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Teaching and learning quaternary prevention

O ensino e a aprendizagem da prevenção quaternária

La enseñanza y el aprendizaje de la prevención cuaternaria

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Abstract

This article presents an overview of different techniques and skills necessary for teaching and learning quaternary prevention (P4). It adopts the Expertise Model that defines the competences required in P4 for each level: novice, competent, proficient, and expert. This framework should be used as a step-wise roadmap for teachers in order to achieve high levels of performance. This proposal is complemented by a list of methods applied in teaching and assessment of learners' performance and competence. By covering a range of learning and teaching issues, those who aim to teach quaternary prevention can explore the proposed framework. Quaternary prevention is a research and teaching fertile medical field that entails the integration of different areas such as health service organization, epidemiology, communication skills, and andragogy either at the macro or the micro levels of health related activities.

Keywords:
Quaternary Prevention
Teaching
Education, Medical
Family Practice
Internship and Residency

Resumo

Este artigo apresenta uma visão geral das diferentes técnicas e habilidades necessárias para o ensino e a aprendizagem da prevenção quaternária (P4). Ele adota o Expertise Model que define as competências exigidas na P4 para cada nível: iniciante, competente, proficiente e expert. Essa estrutura pode ser utilizada como um roteiro passo a passo para os professores, a fim de alcançar elevados níveis de desempenho. Esta proposta é complementada por uma lista de métodos usados no ensino e na avaliação de desempenho e competências dos alunos. Ao cobrir uma série de questões de ensino e aprendizagem, aqueles que visam ensinar prevenção quaternária podem explorar a grade proposta. A prevenção quaternária é um campo fértil para a investigação e o ensino da medicina que envolve a integração de diferentes áreas, como a organização de serviços de saúde, epidemiologia, habilidades de comunicação e andragogia, tanto no nível macro como no micro das atividades relacionadas à saúde.

Palavras-chave:
Prevenção Quaternária
Ensino
Educação Médica
Medicina de Família e Comunidade
Internato e Residência

Resumen

Este artículo presenta una visión general de las diferentes técnicas y habilidades necesarias para la enseñanza y el aprendizaje de la prevención cuaternaria (P4). El adopta el Expertise Model que define las competencias requeridas en P4 para cada nivel: principiante, competente, proficiente y experto. Esta estructura puede ser utilizada como un guía paso a paso para los profesores con el fin de alcanzar altos niveles de rendimiento. Esta propuesta se complementa con una lista de métodos utilizados en la enseñanza y la evaluación del desempeño y competencia de los educandos. Al hacer referencia a una serie de cuestiones de enseñanza y aprendizaje, los que tienen como objetivo enseñar prevención cuaternaria pueden explorar el marco propuesto. La prevención cuaternaria es un campo fértil de investigación y enseñanza de la medicina que requiere la integración de diferentes áreas como la organización de servicios de salud, epidemiología, habilidades de comunicación, y la andragogía, ya sea en el nivel macro como micro de las actividades relacionadas con la salud.

Palabras clave:
Prevencion Cuaternaria
Enseñanza
Educación Médica
Medicina Familiar y Comunitaria
Internado y Residencia

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"One of the first duties of the physician is to educate the masses not to take medicine"Sir William Osler (p. 105)[1]

Introduction

Quaternary Prevention (P4) is defined as "the action taken to identify a patient or a population at risk of overmedicalization, to protect them from invasive medical interventions and provide for them care procedures which are both scientifically and ethically acceptable".[2,3] It is considered by many a controversial concept, mainly because it follows a different direction from the other prevention concepts (primary, secondary and tertiary prevention) which lead to more interventions.[4]

The concept of P4 is better integrated by generalists as general practitioners/family physicians (GP/FP) and practice nurses – because these specialists are not committed with specific parts of the body or groups of diseases.[5] Medicine and its interventions are usually driven towards increasing both quality and expectancy of life; but, when in excess, even apparently simple interventions as screening procedures may have opposite effects.[6] The impact of unwanted effects from excess of medical interventions only recently (a few decades ago) became an object of epidemiological studies.[7]

Observing the way "market driven influences" favour and induce overdiagnosis, overscreening, incidentalomas, overtreatment and overmedicalisation, it is necessary to remind all medical professionals of the first basic principle of our activity: *primum non nocere*.[8,9] Disease mongering, disease marketing and branding of conditions are the weapons handled by the bigpharmas, supported by their effective partners in medical associations and classification boards.[10] Instrumental to this is the widespread use of fake publications with the benediction of some medical press and academic centres in a broad picture of institutional corruption and the complicity of public health policies which have long ago forgotten their responsibilities towards the people they should serve.[11,12] To contradict this *status quo*, and to help doctors to be in the best conditions to understand and avoid these "market driven influences", therefore acting in the best interest of their patients and society as a whole, we need to bring up a wide programme of learning and teaching P4.

The learning/teaching process

Quaternary Prevention is a decisive and sensitive concept. It should be learned and taught bearing in mind that together with its strengths there are also threats. The main threat is to transform the research in this field in a *ghetto* or to reduce it into a kind of political militancy. Since health services have undergone a huge transformation, becoming more like an industry, one of the main values of medicine – "*primum non nocere*" – has become a sort of "different" and "strange" concept, almost an "aberration".[13] Teachers in the quaternary prevention field should take these issues into consideration.

The learners

Any learning/teaching process must define the target group.[14] This paper is intended to address the medical students and doctors, at all levels of medical learning process: (1) undergraduate medical programmes such as Basic Medical Education-BME which focus on students; (2) Specialty Training programmes with a focus on GP trainers and GP trainees (ST); and (3) Continuing Medical Education (CME)/Continuing Professional Development (CPD), aiming the health professionals.

The teachers

Over recent years a greater proportion of the teaching at undergraduate level (BME) is being provided by general practice based teachers coming from a practice setting.[15] The same happens with trainers involved in ST, and CME/CPD Tutors. The teaching of P4 requires special knowledge and skills, as well as a close working relationship between teachers and learners. The main competences for a teacher of quaternary prevention addressed in this article are presented below.

Communication skills with the patient

Patients learn since childhood "*what is the purpose of a doctor*": to complain about pain and other physical symptoms, to talk about diseases or health problems, or, in a relatively recent scenario, to ask for medication, screenings or other procedures. When this process happens and patients learn how to communicate with doctors only about their disease this can produce a behavioural pattern or even a vicious cycle (Figure 1). It is often a skilled doctor who usually breaks this behavioural pattern and explores with the patients about their fears or expectations. Many symptoms such as agitation, thoracic pain, or depression often reflect underlying personal issues, which are not easy for patients to express them. Additionally, the media reinforces this disease behavioural and communication pattern by "selling" the idea that doctors save lives and deal only with diseases and physical symptoms.[16] Hence, one of the most crucial tasks for health professionals is to detect when a given intervention is not appropriate for an individual patient. A decoding process becomes necessary in order to deeply access and understand patients' feelings, fears, ideas and expectations, as well as associated signs and symptoms, considering patients' wider context.[17,18]

Communication skills with the learners

Teachers should understand how teachers teach and how adults learn. In teaching P4 we are dealing with adult learners (andragogy).[19] Learning processes should be based in a relevant environment, actively involving teachers and learners at all stages in order to produce a reflective self-educating practitioner. Adult learning process works better when self-directed, experiential, need-based and problem-based directed. P4 teachers should use learner centred models of teaching to improve the communication with learners.[16]

Personal attributes

Teachers should have open minds, good health, and master listening and communication skills. Additionally, they should be keen to share competencies and be skilful in organising their teaching activities.

Figure 1. Vicious cycle identified in doctor-patient communication. Source: elaborated by the authors.

Medical competences

Teachers should also be experienced as medical doctors and master up-to-date clinical knowledge and skills in order to teach P4. They should always aspire to an outstanding professional attitude and work in typical practice profile, as well as be involved in quality of care improvement and keep appropriate records. Finally, teachers should have a firm commitment to teach P4 at all levels.

The working environment

Teaching quaternary prevention can be more of a challenge when the health systems are not rational and well-organised. Rational health systems rely on strong primary health care and skilled generalists working in teams and in a network environment. Additionally, for learners, it might sound contradictory and confusing to practice and learn quaternary prevention in an 'ill-organised' health system, such as systems without a clear regulation, lacking lists of patients per general practitioners (i.e. family doctors being the gatekeepers of hierarchical health systems) and being driven by market. In order to overcome the difficult task of teaching P4, teachers might choose or develop their own strategies, based upon different teaching and learning styles. Hence, quaternary prevention can be practiced and taught at individual level but attains maximum effectivity when aimed towards the population as a whole, which requires a "task force" effort.[20]

The objectives: what we are going to teach?

To organise the different and complex competences needed to perform quaternary prevention, and the steps for mastering those competences through the learning/teaching process, we decided to apply the *Expertise Model*: the Dreyfus brothers 4-stage model, defining the characteristics of functioning at each level: Novice, Competent, Proficient, and Expert.[21]

This model was successfully used as "Framework for Continuing Educational Development of Trainers in General Practice/Family Medicine in Europe" by the European Academy of Teachers in General Practice/Family Medicine (EURACT) and partners (College of Family Physicians in Poland; Health and Management Ltd.; ZiZ Education Centre Ltd.; Danish College of General Practitioners; Institute for Development of Family Medicine; Greek Association of General Practitioners; Portuguese Association of General Practitioners; and Turkish Association of Family Physicians).[22] The objectives of the learning/teaching process are (among others possible) described in Table 1.

Table 1. Domains of Teaching Quaternary Prevention.[21]

	Personal attributes			
Domain	Novice	Competent	Proficient	Expert
Ethics	Familiarity with the concept of professional and personal ethics.	Apply ethical principals in dealing with patients medical needs. Justify/clarify personal ethics.	Deal with complex ethical issues in relation to over-medicalization achieving shared decisions with patients.	Identify ethical aspects of clinical practice. Understand the full context of over-medicalization, finding solutions and applying the principles of P4 to patients while influencing colleagues and learners.
Self-knowledge	Capability of self-assessment.	Self-awareness of own emotional responses in dealing with P4 issues.	Use self-knowledge as a tool in relating to patients and team when dealing with complex situations.	Influence others into self-knowledge, providing adequate methods when needed and establishing the reports with P4.

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

Table 1. Continued...

Person centeredness				
Domain	Novice	Competent	Proficient	Expert
Communication	Ability to communicate with patients.	Easily communicate with patients, using empathy and non-verbal signs.	Apply communication skills for counselling. Use concepts from proxemics. Deal adequately with different emotions.	Expertise in communication and organisation of training in this area, facing the difficulties in achieving ethical and acceptable care procedures.
Patient-doctor relationships	Establish good relations with patients.	Establish relations overtime using patient-centred consultation models, taking decisions and prioritizing problems with respect for the autonomy of the patient.	Develop and maintain a partnership with the patient. Take into account patients feelings, values and preferences when counselling, namely in the complex areas of P4.	Own and expand an anthropological understanding of patient-doctor relationships, being aware of subjectivity in the medical relationship from the doctors' side (self-awareness on values, attitudes and feelings) and using this understanding to facilitate patient's decisions.
Advocate for the patient	Capability to act as advocate for the patient.	Develop and maintain relationships and communication styles actually characterized by partnership with the patient.	Demonstrate active advocacy, eventually against third parties, namely when dealing with over-medicalization.	Master skills in effective leadership, negotiation and compromising skills in order to effectively influence the health environment to protect patients.
Practice environment				
Domain	Novice	Competent	Proficient	Expert
Patient safety	Ensure highest standards of patient safety at all times.	Balance the needs of service delivery with patients' needs. Apply P4 to the practice environment.	Develop P4 in the practice environment to ensure patient safety. Involve patients as P4 partners.	Organise P4 programmes for learners and colleagues. Have responsibility for overseeing the impact of P4 programmes on patient safety.
Management of problems	Awareness of potential impact on patient safety of problems in prevention activities.	Ability to recognise early difficulties experienced by GPs in delivering P4. Respond to concerns raised about difficulties in prevention and seek further help, when necessary.	Manage complex difficulties in prevention and provide support to patients and GPs. Respond to concerns raised, working within available systems of support.	Ensure availability of support systems in the organisation either locally or within external sources. Able to arrange and supervise remediation of problems identified by patients and GPs.
Quality improvement	Understand the processes of quality improvement through the application of P4.	Actively involved in improving the awareness to P4, thus promoting excellent practice.	Identify problems of over-medicalization and improve measures trough P4, assuring appropriate follow-up. Identify problems and undertake remedial action when needed.	Take overall responsibility for the quality and improvement of P4. Ability to deal with complex quality improvement problems and supervise the application of appropriate solutions.

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

Table 1. Continued...

Information				
Domain	Novice	Competent	Proficient	Expert
Guidelines and Protocols	Know guidelines and protocols and carefully study them.	Keep up-to-date about new guidelines and protocols. Compare them and evaluate whether they are adequate in each individual patient. Apply them accordingly in consultation.	Discuss and compare new guidelines and protocols with peers and evaluate the quality of evidence on which they are based, questioning the process of their elaboration. In consultation, favour the use of symptom based protocols.	Understand that guidelines aim to help make clinical decisions, not to replace them. Establish the credibility criteria of each guideline before using or recommending it. Induce learners and colleagues to understand that not all documents denominated as 'guidelines' truly fulfil its task and that the possibility of false-positives or unnecessary interventions grow when applying the wrong protocol.
Patient support and information	Provide information to the patients on basic P4 issues.	Regularly update on problematic issues (screening, medication, procedures) and discuss those issues with their patients in order to obtain the better common decision.	Understand the theoretical frameworks which underlie dealing with P4 in complex situations and use it with patients. Take part in the development of support systems for patients. Capable of responding to special need of patients.	Take responsibility for providing information to patients, both individually and in groups. Organise educational learning/teaching programmes about screening, treatment, procedures, disease-mongering and quaternary prevention. Responds to patient's questions eventually using media.
Educational supervision and support	Self-motivated as potential teacher/tutor/ facilitator.	Supervise a learner (student or trainee) in areas of P4. Able to give helpful and constructive feedback to learners. Provide a role-model.	Supervise the clinical performance and education progress of an individual learner (or groups). Understand the theoretical frameworks which underlie dealing with P4 in complex situations and use it with learners. Capable of responding to trainees' special needs.	Supervise whole programme and individual elements within it. Supervise other teachers/ trainers providing appropriate feedback. Give successful feedback to learners with complex difficulties, using outside agencies where appropriate. Take part in the development of support systems for trainers and trainees (or other learners).

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

Table 1. Continued...

Science				
Domain	Novice	Competent	Proficient	Expert
Research	Aware of the importance and relevance of research.	Participate in independent research on request. Acquainted with research being carried out in their area of interest.	Familiar with the important relevant research findings. Understand the techniques of research relevant to their role. Able to develop and conduct independent research. Awareness of possible flaws in research.	Experienced in conducting or analysing research. Supervise research projects, establishing ground rules for its independence from industry. Translate significant research findings into P4 training programmes. Understand the role of independent research in protecting patients.
EBM	Familiar to the concept of EBM.	Have solid and updated knowledge of scientific developments. Currently make use of the best evidence available when reaching common decisions with their individual patients.	Apply the scientific method consciously, explicitly and judiciously, to medical practice, including long-established existing medical traditions not yet subjected to adequate scientific scrutiny, providing the best possible evidence- based care.	Have a deep knowledge of EBM and tacit understanding of its application across the areas of medical practice. Develop scientific approaches to practice through the active support of initiatives in the area. Proactivity in establishing scientific programmes of learning/teaching.
Critical reading	Have access to published data and regularly read different publications.	Able to judge scientific publications, to prioritize sources of information and critically upraise different options available.	Able to adopt a critical and research based approach to practice and maintain this through continuing learning and quality improvement.	Holistically grasp different publications, moving easily between intuitive and analytical approaches. Able to see overall “picture” and possible alternatives, while maintaining a critical and sceptical approach. Promote critical reading among learners and colleagues.
Epidemiology	Have knowledge of the epidemiology of problems presented by patients.	Master an approach which allows easy accessibility for patients and their problems. Have knowledge of the conditions encountered in consultation and their treatment.	Skilled in acute, chronic, palliative and emergency care. As prescribers, favour approaches based upon pharmaco-epidemiology oriented towards the patient.	Use an organisational approach to manage the full range of health conditions. Skilled in epidemiological assessment and contribute to the demystification of market driven influences.

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

Table 1. Continued...

Science				
Domain	Novice	Competent	Proficient	Expert
Statistics	Have basic knowledge in statistics.	Awareness of the use of surrogate outcomes and relative instead of absolute risk as a way to show apparently favourable conclusions in biased publications.	Familiarity with common misleading statistical errors, such as regression to the mean, the error of the transposed conditional, and the individual response. Attentive to lead-time bias, length bias and over-diagnosis bias.	Show authoritative knowledge of statistics and deep understanding across areas of practice. Ability to take responsibility for going beyond existing standards and creating appropriate opportunities for discussing and correcting health plans or activities based upon biased conclusions.
NNT/NNH	Know NNT and NNH.	On their therapeutic activities always take into account NNT and NNH, and discuss it with their patients.	Have broad access to NNT and NNH discussions, include them in all activities and medical reasoning, and influence others to being aware of the importance of these figures to clinical decision.	Create conditions in order to widen the knowledge of NNT and NNH. Facilitate the access to this kind of information, by means of creating data bases. Collaborate in educational activities towards learners, colleagues and the public.
Prevention				
Domain	Novice	Competent	Proficient	Expert
Underlying philosophy	Awareness of prevention fallacies.	Awareness of the differences between prevention and screening.	Fully understand and apply adequate criteria for screening, sharing them with learners and patients. Critically oppose preventive "crusades".	Understand the ethical dimensions of prevention. Critically discuss with learners, colleagues and patient groups issues related to: positive health, health promotion, the inevitability of death, prolongation and quality of life, moral influences.
Preventive activities	Have knowledge of preventive activities practiced, including P4.	Critical about preventive activities which are not evidence-based and discuss them with their patients.	While counselling, display all information on preventive activities. Aware of the discussions around preventive activities. Familiarity with the practice of P4.	Experienced in P4 approaches. Organise and maintain educational programmes on P4, directed to learners and colleagues. Have an important role in creating and displaying information to the public on P4 issues and collaborate with groups of patients and the communities in these matters.

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

Table 1. Continued...

Prevention				
Domain	Novice	Competent	Proficient	Expert
Risk	Understand the difference between risk factors and disease.	Awareness of possible confusion between risk factors and disease, that patient might bring into the consultation, which need clarification.	Use of clear examples to show to patients what are risk factors and reassures them by explaining the probabilities associated with those risk factors.	Have long time experience on demystifying risk factor-based campaigns. Able to organise information in these matters and to disseminate it to learners and patient groups.
Team				
Domain	Novice	Competent	Proficient	Expert
Team building	Self-motivated as a potential group leader.	Capable of teambuilding, namely in peer groups.	Organise health team groups, coordinate teams, facilitate discussions, act as group leaders.	Coordinate groups, teams and institutions, facilitating discussion and harmonizing procedures. Organise learning/teaching processes.
Teamwork	Take part in peer groups.	Show skills in effective teamwork.	Excellent in team working, inspiring other members to achieve objectives.	Organise teamwork, actively participate and trigger key discussions. Show contagious enthusiasm and bring about all the capacities of team members.
Community				
Domain	Novice	Competent	Proficient	Expert
Patient group support	Awareness of patient groups.	Communicate with patient groups, namely through public health conferences.	Responsible for communicating with groups of patients involved in centres' and regions' coordination, and are involved in P4 activities within the community.	Responsible for health coordination's activities. Organise, in collaboration with peers, P4 activities within the communities. Collaborate with media in informing the public about health issues.
Developing partnership	Aware of the importance of developing partnerships.	Develop partnership between health teams.	Develop partnership between health teams and the community.	Facilitate and organise the development of partnerships, assess them regularly and assure the quality of the work produced.

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

Table 1. Continued...

Clinical				
Domain	Novice	Competent	Proficient	Expert
Therapeutics	Have deep theoretical knowledge on therapeutics.	Familiar with the management of therapeutics, including drug and non-drug approaches to treatment.	Practice pharmacovigilance oriented towards the patient. Show special attention to age related and co-morbidity problems inducing polypharmacy, as well as to critical therapeutics.	Have a deep understanding of the problems underlying polypharmacy and drug-related effects on health. Able to carefully and critically assess the use of drugs and their risk/benefit ratio – including critical therapeutics – and to organise information for learners and colleagues. When possible, use low doses of well-known drugs, when needed.
Deprescription	Have basic knowledge of the process of deprescribing.	Consider deprescribing in cases of inappropriate polypharmacy in older patients.	Openly discuss benefit–harm with patients to consider deprescribing. Target patients according to highest risk of adverse events and drugs more likely to be non-beneficial.	Aware of the multiple barriers to deprescribing. Access field-tested discontinuation regimens for specific drugs. Foster shared education and training in deprescribing among all members of the health care team.
Tests	Have deep theoretical knowledge on the use of tests.	Master clinical skills in the use of auxiliary tests, using them only when supported by evidence and discussing them with patients.	Use evidence-based tests when needed to complement diagnosis. Familiarity to sensitivity, specificity, predictive values and likelihood ratios of auxiliary tests.	Able to discuss among peers on the indication for tests. Regularly update lists of useful and non-useful tests. Have experience in explaining to the public the reasons for or against the use of an individual test.
Disease-mongering	Familiarity to disease-mongering processes.	Know about the "Market of Fear" and explain it to their patients.	Explain to their patients and learners how over-medicalization is achieved through the creation or invention of new (false) diseases or the inflation of old ones.	Familiarity with the literature on disease-mongering and well informed on the process. Lobby, with peers, against the medicalization of life and death currently occurring. Influence learners, colleagues and public on the fight against disease-mongering.

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

Table 1. Continued...

Clinical				
Domain	Novice	Competent	Proficient	Expert
Dying well	Understand the limits to how much medicine can achieve.	Attentive to exploitation of fears regarding sickness and death and keen to protect patients from this.	Pay real attention, at an individual level, to the care of the dying, keeping patients safe from inadequate or useless medical interventions.	Understand the existential challenges doctors face of finding meaning in the face of loss, suffering, and the finitude of life, and discuss it with learners. Comprehend that doctors don't show particular aptitude towards mortality of others and self, and find ways to bridge the gaps due to the very little relevant education on these subjects.

Source: elaborated by the authors from the professional standards for conservation, Institute of Conservation, London, 2008, based on the Dreyfus model of skill acquisition.[21]

The methods: how we are going to teach?

All teaching methods (Table 2), from traditional lectures to direct observation, can be useful, depending on the learners' stage and on the aims of the teaching session. Therefore, as learners progress in their learning journey towards expertise in quaternary prevention (as in other medical subjects), the teaching methods used can vary. They can be categorized by context: large/small groups; one-to-one; and self-directed study.

Table 2.Teaching Methods.[22]

Large/Small Group	One-to-one	Self-directed study
Lecture	Direct observation	Reading
Workshop/Seminar	Video	Web based (e-learning)
Brainstorm	Simulated patients	Project based learning
Buzz group	Random/problem case analysis	Reflection
Games and exercises	Records review	Learning log
Group project based learning	Prescribing review	
Small group process work (Balint)	Medical audit	
Medical audit	Topic Tutorial	
Topic Tutorial	Role-play	
Role-play		
Demonstration/practical skills teaching		

Source: The EURACT/Leonardo Level 1. Course for teachers in Family Medicine, Module 3, "Teaching Methods".[22]

Assessment and evaluation: how we will know that learning took place?

There is a range of assessment methods which can be used to evaluate the acquisition of competences in the area of quaternary prevention, and/or to gauge if learning/teaching process has really occurred. The long list could include: (1) Case Based Discussion (CBD); (2) Consultation Observation Tools (COT); (3) Naturally Occurring Evidence (NOE); (4) Supervisor's Reports (CSR); (5) Patient Satisfaction Questionnaires (PSQ); (6) Performance Audit (PA); (7) Review of

patient records (RPR); (8) Simulated patient (SP); (9) Standardized Patient (SP); (10) Role-playing; (11) Essay; (12) Group Discussion; (13) Chart Audit; (14) Written Case Report; (15) Mini-clinical-evaluation exercise (Mini-Cex); (16) Direct Observation of Practice Skills (DOPS); (17) Professionalism Mini-evaluation (P-Mex); (18) Video-observation of clinical encounters; (19) Peer assessment; (20) Multisource or 360° feedback (MSF); (21) Logbook; and (21) Reflective Portfolio.

Performance assessment should be embedded in the curriculum (for students or trainees) or in daily practice (for licensed doctors). Such programmes of assessment cannot be improvised and should be planned, prepared, implemented, evaluated and improved.[23] When assessing the performance of quaternary prevention activities, appraisers are mostly dealing with workplace-based assessment. Therefore, it is advised to use the following methods as they are more effective (Table 3).[24]

Table 3. Overview of methods used to assess medical competence at the "does" level.[25]

Direct performance measures	
Individual encounter methods	
Mini-clinical-evaluation exercise (Mini-Cex)	Assessment is confined to a single concrete situation
Direct observation of practice skills (DOPS)	
Professionalism mini-evaluation (P-Mex)	
Video-observation of clinical encounters	
Long-term methods	
Peer assessment	Performance is assessed over a longer period of time
Multisource or 360° feedback (MSF)	
Aggregation methods	
Logbook	Continuous sampling of performance
Reflective Portfolio	

Source: based on EURACT Performance Agenda of General Practice/Family Medicine. Stefan Wilm, Ed. Düsseldorf University Press, Düsseldorf, 2014.

The learning journey

In order to easily demonstrate the progressive journey towards expertise in quaternary prevention, Figure 2 shows the Dreyfus model of skills acquisition which has a remarkable illustrative capability.[23] The progression from novice to expert through the stages of competent and proficient usually happens in parallel with the evolution inside the profession from the medical student to the experienced doctor.

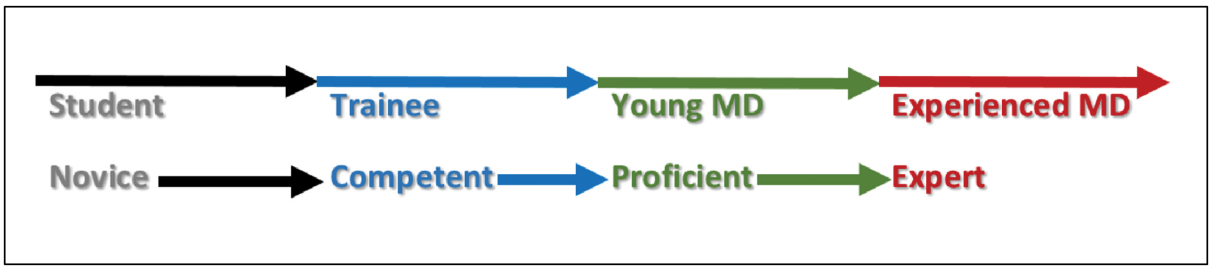

Figure 2. The learning journey. Source: Dreyfus, 1980.[25]

Even if there is not a biunivocal relation between medical student and experienced doctor, it is expectable to find proficiency and expertise more widely expanded in the latter. In fact, students deal mostly with knowledge and its application (KNOWS and KNOWS HOW, in Miller's Pyramid); trainees apply their multiple skills – communication, problem-solving, management – in a (more or less) protected environment (SHOWS); and full trained doctors (young or experienced doctors) fully exert their professional performance (DOES), hence, being able to bring quaternary prevention into the real world of their patients.[24]

Conclusion

The learning/teaching journey in quaternary prevention involves many skills. It is a complex field where epidemiology, communication, doctor-patient relationship, learning-centred approach, along with many others abilities are important topics that must be present in a balanced way. There are, however, 'risks along the road', the main one is the transformation of quaternary prevention in a simple political issue, instead of placing it as a practical and research medical field, which requires to be taught and learned.

Medical students often see "biological science" as separated from political or economic issues.[11] The challenges of teaching quaternary prevention should not only integrate the "bio-psychosocial" or the holistic approach, but should also seek to integrate the macro and micro views of different areas such as economy, health services organisation and technological incorporation policies. The educational process within the field of quaternary prevention requires high level of teaching skills, mainly focused on andragogy. Efforts to enlighten the lay public on P4 subjects are extremely important and the trend is that, sooner or later, this issue will need to be addressed. The same need also applies to health professionals other than doctors.

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