 years, being mostly female. Regarding pain evaluation, the scale most used by nurses (62.1%) and clinical supervisors (67.2%) was the "Numerical Scale". Postoperative pain evaluation scores ranged from 0 to 7, with score 0 (no pain) presenting more frequently by nurses, electronic nursing records and clinical supervisors. 34.5% of results were not documented in electronic nursing records.

These findings support the importance of an intervention of clinical supervision in the indicator "pain" for the outpatient surgery setting. Local protocols of clinical supervision practice would contribute to improve postoperative pain evaluation, as well as standardization and optimization of nursing records, thus ensuring quality care.

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Introduction

Nowadays, Portuguese health professionals face several levels of demands. Firstly, patients in the general hospitals are more complex, since they are older and have multi-pathologies and chronic diseases. Secondly, knowledge is constantly changing and updating, so health professionals are required to be effectively involved in their practice. Clinical Supervision, considered a well-established support system for nurses in countries, such as the United Kingdom, Australia, New Zealand and countries of Scandinavia [1] could be an important tool to help health professionals and organizations reach the presented assumptions.

There have been a lot of changes through the recent years to the Portuguese National Health System, mainly evoked by the requirement's introduced by the Health Ministry in terms of health certification, of which institutions have been forced to develop a set of efforts directed at the certification or accreditation of their quality management systems.

Quality has become a priority in health sector, and carry is the focus of the institutions, being part of its strategies to promote continuous improvement, cementing a culture of quality and safety, and is only possible through the voluntary commitment of all the professionals.
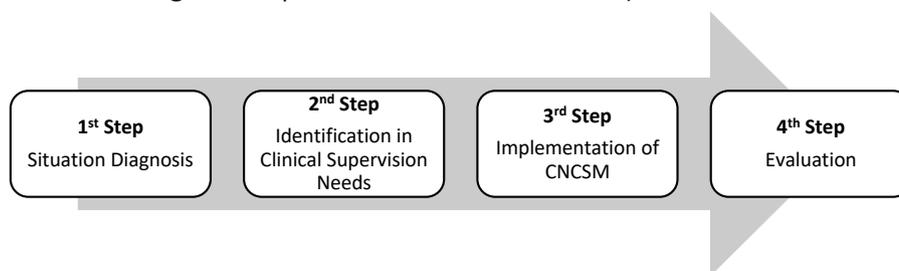
There is scientific evidence that points to the benefits of implementing a clinical supervision model in the quality of nurses' care and in the safety of the patients at different levels.

Clinical supervision (CS), as a formal process of monitoring professional practice, aims to improve decision-making, while adopting the utmost and most recent scientific evidence, in order to contribute to safety and quality of care through reflection processes and analysis of clinical practice.

In Portugal, the emergence of establishing a clinical supervision practice was due to the combination of three factors related to the nurses' professional development: i) the permanent education movement in the 1970s; ii) the increase in the number of quality and nursing care studies; iii) the quality certification process [2]. The Nurses' Portuguese Order defined Clinical Supervision as "a formal process of monitoring professional practice, which aims to promote autonomous decision making, valuing the person protection and the safety of care, through reflection processes and analysis of clinical practice" [3]. Clinical Supervision is an activity that allows nurses to reflect on their practices, it should not only take place under the guidance of an experienced supervisor (to help conducting the supervisee's reflection process) [4], but also in a supportive environment (to support the professional development through the sharing of the day-to-day problems with peers), (Brunero and Lamont, 2011) [5].

The processes of nurses´ clinical supervision are not established in Portugal, although the Portuguese Nurses' Order has published a new model of professional development where it is implicit. The SAFECARE Project aims to implement a Contextualized Nursing Clinical Supervision Model (CNCSM) in twelve surgical wards of a Portuguese hospital, which aims to contribute to the promotion of safety and quality of nursing care. The SAFECARE project, results from a partnership between the the *Escola Superior de Enfermagem do Porto* (ESEP) and the *Centro Integrado de Cirurgia de Ambulatório* (CICA), and is based on four structuring axes: context (refers to the set of elements and circumstances where care is developed and provided), nursing care (focuses on the interpersonal relationship between a nurse and a client, or between a nurse and a group of clients), professional development (refers to the nurses´ need in

Figure 1 Steps of CNCSM from SAFECARE Project.

1st Step	2nd Step	3rd Step	4th Step
Situation Diagnosis	Identification in Clinical Supervision Needs	Implementation of CNCSM	Evaluation

continuing their training during their professional activity that meets their personal goals, care clients, and context/ organizational culture) and supervision (based on concept defended by the Portuguese Nurses' Order). The SAFECARE project also includes four steps (Figure 1).

In the first one, a situation diagnosis is performed to assess sensitive indicators to the nurses' personal and professional practice, these indicators will be submitted to an instrument of evaluation elected by the Major Nurse. During the second step of the SafeCare Model we identified the clinical supervision needs felt by nurses. To do that, we held meetings at AS with all elements of the project, from a Nurse Director, a Nurse Supervisor, to Head Nurses, the project managers and all the nurses from the different teams. In those meetings we explain the project design, the selection criteria of clinical supervisors and clarify all the doubts related with the implementation of the SafeCare Model. This was a way to "break the ice" between the researcher and the participants, since the establishment of trust bonds are very important. On the third step, the (CNCSM) is implemented: group supervision sessions between the supervisors and the supervisees take place, during one year, to meet the supervisory needs felt by nurses. In this third phase, nurses have the chance to discuss various work problems, related to their day-to-day routine so they can feel more secure, supportive, and less helpless. In the four and last step, the process of the CNCSM implementation is evaluated. In order to do that, a relation between the CNCSM applied and all the sensitive indicators to the nurses' personal and professional are again evaluated with the same "modus operandi".

The literature states that if the indicators levels are higher after the implementation of a CNCSM, we can predict that the clinical supervision was efficient [6,7].

According to the International Classification of Nursing Practice (ICNP) [8], pain can be defined as a "compromised perception: increased uncomfortable body sensation, subjective referral of suffering, characteristic facial expression, alteration of muscle tone, self-protection behavior, limitation of attention focus, altered perception of time, escape from social contact, compromised thinking process, distraction behavior, restlessness and loss of appetite". Pain is considered as a physiological phenomenon that can cause physical and psychological suffering to people, and, consequently, a decrease in quality of life. Acute pain is the main reason for seeking health care by the population. Chronic pain, due to causing pathophysiological changes that will contribute to the emergence of associated organic and psychological comorbidities, was no longer considered a symptom and was evaluated as a disease.

Correct evaluation and pain management, as well as being fundamental to the humanization of health care, should be taken as a priority. In 2003, the DGS issued a Regulatory Circular, on 14 June, regarding pain as the 5th vital sign, making regular evaluation and recording of pain intensity in all service providers of health care. The mentioned Normative Circular also indicates the possible scales that should be used in the evaluation of pain intensity, as well as some basic instructions for its correct use.

In the surgical hospitalizations in which we implemented the SafeCare Model, the most common type of pain, for obvious reasons, will be postoperative pain. This can be considered as "a set of diverse sensory, emotional and mental unpleasant experiences, associated with autonomic, endocrine-metabolic, physiological and behavioral responses" (International Association for the Study of Pain, 2010) [9]. According to the International Association for the Study of Pain, more than 80% of patients undergoing surgery report postoperative pain, with a worsening of their control after hospital discharge. It also discloses that less than half of the patients with postoperative pain report having a decrease in it adequately (International Association for the Study of Pain, 2010) [9]. The consequences of poorly controlled post-surgical pain, in the short term, lead to unnecessary suffering, increased risk of postoperative morbidity and mortality, and increased hospitalization times, as well as associated costs. In the long term, acute pain proceeds to chronic pain in 10-50% of patients who have undergone common surgical procedures, and 2-10% of these patients may manifest severe chronic pain (International Association for the Study of Pain, 2010) [9]. This International Association recommends that acute pain in the postoperative period and responses to analgesic treatment be duly documented. Also, that the analgesic treatment is adapted to the surgical procedure, and that pain is the best possible controlled, when it exists, in the preoperative period, so that chronic pain can be prevented. The health professionals involved in the peri-operative period should also be sensitized to collaborate in the prevention and treatment of postoperative pain, aiming to improve the clinical outcome (International Association for the Study of Pain, 2010) [9].

Objectives

The objective of the study is to describe the influence of SafeCare Model (a Nursing Clinical Supervision Contextualized Model) on nurses comparing the postoperative pain evaluation and clinical recording procedures performed by nursing staff and clinical supervisors in ambulatory surgery patients.

Methods

This is a descriptive cross-sectional quantitative study from the first step from SAFECARE research project that was conducted in the ambulatory surgery (AS) unit of a University Hospital in Oporto, Portugal.

The study population was the unit's nursing staff, with an intentional non-probabilistic sampling method.

In order to collect pain evaluation data, an instrument (questionnaire) was built based on the SClínico® software application. This instrument is composed of a first part that makes a brief introduction to the project, explains the objectives of data collection, and provides instructions for completing it. Then a second part arises where it is intended to make a brief characterization of the patient to whom the pain will be evaluated. In addition, finally, a third part where an evaluation of the pain itself is made, through the diagnostic activities, nursing diagnoses and more appropriate interventions.

This instrument was filled three times for each patient selected by the nurse from the set of patients for the shift. Thus, the nurse filled it the first time. The nurse later informed the investigator who the patient was, and the investigator completed the questionnaire again with the patient on the same shift. A third record of the data collection instrument was followed by the investigator, based on records made by the nurse for the shift and for the patient in question.

This instrument was applied to 116 patients matched by 12 surgical specialties. Results were compared between nursing staff, clinical supervisors and electronic nursing records

The Board of Directors and the Ethics Committee authorized the study, since all the ethical issues related to the application of this type of instruments were considered.

Results

A total of 348 evaluations were obtained. Patients had an average age of 48.6 years, being 58.6% female and 41.4% male. Regarding pain evaluation, the scale most used by nurses (62.1%) and clinical supervisors (67.2%) was the "Numerical Scale", while the most recorded scale was the "Qualitative Scale" (47.4%). Postoperative pain evaluation scores ranged from 0 to 7, with score 0 (absence of pain) presenting more frequently, namely 88.8% for nurses, 53.4% for

electronic nursing records and 75.9% for clinical supervisors. Clinical supervisors registered higher pain scores compared to nurses. 34.5% of results were not documented in electronic nursing records.

Analyzing the pain intensity results (Figure 2), it was possible to verify, through the Kruskal-Wallis non-parametric test (H), that there were some statistical differences in the evaluation of pain intensity by the various participants (H = 7.010, gl = 2, p = 0.030). The results with score 0 in the evaluation of pain intensity as the score with more evaluations; to notice that the number of evaluations with this score was different between the three participants, with the nurses' evaluation having the highest number of evaluations (n = 103); the number of evaluations by the Clinical Supervisor was smaller (n = 88) compared to the one previously mentioned, since this participant presents more evaluations in other scores compared to nurses; it should be noted that it was verified that in 40 evaluations there were no records, also justifying the difference in the number of evaluations per score when compared with the nurses' evaluation.

Analyzing the pain scales used (Figure 3), the Kruskal-Wallis test (H = 38,227; gl = 2; p = 0.0001) showed that there were compelling statistical differences in the choice of the scale used to evaluate patients pain among the three participants. The most used scales were the Numeric Scale (NS) and the Qualitative Scale (QS), with
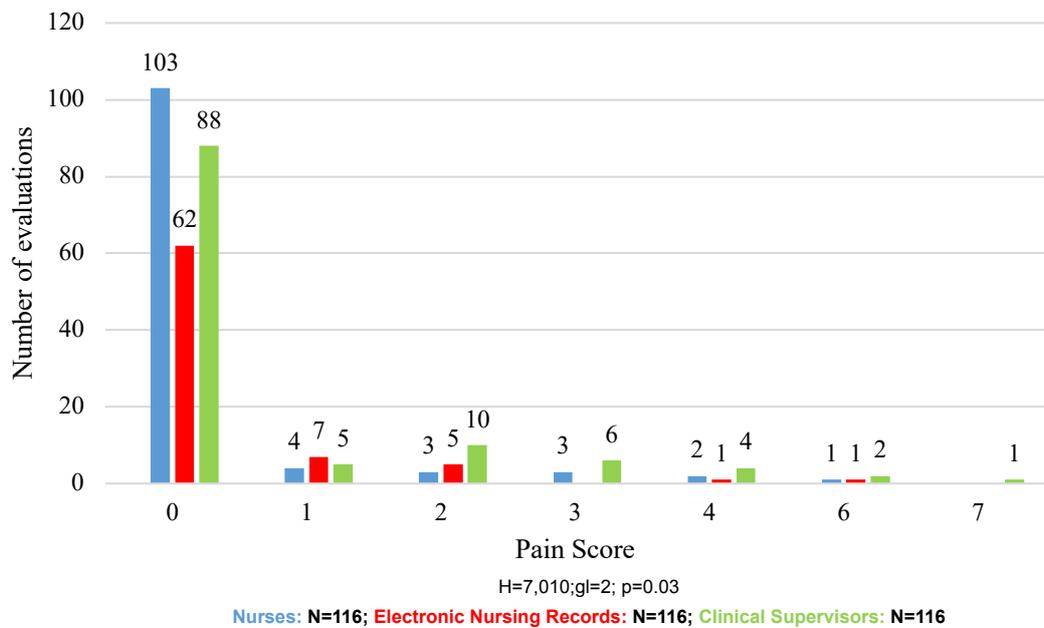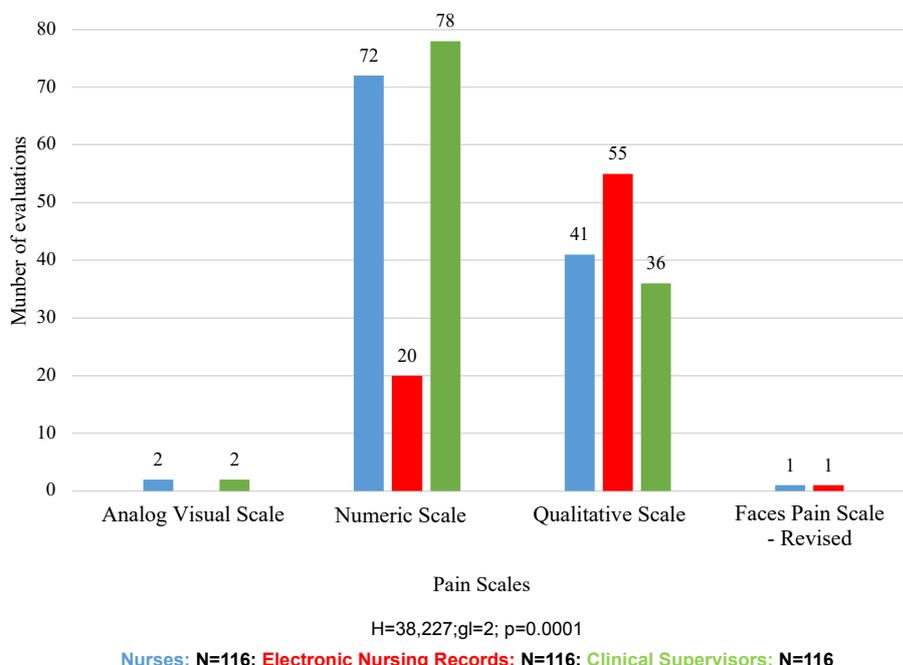
Figure 2
Pain intensity.

H=7,010;gl=2; p=0.03
Nurses: N=116; Electronic Nursing Records: N=116; Clinical Supervisors: N=116

Figure 3
Pain scales used.

H=38,227;gl=2; p=0.0001
Nurses: N=116; Electronic Nursing Records: N=116; Clinical Supervisors: N=116

the Numeric Scale being more used in the evaluation of the Nurse (n = 72) and Clinical Supervisor (n = 78) and the Qualitative Scale being the most used in the nursing records (n = 55) when these were performed.

The results of data collected of the evaluation of pain as a diagnostic activity (Figure 4) had statistically significant differences between the three participants through the Kruskal-Wallis test (H = 90,130; gl = 2; p = 0.0001). It was verified that both the nurses and the Clinical Supervisor performed the evaluation of pain as a diagnostic activity in all cases (n = 116), however, in 40 cases the nurses did not document their evaluation.

In the appointment Pain Diagnosis (Figure 5), the non-parametric Kruskal-Wallis test (H = 274,926; gl = 2; p = 0.0001) showed that there was a statistically significant difference between the three participants. It was verified that the diagnosis of pain in the nursing records was never named, although for 4 times the nurses did not appoint it as well; however, "No pain" was the most nominated by both nurses (n = 95) and Clinical Supervisor (n = 88), being consistent with the pain intensity assessed in the first graphic.

We try to identify too if the intervention "monitor pain" was one of the chosen ones to be carried out periodically by the participants (Figure 6). It was found that there was a statistically significant difference through the non-parametric Kruskal-Wallis test (H =

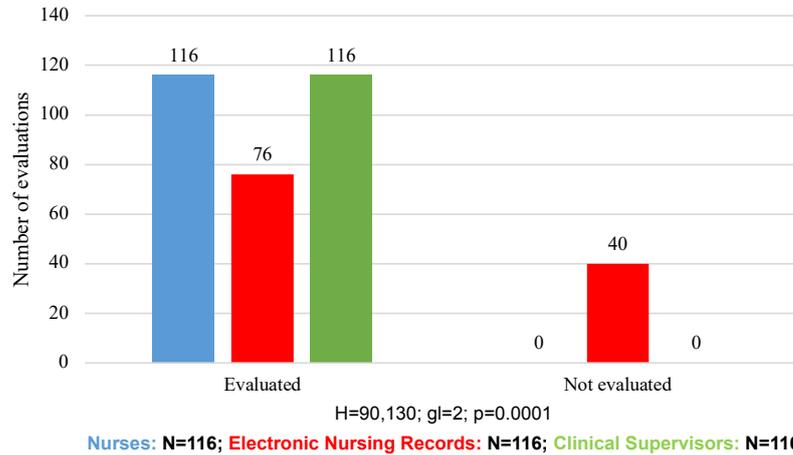**Figure 4** Diagnostic activity: Monitoring pain.

H=90,130; gl=2; p=0.0001
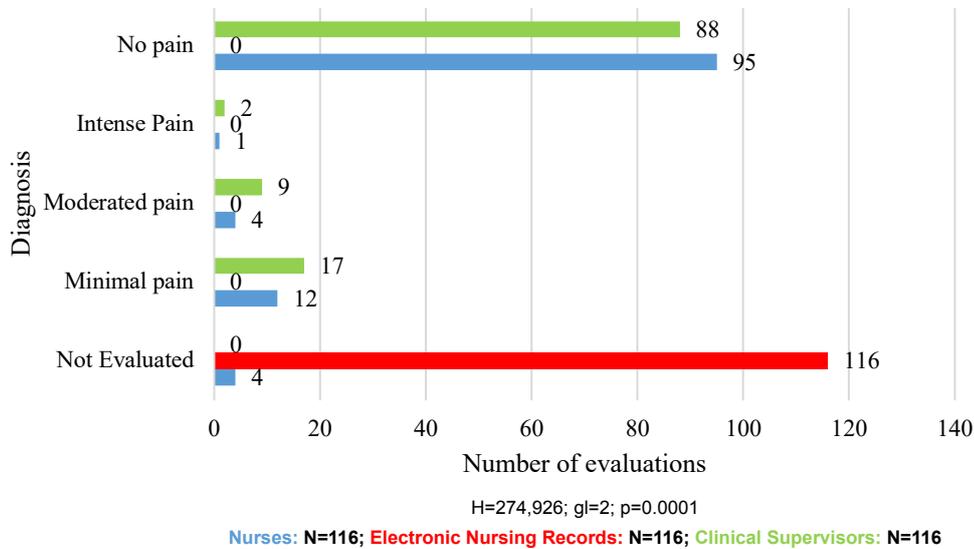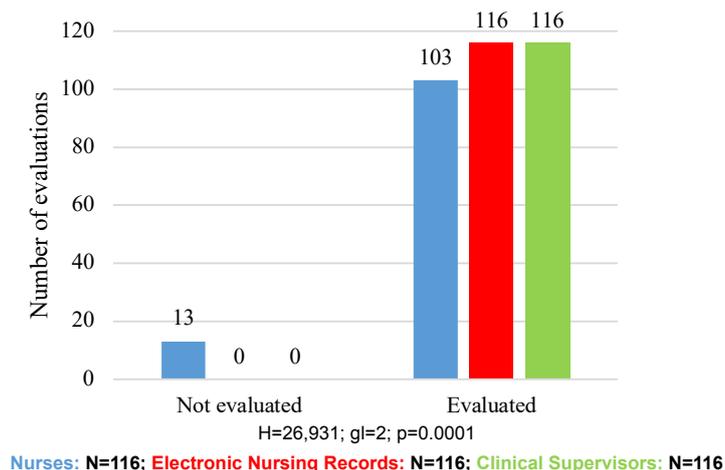**Nurses: N=116; Electronic Nursing Records: N=116; Clinical Supervisors: N=116**

Figure 5 Pain diagnosis.

H=274,926; gl=2; p=0.0001
Nurses: N=116; Electronic Nursing Records: N=116; Clinical Supervisors: N=116

Figure 6 Intervention: Monitor Pain.

H=26,931; gl=2; p=0.0001
Nurses: N=116; Electronic Nursing Records: N=116; Clinical Supervisors: N=116

26.931; gl = 2; p = 0.0001) and the non-parametric test for the intervention. It was verified that both the Clinical Supervisor and the nursing records evaluated pain in all cases (n = 116), meaning that this intervention was chosen to be performed periodically, whereas in 13 of the cases, the nurses did not choose this intervention.

Observing the number of pain evaluations registered by nurses during hospitalization, it was verified that, on average, 1.84 pain evaluations were recorded per case at admission.

Discussion

The results showed significant differences in pain evaluation, which makes this study important in order to present relevant information to guide the development of strategies and interventions with the nurses' staff to improve their knowledge and action skills related to pain evaluation.

As a strength, we can highlight the large number of pain evaluation performed and can present consistent results. Importantly, despite the additional burden of records made by nurses, they were always related to the project. The results presented give a good overview of the state of play and starting point of the SAFECARE Project, providing a solid basis for its continuation and development.

As limitations of the study, it is noteworthy that the pain evaluation of the nurses and the clinical supervisor was not always simultaneous, and this should be taken into account when interpreting the comparison of results between these actors.

Conclusion

The SafeCare Project enables a culture of professional supervision through the application of a Clinical Supervision Model Contextualized, whose methodology aims to foster the creation of environments favorable to the practice and development of learning and professional role, through the recognition of the areas sensitive to clinical supervision in Nursing.

The findings in this paper supports the importance of an intervention of clinical supervision in the indicator "pain" for the outpatient surgery setting. Local protocols of clinical supervision practice would contribute to improve postoperative pain evaluation, as well as standardization and optimization of nursing records, thus ensuring quality care.

The exertion of clinical supervision on nurses could lead to better outcomes in the management of conflicts, more desirable results on the basis of practice, guiding to better quality care, safer for the patients and with the uttermost professional satisfaction.

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Case Report: Dental Damage from a Bite Block during Endoscopy

Parker, JD

Abstract

Dental damage is a recognised risk and a common litigation issue in anaesthesia practice. While significant attention goes to the risk from laryngoscopy, of the reported incidence of 0.02% - 0.07% of dental damage from anaesthesia, approximately a quarter are attributable to biting and clenching during emergence onto oropharyngeal equipment.

Bite block however is an uncommon cause accounting for 1-5.9% of all dental damage generally in the context of tracheal extubation. Here we report a case of dental damage resulting from a bite block during endoscopy under intravenous sedation. Written consent to publish the case report was obtained from the patient.

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Case Report

Dental damage is a recognised risk and a common litigation issue in anaesthesia practice. While significant attention goes to the risk from laryngoscopy, of the reported incidence of 0.02% - 0.07% of dental damage from anaesthesia [1-4], approximately a quarter are attributable to biting and clenching during emergence onto oropharyngeal equipment [1]. Bite block however is an uncommon cause accounting for 1-5.9% of all dental damage generally in the context of tracheal extubation [2,3]. Here we report a case of dental damage resulting from a bite block during endoscopy under intravenous sedation. Written consent to publish the case report was obtained from the patient.

A ConMed Scope Saver Bite Block (ConMed Corporation, New York, USA) was placed in between the teeth with a rubber strap around the neck on a 47 year old male undergoing gastroscopy and colonoscopy. The patient was consented to the risk of dental damage during pre-anaesthesia assessment due to identified dental risk factors of the presence of multiple dental crowns

A modified Hudson mask with a cut-out in the centre was applied with oxygen flow of 10 litres per minute. Intravenous sedation was administered with boluses of propofol in the left lateral position titrated to achieve a Modified Ramsay Sedation Scale of between 5 and 6. Small volumes of intravenous propofol were given throughout the procedure to maintain this level of sedation. The gastroscopy was completed uneventfully and colonoscopy was commenced with the bite block in situ. During retroflexion of the colonoscope to view the anal canal, the patient vigorously clenched down on the bite block followed by an audible click emanating from the contact between his teeth and the bite block. In the post-operative recovery unit, it was confirmed that the patient's dental crown on an upper incisor had been dislodged.

The primary purpose of bite blocks is to prevent damage on equipment placed in the oral cavity from biting. An ideal bite block however should also offer dental protection. It should distribute pressure evenly across dentition, placed between the molars [5], and made of softer profile.

The risk of dental damage from bite blocks is not regularly communicated to patients during pre-anaesthesia assessment nor is it consistently stated in information published by anaesthesia professional bodies for patients regarding the risks of having anaesthesia. It is our view that the risk should be explicitly stated in the informed consent process whenever bite blocks are being used.

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