ORIGINAL ARTICLE

Competencies of a Graduate of the Bachelor's Study Programme in Addictology: Content Analysis of the Syllabi in the 2018/2019 Academic Year

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Abstract

Background: Addictology is a transdisciplinary field dealing with the treatment and prevention of addictions. As yet the field does not have a document describing the competencies of graduates of its dedicated academic programme which would clearly define their professional boundaries and interface with other related disciplines. **Aims:** The primary aim is to specify and better define the competencies of the graduates of bachelor's programmes in addictology on the basis of learning outcomes. Another goal is to improve the formulation of learning outcomes for the individual courses constituting the bachelor's degree curriculum. **Methods:** The research sample comprises the accreditation files for the bachelor's degree programme in addictology valid from 2011 to 2019 and information about the courses recorded in the Charles University Study Information System, which were subjected to content analysis, and the Q-RAM project methodology was used to reformulate the learning outcomes (knowledge, skills, and competencies). These were subsequently generalised and formulated into competencies. **Results:** A list of learning outcomes of the field of addictology was created. The proposed competencies contain nine categories: understanding the phenomenon of addiction and substance use, an interdisciplinary approach, the application of a bio-psycho-socio-spiritual model, methods of working with the client, the system of services, research and development, organisational management, drug policy, and ethics. The list reflects the generic profile of the graduate and their expertise, ranging from clinical skills through prevention, harm reduction, recovery, and overlaps with other specialisations, which goes beyond the standard requirements in foreign competence models. **Conclusion:** The resulting outputs should be critically analysed and considered as a living document to strengthen the identity of the field and compare it with the requirements of practice.

Key words:
addiction studies – competencies – knowledge and skills – learning outcomes – addictologist

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1. INTRODUCTION

The specific genesis of the profession of an addictologist in the Czech setting dates right back to the times when the very word addictology had not been heard of. The comprehensive notion of the field of addictology and present-day professionals trained in this domain stems from historic contexts building on the tradition of addiction treatment self-help systems, the establishment of the first treatment facilities marked by the era of totalitarianism, and harm reduction approaches emerging in the 1990s (1). The specific features and factors of the time of origin of the field need to be taken into account in order to understand the wide scope of knowledge and skills that an addictologist is expected to possess. The first competencies of an addictologist were formulated as early as in the 1990s in relation to certified courses for practitioners working in the drug services of the time. Such practitioners included social workers, physicians, nurses, and psychologists, as well as staff with no specific training (2), (3). At the same time, the idea of a comprehensive university-level programme for a health professional with a specialisation in addiction was conceived. It was realised in 2005 by a study programme in addictology being opened at the First Faculty of Medicine of Charles University, starting as a bachelor's-level study programme, soon to be added to by follow-up master's and doctoral programmes.

Various professions have their irreplaceable roles in the care of addiction patients. Each contributes its own insights and expertise to the area, and, given the complex nature of addiction and related phenomena, this multifaceted approach is needed and, in fact, critical. The creators of the study programme in addictology presupposed that a specialist in the field should have a general understanding of other disciplines and possess thorough knowledge of addiction prevention and treatment. In particular, this includes case management with regard to substance use and addictive behaviour at the mental health level, healthcare practice and harm reduction at the public health level, and an understanding of the criminal, social, biomedical, and psychological factors at the environmental level (4). This gives rise to a transdisciplinary field of study which also provides broad addictological education covering a range of domains such as the prevention of risk behaviour, clinical treatment protocols, harm reduction, and the structural orientation of the programme. The transdisciplinary aspect and generic nature are the core characteristics which create space for additional future specialisations and adaptability to different types of facilities and potential emergent positions within the system.

A programme with such a scope and extent requires a clearer definition and articulation of the knowledge and skills that a graduate of such a programme should possess. It is

necessary to draw more distinct lines between addictologists and other professions necessary for the process of the care of the clients and to determine the addictologist's specific role and workload within the system of services. Addictology as a field has now developed to the point that it has significant foundations, including field-specific policy documents (5), an autonomous research and educational institution, a professional addictologists' organisation, the legislative definition of the profession of an addictologist and of addictological services, professional platforms for the exchange of information (6), and competitiveness on the labour market (7). Nevertheless, a clear-cut framework for the definition of competencies is lacking. In addition to supporting the above, it would also make it possible to make an international comparison between different schemes of education for addiction professionals with regard to various competencies; there are hundreds of programmes globally (8) (9) (10) at present.

Competencies are an intricate concept which the literature defines in various ways by means of differently conceived models. Some consistency can be found in the characteristics of their shaping and development through the process of lifelong learning and work experience (11) (12) (13). Examples of variations between models can be looked for in the formulations of competencies related to the field of addictology. The competencies of medical doctors and nurses are, to a great extent, specified in the legislation (Act No. 96/2004 Coll. and Act No. 95/2004 Coll., as amended, including the accompanying by-laws and regulations), while those of psychologists are registered by the relevant organisation, the European Federation of Psychologists' Associations (14). However, this concerns professional competencies rather than a list of knowledge and skills. Similarly, professional competencies are addressed by Havrdová (15) in relation to social workers' expertise. Foreign inspiration can be sought in Canada (16), New Zealand (17), and the United States (18) (19) (20), for example. One influential document was published by the U.S. Substance Abuse and Mental Health Service Administration (21). In 1998, its Centre for Substance Abuse Treatment issued the first edition of a comprehensive publication on competencies in addiction counselling which provides a detailed account of the knowledge, skills, and attitudes an addiction practitioner should possess.

The aim of the present research is to provide an accurate identification of the competencies of bachelor's programme graduates acquired during their studies. An international methodology was used to revise and reformulate the learning outcomes of the courses (13). This methodology was developed as part of the Q-RAM3 project (Reg. No. CZ.1.07/4.2.00/06.0027), which covers the learning outcomes that are compatible with the European qualifications framework, as well as providing guidelines, not only for

universities and colleges, as to how these outcomes should be formulated. The formulation of the learning outcomes leads to the definition of graduates' skills, knowledge, and competencies as the basis for the articulation of professional competencies, which can be discussed and modified by a professional association. Professional identity is a comprehensive concept which goes beyond an inventory of knowledge and skills. Nevertheless, such competencies are one of its cornerstones (22). The formulation of addictology-specific learning outcomes is essential in order to open a discussion about the current state of the field and its future orientation, identify gaps in the study of addictology, and look for unique aspects and diversity in this study programme and its graduates.

1.1. Bachelor's level of education in addictology

A three-year bachelor's level of study has been provided by the First Faculty of Medicine of Charles University since 2005 in a full-time format and since 2008 also as a part-time programme. In 2010 a two-year master's study programme in addictology was opened. Addictology is a non-medical healthcare-specific discipline ranking as a specialisation in healthcare. Two categories of graduates are distinguished according to the level they pass. The completion of the bachelor's level is associated with the "Addictologist in Healthcare" qualification. The graduates are health professionals according to Act No. 96/2004 Coll., on non-medical health professions. The addictologist's health qualifications are reflected in what is referred to as the common core (23), which assures the basic healthcare-specific education and training for graduates of non-medical study programmes at the medical faculty. The master's programme, on the other hand, is an academic type of education involving no training in healthcare-specific expertise (24).

According to the accreditation file for the bachelor's study programme, a graduate of this level of study should possess knowledge and skills for the following three areas of practice: (a) prevention of substance use and addictive behaviour, including a general understanding of the public relations area, (b) addictive disorders and related treatment, counselling, and social reintegration, and (c) management, public administration, probation and mediation, and penitentiary and post-penitentiary care. Their general education comprises two levels: i) communication skills (in terms of understanding the language and technical terminology of another profession) and ii) the general knowledge and skills needed for the performance of a health profession. At a general level, a graduate is expected to have a command of preventive and educational care, crisis intervention, and case management, with a combination of healthcare-specific case management and counselling skills which highlights the transdisciplinary nature of the field being perceived as the core of their expertise. In addition, a graduate should speak at least one world

language and be able to use it for professional purposes (technical terminology), apply ethical principles in relation to patients receiving the health services provided, and have a general understanding of law, public health, management, and the evaluation of services.

It is characteristic for a graduate of the bachelor's level to possess professional versatility which makes them useful for various work positions ranging from prevention (universal, selective, and indicated, including the implementation of prevention policies) and casework-oriented treatment of addiction to penitentiary and post-penitentiary care, social reintegration, law enforcement, and harm reduction approaches. A thorough and comprehensive description of the programme and its courses can be found elsewhere (4).

1.2. Learning outcomes and competencies

Competencies can be thought of as a body of resources in terms of knowledge and skills which have been acquired in different situations and an authority to act in a certain manner (12). Competencies are also described as a body of qualities, abilities, knowledge, skills, and experience needed to fulfil a certain task in the presence of motivation and the opportunity to have a say (25). Delamare Le Deist and Winterton (11) proposed an umbrella definition of competencies on the basis of a systematic review. They distinguish between cognitive (knowledge), functional (skills), and social (attitudes and behaviour) competencies. The overarching competency is then the ability to learn. All the above-mentioned authors seem to point out the changeability of competencies over time and possibilities of their development.

To a certain extent, competencies and learning outcomes are synonyms. Learning outcomes are a concept referring to educational frameworks and education in general. They involve specific formulations of certain competencies acquired by education or, more accurately, learning. Competencies are a much broader concept which can be seen from various points of view, from the perspectives of different fields and dogmas. They are also a concept of greater depth, as they encompass components acquired both within and outside the system of education.

Learning outcomes, or descriptors (in terms of the European qualifications framework for higher education), consist of three components: knowledge, skills, and competencies (13). According to the Recommendation of the European Parliament and of the Council 2008/C 111/01/EC of 23 April 2008, these learning outcomes "mean statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence". Knowledge is defined as "the body of facts, principles, theories and practices that is related to a field of study". Skills are understood as "the ability to apply knowledge and use know-how to solve problems".

Skills are divided into cognitive and practical ones. Competencies are defined in this Recommendation as the "proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development". The Recommendation understands this concept in terms of autonomy and responsibility. It should be noted that the descriptors serve as the basic standards of the knowledge and skills required. They can thus be used to ensure the clearly defined quality of study programmes by verifying that such standards have been met (13).

2. METHODOLOGY

2.1 Aim of the research

The primary aim of this work is to provide a more specific definition of the competencies of the students completing the undergraduate and graduate levels of the study programme in addictology on the basis of programme descriptors. A secondary objective is to improve and update the formulations of the learning outcomes for the courses comprising the bachelor's curriculum. The learning outcomes include a description of the knowledge, skills, and competencies acquired through each compulsory course which are then used to propose generalised competencies.

2.2. Study sample

The population consists of textual sources used to formulate competencies on the basis of learning outcomes. Such sources comprise official documents pertaining to the concept of the study programme in addictology in the Czech Republic. The total sampling method was used (26). The documents included the accreditation files of the study programme in addictology valid for the bachelor's level from 2011 to 2019 (Decision of the Ministry of Education of the Czech Republic Ref. No. 29 535/2011-M3 for the full-time format and Decision of the Ministry of Education of the Czech Republic Ref. No. 41 275/2011-M3 for the part-time format), the curricula of the bachelor's study programme in addictology effective in the 2017/2018 academic year, and the syllabi of the courses available online from the Study Information System (SIS).

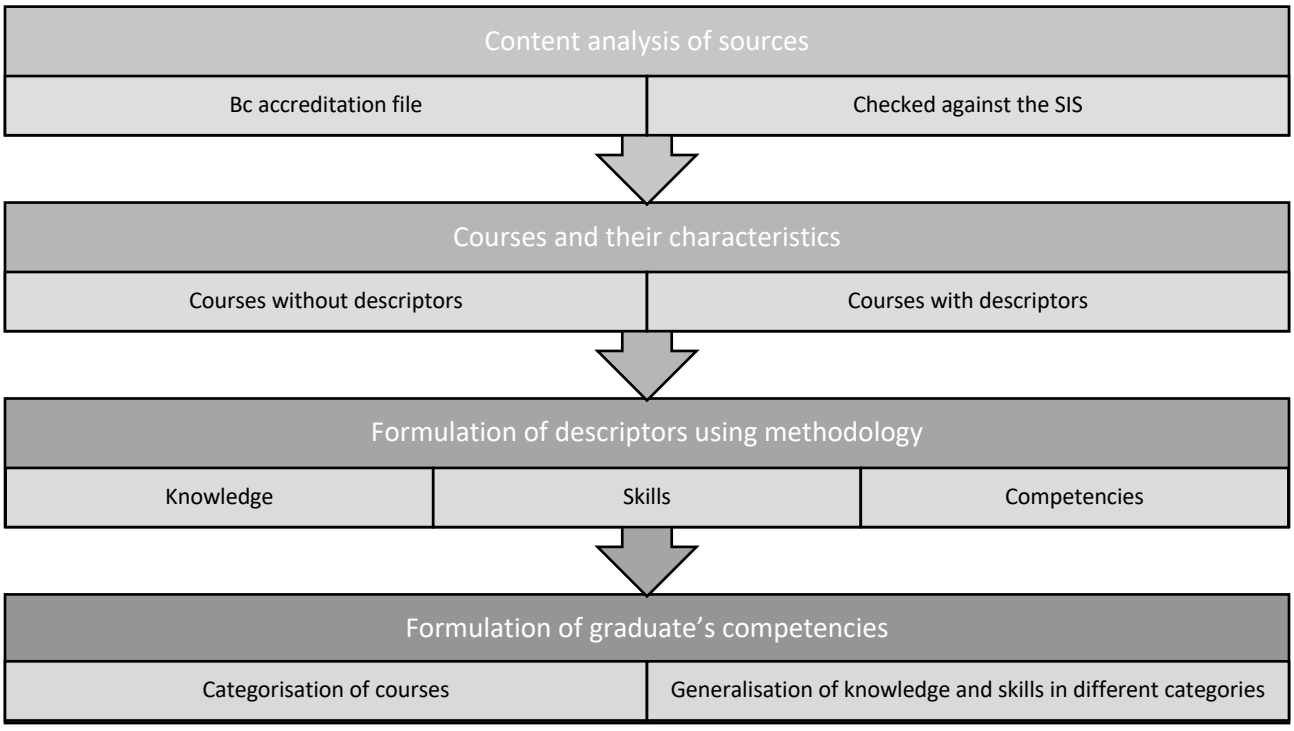
2.3. Data generation and analysis method

The first step involved content analysis of documents (26). In view of the nature of the texts (i.e. official papers), qualitative, or explicit, content analysis was used, as it features a higher level of structuring (27). The analysis included the examination of the content and articulation of the syllabi for the individual courses by using the Q-RAM methodology (28): *Recommendations for the Introduction of the Qualifications Framework for Higher*

Education: 1.3 Recommendations for teachers: how to write learning outcomes for fields of study and courses. The clearly formulated learning outcomes can then be categorised and processed. After the documents had been studied, the Study Information System (SIS) was identified as the key source, with the courses according to the curriculum effective in the 2017/2018 academic year being filtered out (the curricula used were taken from the current issue of the List of Lectures, Charles University, First Faculty of Medicine).

In the Charles University Study Information System (SIS), the selected courses were described by the following categories: Annotation, Course Objective, Descriptors, Topics, Enrolment Requirements, Methods of Instruction, Literature, Study Materials, and Course Completion Requirements. Out of these categories, text in the Descriptors category was filtered out. This category described the knowledge, skills, and competencies related to the course under consideration. For courses where no descriptors were formulated, text in the Annotation and Course Objective categories was selected. Having relevance for the understanding of the content and purpose of the course, these categories are also used to inform the formulation of descriptors. Subsequently, common categories of courses were created on the basis of their similarity of content and competency categories were determined by generalising and aggregating the descriptors. The structure was inspired by the SAMHSA competency model (21). *Table 1* summarises the process of formulating the competencies.

Table 1 – Data Processing Procedure



2.3.1. Baseline Information about the courses

Compulsory courses as part of the bachelor's study programme were selected (N=64). 22 compulsory courses were selected for the first year (excluding Physical Education, which is compulsory for full-time students only). In both the second and third years, there are 21 compulsory courses.

In the first year, descriptors were indicated in full for one course only (Developmental Psychology). They were incomplete for three courses (only Knowledge and Skills), while no descriptors whatsoever were provided for the remaining courses. Out of 18 courses for which no descriptors were formulated, 10 had their annotations indicated and eight had their Annotation and Course Objective sections filled in.

In the second year, all the descriptors were indicated for three courses (Clinical Pharmacology and Hygiene and Epidemiology 1 and 2). One course had only the relevant knowledge and skills formulated (Statistics for Addictology). No descriptors were formulated for 17 courses. Out of these 17, four courses had the Annotation section only, two the Course Objective sections only, and 11 had both their Annotation and Course Objective sections filled in.

In the third year, the descriptors were formulated for one course only (Case Management). No descriptors were provided for the remaining 20 courses. Out of these 20, four had their annotations articulated, three had their course objectives specified, and 12 courses had both the Annotation and Course Objective sections filled in. No information under these categories was provided for one course (Basic Addictological Interventions).

In total, the bachelor's study programme had the descriptors fully formulated for five courses, in part for four courses, and no descriptors were formulated for 59 courses.

2.3.2. Formulations of learning outcomes

The content of the courses for which descriptors had already been formulated was used. If needed, a new formulation was devised (changes in formulations involved particularly work with active verbs (28)), and a structure for differentiating between the individual outcomes was added. An example for the Developmental Psychology course is indicated below in Table 2. Table 3 provides an example of the reformulation of the learning outcomes and the creation of a structure.

Table 2 – Example of descriptors for Developmental Psychology, source SIS

Knowledge
The student should demonstrate thorough and extensive knowledge of the main theories of human mental development and understand the characteristics of the developmental stages. This knowledge should include a general understanding of addiction-specific issues related to developmental psychology; the student should be familiar with the issues concerning ill-treated, abused, and neglected children, be aware of the problems caused by children's and adolescents' substance use, and understand the importance of the early diagnosis of, and response to, issues caused by addictive substances and the detection of the CAN syndrome.
Skills:
Using thorough and extensive knowledge of developmental psychology, the student should be able to understand the individual stages of development, describe the developmental theories, and show a general understanding of the latest trends in developmental psychology. The student should be able to apply their knowledge of the laws and mechanisms of human development according to specific developmental changes in the individual stages of human life.
Competencies:
On the basis of the knowledge and skills acquired, the students should be able to understand the mental development of an individual in the context of the latest developmental theories. They should be able to provide an independent account of the topic and support it with relevant arguments in a discussion. In addition, they should be able to make use of their knowledge, skills, and their own experience with children (for example, that gained in their participation in peer-to-peer programmes) and thus apply their theoretical knowledge to specific areas of addictology.

The knowledge and skills for the individual categories of courses were summarised. Overlapping items of knowledge and skills were reduced and grouped into more general units of content. Detailed inventories of areas of interest were eliminated. This generated a list of knowledge and skills according to the above categories.

Competencies are understood as abilities that can be transferred outside the field of study under consideration. Generally, this outcome was not formulated for the courses, and if so, professional competencies pertaining to the field were noted. A simple process was used involving work with the question whether the course can provide the student with a skill which they can use in their personal or professional life irrespective of their occupation. Several general competencies which the graduate of the study programme in addictology should possess were generated across courses.

Table 3 – Example of the reformulation and structuring of descriptors for Developmental Psychology

Knowledge
The student: • should be able to name and describe the main theories of human mental development • should be able to describe and understand the characteristics of the developmental stages • should be able to describe the relationship between addiction-related issues and developmental psychology • should be able to describe the issues concerning ill-treated, abused, and neglected children • should know and be able to name and describe the correlations of substance use problems in children and adolescents • should be able to describe and reason the importance of the early diagnosis of, and response to, issues caused by addictive substances and the detection of the CAN syndrome.
Skills:
The student: • should be able to understand the individual stages of development and distinguish them in a case study using thorough and extensive knowledge of developmental psychology • should be able to explain the main developmental theories and work with sources providing access to the latest trends in developmental psychology • should be able to apply their knowledge of the laws and mechanisms of human development according to specific developmental changes in the individual stages of human life.
Competencies:
The student: • should be able to understand the mental development of an individual in the context of the latest developmental theories on the basis of the knowledge and skills acquired • should be able to provide an independent account of the topic and support it with relevant arguments in a discussion • should be able to make use of their knowledge, skills, and their own experience with children (for example, that gained in their participation in peer-to-peer programmes) and thus apply their theoretical knowledge to specific areas of addictology.

2.3.3. Generalisation of learning outcomes for the formulation of competencies

The courses were categorised according to their similarity of content and areas of interest. Within each category, knowledge and skills were grouped and further generalised.

2.4. Ethical aspects of the study

The research was based on official documents of an educational institution. Work with texts was performed solely in line with the objectives and methods of this study and with the consent of the management of the Department of Addictology of the First Faculty of Medicine, which drew up the accreditation file. Neither the courses nor the teachers were

assessed. The research focuses on the analysis of available information about the outcomes of the studies aimed at proposing a more comprehensive picture of the competencies related to this profession rather than the evaluation of the existing study programme. Moreover, given the transdisciplinary character of addictology, the formulation of competencies may initiate discussion in relation to other professions and their competencies or current practice. The purpose of this paper is to provoke and inform discussion rather than create a dogma.

3. RESULTS

3.1. Proposed competencies of a graduate of the bachelor's study programme in addictology

The following summary of the proposed competencies of a graduate of the bachelor's studies in addictology is based on the generalised learning outcomes of this undergraduate academic programme.

a) Understanding of the phenomenon of addiction and substance use

An addictologist should have a comprehensive understanding of the phenomenon of addiction and substance use, including an understanding of different models, theories, and approaches. They should be able to identify these issues in the context of other fields. In addition, an addictologist should engage in prevention and treatment activities in relation to substance use and addictive behaviour.

b) Interdisciplinary approach

An addictologist should recognise the interdisciplinary nature of addiction-related issues. They should work with professionals from a range of fields, including healthcare, social work, law, psychology, and education. They should possess a general command of such disciplines and be able to integrate them with addiction-specific issues. They should be able to provide general health, social, and legal counselling and consult professionals and clients about viable solutions.

c) Practical application of the bio-psycho-socio-spiritual model

An addictologist should apply the bio-psycho-socio-spiritual model of addiction and its treatment. From this perspective, together with the client and other professionals, they should be able to assess different domains of the client's life and suggest viable responses to any problems while maintaining a holistic approach to the client.

• **Biological aspect**

An addictologist should understand how the human body works in both good health and illness. In collaboration with physicians, they should be able to communicate with a client about the possibilities of further treatment of both physical and mental conditions while adhering to ethical principles of work with clients. In association with other professionals, they should propose preventive measures aimed at maintaining and improving health.

• **Psychological aspect**

An addictologist should understand the development and functioning of the psychological component of a human being in both good health and illness. In cooperation with other professionals, they should be able to communicate with the client and the client's significant others about the possibilities of further steps to improve their quality of life in this respect while adhering to ethical principles of work with clients.

• **Social aspect**

An addictologist should understand the significance of the social impact on the client's life. In relation to addiction-related issues, they should recognise the significance of the client's social ties and environment. They should be responsive to clients' specific needs and the cultural context of their lives. In collaboration with the clients, their significant others, and other professionals, they should seek and propose possible further steps to improve their quality of life in this respect while adhering to ethical principles of work with clients.

• **Spiritual aspect**

An addictologist should show understanding of the client's spirituality. They should respect the significance of the existential dimension of the client's life according to the latter's beliefs. They should be able to integrate this element into the overall picture of the client's life while seeking together to find further steps through which to improve the quality of the client's life.

d) Methods of working with the client

An addictologist should have a general command of psychotherapy and counselling in relation to addiction clients and their families and be able to provide individual, family, and group counselling and therapy. They should understand the principles of case management and be able to apply it. They should possess the skill of working with clients' motivation using the motivational interviewing technique. They should be able to devise and implement prevention programmes in children's settings.

e) System of services

An addictologist should be familiar with the system of services for addiction clients in the Czech Republic comprising low-threshold services, outpatient and maintenance programmes, residential facilities, including detoxification units, institutional healthcare facilities, therapeutic communities, and aftercare services. They should understand the principles, methods, and objectives of such facilities and the way they are interconnected within the continuum of care, as well as being able to assess the suitability of the individual types of the facilities in terms of clients' needs and assets.

f) Research and development

An addictologist should recognise the significance of the evidence-based approach in practice. They should be able to consult relevant sources of professional information and conduct their own research, including the selection of an appropriate quantitative or qualitative method and the collection, analysis, and interpretation of data. They should recognise the need for measuring the quality and effectiveness of services and interventions and be able to carry out such evaluations. They should keep abreast of the latest developments and trends in addiction-related research.

g) Organisational management

An addictologist should understand the general principles and rules applied to the operation of addictological organisations, including the basic responsibilities associated with being an employee. They should have a general understanding of the ways in which the service is funded and financial support can be obtained for relevant entities.

h) Drug policy

An addictologist should understand the national and international concepts of the drug policy and their possibilities and limitations. They should promote evidence-based strategies and follow the principles of their profession in advocating the interests of both individuals and the community in the context of public health, the harm reduction principles, prevention, and treatment. They should respect the law enforcement component of the drug policy and engage in a dialogue with its representatives.

i) Ethics

An addictologist should always act in line with the Code of Ethics for Addiction Professionals and the principles of medical ethics. They should perform their professional activities earnestly and seriously while observing the applicable legislation pertaining to their profession and clients and complying with the requirements for their lifelong

learning. In relation to their clients, they should respect boundaries and adhere to the confidentiality obligation and additional rights and duties which both parties are entitled to and bound by, respectively. They should make use of supervision and act in line with the most recent scientific knowledge, as well as maintaining professional relationships within the community of addiction professionals.

4. DISCUSSION AND CONCLUSIONS

To identify the competencies of the graduates of the study programme in addictology may be a way of facilitating the transparency of the field and thus provide a basis for its further development. With regard to the aspect of transparency, Miovský (29), for example, uses the instance of drug prevention to demonstrate how important it is to draw clear lines for the field and determine its content. Until the requirements, standards, and content of preventive activities were defined, it was common practice for almost any activity, including sports, to be referred to as prevention. The development of certification standards helped to consolidate the domain by assuring the quality and effectiveness of prevention (30). In terms of contributing to the development of the field, Tureckiová and Veteška (12) note the significance of the identification of competencies in lifelong professional education. Their argument is supported by evidence from international sources which consistently refer to the trend of developing competencies for competitiveness on the labour market already at the tertiary education stage.

A critical paper bringing up the topic of an addictologist's role and competencies was published during the development of the field of addictology in the Czech Republic (31). Its authors objected to the health background of addictologists as being too narrow and failing to cover addiction-related issues in their full complexity, and called for a more multidisciplinary approach. Analysis of the learning outcomes and proposed competencies shows, however, that addictologists' general training in healthcare, although an important cornerstone, is consistently integrated into the context of other fields of study. Indeed, interdisciplinarity, in terms of the integration of different disciplines, is another important cornerstone of the profession of an addictologist, as implied by the results of the present paper. The ability to communicate, cooperate, and understand other professionals and, hence, various areas of the client's life, is one of the addictologist's competencies.

The competencies that have been proposed (particularly the second one in the list above) specifically reflect the interdisciplinary approach and nature of the profession of an addictologist. Much significance is assigned to the role of an addictologist as a mediator between different disciplines who has a general understanding of other professions,

without assuming competencies associated with them, and is able to assess the client's current needs and work with other professions and coordinate such cooperation, if needed. In addition, drawing on their profound expertise in addiction-related issues (the first competence), addictologists can engage in independent activities in line with the competencies that have been formulated and in accordance with the applicable legislation. The spirituality domain was found to be a blind spot. While included in the competencies as proposed (the third competence), it has limited support in learning outcomes. Amodia et al. (32) refer to spirituality as the key element which needs to be reflected in addiction treatment and without which recovery is hardly possible. The fourth and fifth competencies, represented by methods of work with the client and a general understanding of the system of services, respectively, reflect the trend in other, international models, such as those existing in Canada (16) and New Zealand (17). An addictologist as a clinician appears to be a shared notion. On the other hand, the sixth competency, research skills, seems to go beyond the standard when judged against the competencies outlined in the SAMHSA model (21), for example. In comparison with other professions, the greatest emphasis on research activities was observed in competencies for psychologists (14), but they did not go into such depth. A certain degree of bias needs to be taken into consideration, given the different basis of these competency models. Moreover, the psychologists' competencies strongly reflected managerial skills, a sphere in which the proposed competencies of addictologists are accounted for under the seventh competency. The ethics component (the ninth competency) was represented evenly across professions, even in comparison with foreign models of addictologists' competencies. The last of the proposed competencies involves drug policy-related skills in the context of the issue of addictions being perceived by society as a whole. The need for the recognition of this dimension of the field was voiced in other models mentioned above. In the Czech setting, nevertheless, this competency could represent the possibility of an addictologist being destined to follow the path of an expert in public health and the drug policy rather than that of a clinician. However, a further investigation in support of this argument is needed.

The concept of recovery, which neither the courses nor the learning outcomes seem to account for satisfactorily, and the crisis intervention method may be seen as blind spots. The interpretation of the concept of recovery varies across disciplines: while the medical perspective, for example, sees recovery as the pre-morbid condition of health, psychosocial approaches conceive of recovery as a state of well-being and ability to function in a person's natural environment (33). It is further reported that clients perceive the concept of recovery as their discovery of the meaning of life, pride, freedom of action, and empowerment. These aspects are viewed as critical in the process of addiction

treatment (34). In addition, the concept of recovery provides a useful bridge to the desired topic of spirituality. In this respect, the Czech model differs from the foreign approaches by viewing addictologists as also being experts in prevention and harm reduction services. In the Czech setting, this aspect may have its roots in the historical development of low-threshold services (2) and intensive prevention efforts (35).

A limitation in working with the study sample was the incompleteness and inconsistency of the source data, i.e. texts characterising the courses under scrutiny. Bias may have been present in the quantity of knowledge and skills formulated for the individual courses. In particular, not all the learning outcomes actually adopted by a student passing the course have necessarily been formulated. Another pitfall was identified in the categorisation of those courses which, in terms of their subject matter, may have come under multiple categories. The categorised learning outcomes were further generalised, and this high degree of generalisation may represent another limitation. At the same time, this may create space for the subsequent revision and evaluation of the competencies through the reverse identification of the key knowledge and skills. The list of nine competencies is still very closely linked to the curriculum and the individual thematic units of the study. On the one hand, there are the graduates' competencies, which logically implies that this proposal will reflect the subjects studied. On the other hand, some may feel that the formulations are rigid and insufficiently generalised.

Despite the development of the list of competencies and characteristics describing the key areas of an addictology graduate's knowledge and skills, this list merely touches upon the fundamental quality of this new field of study. In addition to its above-mentioned interdisciplinary approach capacity, i.e. its ability to understand, network, and base its key processes on knowledge and skills pertaining to other fields, addictology is characterised by its transdisciplinarity. This term captures the ability to generate a new perspective on substance use-related issues by going beyond the boundaries of different disciplines (4). In addition to the synthesis of interdisciplinary approaches and paradigms, this also involves the development of a new approach and paradigm which integrate other elements from service providers, policymakers, the public, and other stakeholders.

To conclude this section, we would like to present recommendations ensuing from our findings and study procedure. First and foremost, it would be useful to draw up systematic formulations of learning outcomes for each course in collaboration with the teachers and subsequently evaluate the outcomes in collaboration with the students who have completed the courses. This would ensure that the learning outcomes are valid and consistent and systematically compiled for further comparison, provided that the qualifications framework methods are applied. Additionally, this makes it possible to

evaluate the results in the opposite direction, i.e. along the competencies/field-specific learning outcomes/course-specific learning outcomes line, as recommended by the implementors of the qualifications framework (28). For example, the process of reviewing the competencies should be further supported by expert focus groups or by being integrated into a professional debate following the example of the revision of the SAMHSA document (21). Employers play a vital role in this process. Representing practice, they may provide valuable input reflecting the real needs of the field (12). The next step could involve the identification of employers' expectations and confronting those with the competencies as proposed.

As regards the articulation of the competencies and their content, it would be relevant to explore the differences between the bachelor's and master's studies in greater detail. In terms of the Czech qualifications framework, it is desirable and important to account for the gradation of the individual levels of education (13). If support for the reverse analysis of the competencies is provided, it might be possible to aim at the identification of the differences between these two levels, which do not become well apparent until more specific analysis of competencies is conducted. Miovský et al. (4) embed the bachelor's level within a micro setting with a focus on casework, the healthcare element, harm reduction, and other factors associated with other disciplines influencing the client's integrity. The master's level is set within a macro setting with a focus on clinical work and management in mental health and public health.

Investigation of foreign models of addiction professionals' competencies, including curricula and study programmes, is addressed only in general terms in this work (there is one competency model that covers this topic in greater detail). Further efforts aimed at analysing competency models may inspire the future development of Czech addictology. Pavlovská et al. (10) suggest that a number of ways of thinking about addictology as a profession, in terms of embedding it within the health and social systems, for example, can be found amongst the multitude of European addiction-specific academic programmes.

In 2018 and 2019 the Department of Addictology updated the accreditation file which laid down the conditions for instruction until the 2019/2020 academic year. A significant aspect of this re-accreditation is the implementation of the Universal Treatment Curriculum (UTC) and Universal Prevention Curriculum (UPC) (available from www.issup.net). In particular, the prevention component of the study programme has been scaled up. The question is to what extent this change will be reflected in the competencies of the future addictology graduates. Nevertheless, it can already be noted at this point that this process supports the vision and idea of an addictologist as a generic

specialist in substance use and other areas, including the topical agenda of dual diagnoses. This characteristic extends the domain in which addictologists can work and creates opportunities for further specialisations, as well as respecting the holistic model of human health and the development of addiction, which is hardly possible without the use of various perspectives and approaches to addictions (1).

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References

1. MIOVSKÝ, Michal, Miller, P., Grund, J. P., Běláčková, V., Gabrhelík, R., & Libra, J. Academic education in addictology (addiction science) in the Czech Republic: Analysis of the (pre-1989) historical origins. *Nordic Studies on Alcohol and Drugs*. 2015, 32.

2. MIOVSKÝ, Michal. Zdravotnický obor adiktologie: reflexe vzniku, současného vývoje a budoucího směřování kvalifikačního studia [The Health Discipline of Addictology: Reflections on the origin, recent developments, and future orientation of the specialised academic programme]. *Adiktologie*. 2007, 7(2).

3. KALINA, Kamil. Editorial. *Adiktologie*. 2007, 7(2).

4. MIOVSKÝ, Michal, Gabrhelík, R., Libra, J., Popov, P., Pavlovská, A. , Kalina, K., Miller, P. M., & Grund, J. P. C. The Prague Comprehensive Model of Academic Addictology (Addiction Science) Education. *Adiktologie*. 2016, 16(1).

5. MIOVSKÝ, Michal. Přehled koncepčních dokumentů oboru adiktologie [Addictology as a field of study: a summary of policy documents]. *Action Plan: Deliverable No. 2c, NETAD Project*. 2013.

6. MIOVSKÝ, Michal, Vondrová, A., Peters, R. H., Kathungu, B., & Lososová, A. National Addiction-specific Institutional Infrastructure – fundamental prerequisite for successful implementation of specialized academic degree study programmes: a case study in historical perspective. *Central European Journal of Public Health*. 2019, 27 (Supplement).

7. PAVLOVSKÁ, Amalie, Miovský, M., & Vacek, J. Kde má adiktolog v ČR své místo na trhu práce? Výzkum pracovní uplatnitelnosti z pohledu absolventů studijních programů adiktologie [Addiction Specialists in the Czech Republic: What is their Place on the Job Market? A Survey among Graduates in Addictology]. *Adiktologie v preventivní a léčebné praxi*. 2018, 1(3).

8. PAVLOVSKÁ, Amalie, Peters, R. H., Gabrhelík, R., Miovský, M., Sloboda, Z., & Babor, T. F. Overview of the university-based addiction studies programs in the United States. *Journal of Substance Use*. 2018, 24(1).

9. LOSOSOVÁ, Amalie, Johnson, K. A., Sinkele, W., Obot, I. S., & Miovský, M. Overview of university-based academic programs in addiction studies in Africa. *Journal of Substance Use*. 2020.

10. PAVLOVSKÁ, Amalie, Miovský, M. , Babor, T. F., & Gabrhelík, R. Overview of the European university-based study programmes in the addictions field. *Drugs: Education, Prevention and Policy*. 2016, 24.

11. DELAMARE LE DEIST, Françoise & WINTERTON, Jonathan. What is competence? *Human Resource Development International*. 2005, 8(1).

12. VETEŠKA, Jaroslav, & TURECKIOVÁ, Michaela. *Kompetence ve vzdělávání* [Competencies in Education]. Prague: Grada Publishing, 2008.

13. NANTL, Jiří et al. (2010). Národní kvalifikační rámec terciárního vzdělávání, Díl 1. Národní deskriptory [National Qualifications Framework for Higher Education. Part 1. National Descriptors]. Prague: Ministerstvo školství, mládeže a tělovýchovy, 2010.

14. (EFPA), European Federation of Psychologists' Associations. *Europsy - European Certificate in Psychology*. [Available from: https://www.europsy.eu/_webdata/europsy_regulations_july_2017_amsterdam.pdf] 2017.

15. HAVRDOVÁ, Zuzana. *Kompetence v praxi sociální práce* [Competencies in the Practice of Social Work]. Prague: Osmium, 1999.

16. (CCSA), Canadian Centre for Substance Abuse. *Competencies for Canada's Substance Abuse Workforce*. [Available from: http://www.ccsa.ca/Resource%20Library/CCSA-Workforce-Behavioural-Competencies-Report-2014-] Ottawa : ON: Canadian Centre on Substance Abuse, 2014.

17. (APAANZ), Addiction Practitioners' Association Aotearoa-New Zealand. *Addiction Intervention Competency Framework: A competency framework for professionals specialising in Problem Gambling, Alcohol and other Drug and Smoking Cessation intervention*. [Available from: http://www.dapaanz.org.nz/vdb/document/22] Wellington: unauthored, 2011.

18. American Board of Psychiatry & Neurology. *Psychiatry Core Competencies Outline*. [Available from: https://www.abpn.com/wp-content/uploads/2015/02/2011_core_P_MREE.pdf], 2011.

19. (ABAM), American Board of Addiction Medicine. *Core Competencies for Addiction Medicine, Version 2*. 2012. [Available from: https://www.abam.net/become-certified/core-competencies/]

20. (ASAM), American Society of Addiction Medicine. *The ASAM Fundamentals of Addiction Medicine Recognition Program: Competencies and Curriculum Learning Objectives*. 2015. [Available from: https://www.asam.org/docs/default-source/education-docs/asam-fundamentals-]

21. (SAMHSA), Substance Abuse and Mental Health Service Administration. *Addiction Counseling Competencies: The Knowledge, Skills, and Attitudes of Professional Practice. Technical Assistance Publication (TAP) Series 21*. Rockville, MD. 2006. [Available from: https://store.samhsa.gov/shin/content/SMA12-4171/SMA12-4171.pdf]

22. TREDE, Franziska, Macklin, R., & Bridges, D. Professional identity development: a review of the higher education literature. *Studies in Higher Education*. 2012, 37(3).

23. MIOVSKÝ, Michal. Koncepce rozvoje nelékařských zdravotnických studijních programů na 1. LF UK v Praze 2014-2018 [The Development of Non-medical Healthcare-specific Study Programmes at the First Faculty of Medicine of Charles University: a Policy Document]. 2013.

24. MIOVSKÝ, Michal, Kalina, K., Libra, J., Popov, P., & Pavlovská, A. (2014). Rámec a role koncepce vzdělávání v oboru adiktologie v České republice [Education in Addictology in the Czech Republic: the Scope and Role of the Proposed System]. *Adiktologie*, 14(3), 310–328.

25. SPILLEROVÁ, Dagmar, Kurnický, R., & Kubeš, M. *Manažerské kompetence: způsobilosti výjimečných manažerů* [Managerial Competencies: Qualities of Exceptional Managers]. Prague: Grada Publishing, 2004.

26. MIOVSKÝ, Michal. *Kvalitativní přístup a metody v psychologickém výzkumu* [A Qualitative Approach and Methods in Psychological Research]. Prague: Grada Publishing, 2006.

27. SCHULZ, Winfried, Reifová, I., Končelík, J., Hagen, L., & Scherer, H. *Analýza obsahu mediálních sdělení* [Analysis of the Content of Media Messages]. Prague: Karolinum, 2004.

28. HNILICA, Jiří, Pabian, P., & Hájková, T. (Eds.). *Národní kvalifikační rámec terciárního vzdělávání České republiky. Díl 3 – Zkušenosti a doporučení. 1.3 Doporučení pro vyučující: jak psát výstupy z učení pro obory a předměty* [National Qualifications Framework for Higher Education in the Czech Republic. Part 3 – *Experience and Recommendations. 1.3 Recommendations for teachers: how to write learning outcomes for fields of study and courses*]. Prague: MŠMT, 2012. [Available from: http://qram.reformy-msmt.cz/]

29. MIOVSKÝ, Michal. Editorial. *Adiktologie*. 2003, 3(1).

30. PAVLAS MARTANOVÁ, Veronika (Ed.). *Standardy odborné způsobilosti poskytovatelů programů školské primární prevence rizikového chování* [The professional qualification standards for providers of in-school primary prevention programmes targeting high-risk behaviour]. Place of publishing not indicated: Klinika adiktologie 1. LF UK a VFN v Praze, 2012.

31. NEPUSTIL, Pavel, Larisch, J., & Černý, J. Několik výhrad ke koncepci adiktologických služeb [A Few Objections to the Concept of Addiction Services]. *Adiktologie*. 2014, 14(3).

32. AMODIA, Diana S., Cano, C., & Eliason, M. J. An integral approach to substance abuse. *J. Psychoactive Drugs*, 2005. 37(4). [Available from: http://web.a.ebscohost.com.ezproxy.is.cuni.cz/ehost/pdfviewer/pdfviewer?vid=3&sid=d1189717-0be3-41a8-8946-cf942590]

33. BRENNAMAN, Laura & LOBO, Marie. Recovery from Serious Mental Illness: A Concept Analysis. *Issues in Mental Health Nursing*, 2011. 32(10). [Available from: http://web.b.ebscohost.com.ezproxy.is.cuni.cz/ehost/pdfviewer/pdfviewer?sid=092fd2ee-0]

34. KALINA, Kamil et al. Klinická adiktologie [Clinical Addictology]. Prague: Grada Publishing, 2015.

35. GABRHELÍK, Roman. Základní úrovně provádění školské prevence [The General Levels of School-based Prevention in Practice]. In MIOVSKÝ, Michal (Ed.). *Prevence rizikového chování ve školství* [School-based Prevention of Risk Behaviour]. Prague: Univerzita Karlova v Praze. 2015.

Applicable legislation:

Act No. 96/2004 Coll., laying down the conditions for the acquisition and recognition of qualifications for the practice of non-medical health professions and the performance of activities associated with the provision of healthcare, and revising certain related laws.

Act No. 95/2004 Coll., laying down the conditions for the acquisition and recognition of professional qualifications and specialist qualifications for the practice of the health professions of a physician, dentist, and pharmacist, in conjunction with the Decree of the Czech Ministry of Health No. 55/2011 Coll., on the activities of health professionals and other practitioners, as amended.