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The determination of data collection tools that can measure and document the cooperation of local health care providers

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Abstract

Background

The overall objective of the study is to improve the mental health of the age group below 18 years through the investigation of the intra-and inter-sectoral cooperation between local suppliers and to make the intensity and quality of collaborations measurable. In this paper, based on Hungarian and international literature, we aim at describing the current and future optimal cooperation between the members of the mental health care system and examine the possibilities for documenting and measuring cooperation.

Methods

Semi-structured interviews were recorded with the leaders or representatives of 12 public educational institutions, six social and six health institutions involvement of the relevant experts (N = 24).

Results

The function of the institutions belonging to these systems, as well as the daily work of the professionals working there, have a significant impact on the mental health of children in either positive or negative directions. After exploring the current situation, the cooperation of local suppliers and inter-institutional relations can highly increase the mental health improvement of the youth.

Conclusion

According to the results, the developing progress can be more effective through organising the different forms of care, sectors and professionals together to achieve a common goal.

1. Background

The primary aim of the literature reviews was to explore and describe the Hungarian and international practices and related results, to collect the results of the recent period, to extract the information that can be useful in the developing work and to interpret it in a logical context. Based on this, we created interviews for further data collection on the collaboration of the local suppliers. During our investigation, the following search databases were applied: ERIC, Google Scholar, MedLine, Pubmed, Researchgate, Science Direct.

1.1. International review

Almost all of the relevant literature emphasises the need for cross-sectoral cooperation. Additionally, it is also highlighted that both low intensity of inter-professional cooperation or lack of that can negatively impact both health services and patient care. Zwarenstein et al. [1] highlight the fact that interventions targeting inter-professional cooperation can improve all of these. According to the WHO, disciplines and care systems would work more efficiently and effectively with cooperation. As a result, the personality of the patient could be emphasised more, provided by interdisciplinary case discussions where the experts of the different fields discuss the case of a particular patient [2].

The complexity of patient care requires effective and efficient communication between the different institutions and organisations. Despite the technical development of medicine, information about the patient is usually exchanged via paper. However, digital and quick communication significantly facilitates the development of information exchange and reduces the loss of information and information distortion during the communication processes [3, 4].

The cross-sectoral cooperation in the field of mental health policy has been highlighted in Ireland by the document entitled 'A Vision for Change', which aims to improve the mental health of the entire population, with a particular focus on improving the health of the age group between 0 and 18 years. Based on the principle of cooperation, the document has integrated the institutions and professionals of the sectoral actors, services providing care and other civic organisations and actors playing an essential role in the lifestyle of a given population. These adjusted care and psychopathological conditions to the stages of development and emphasised that the primary aims of the new political approach and direction are the early detection and recognition, screening and patient management following diagnosis. The program attaches particular importance to the creation and operation of extended multidisciplinary teams that can work together to meet the mental health needs of their population *(Community Mental Health Teams)* [5].

In addition to local cooperation, the potential measurement methods of these collaborations provide another priority area. The *research pilot program of the Washington Circle (WashCi)* dealt with it in the United States. This program created a research group, so the Washin*gton Circle Public Sector Work Group*, to develop an action plan based on a performance measurement model applied for the private health sector [6]. The goal of the program is to investigate the effectiveness of the providers caring for those dealing with drug problems and, in general, that of mental health institutions the analysis of performance indicators in order to increase the efficiency of publicly funded services. Moreover, we also can mention the transform of the services of the providers and the development of a new service provider or client-centred financing form. After conceptual discussions, a pilot program was developed to improve the effectiveness and efficiency of the health care system, introducing new actions and pilot services that were analysed from the point of view in progress and according to the final results too. In order to identify and determine the individual interventions, the involvement of the service providers has developed a collaborative and educational environment. A subproject has created a monitoring and evaluating data integrity as well as a web-based indicator system that requested quarterly reports from the service providers at the regional level.

1.2. The Hungarian overview of cooperation between health care systems for the preservation and development of children's and minors' mental health

In the case of Hungarian literature, thinking in terms of inter-sectoral cooperation can also be observed. However, until recent years, Hungarian research has shown only the potential benefits and alternatives concerning the cooperation between the civil sphere and the public sector. In these cases, since significant under-investment was typical in both spheres, they were made to explore potential local partners and develop local partnerships.

In connection with Hungarian studies on cooperation aimed at the development and preservation of mental health of children and adolescents, it can be stated that these Hungarian publications in many cases emphasise the identification of potentially inhibiting factors in the current care systems and show less possible forms of cooperation. Hungarian authors and professionals have also recognised that the dynamic path of childhood development can be influenced by several factors such as, for example, socio-economic, environmental, health, psychological and emotional factors. That is why it is an essential question whether the problem is recognised in the care system surrounding the child and his/her family and whether they can be identified in time and directed to the appropriate care [8, 9].

Looking at the study of Buda and Puli [10], it can be said that the cooperation between the social sphere and the institutions and organisations in Hungary is not sufficiently conscious and is not evidence-based. More effective and efficient operation of early treatment would have positive returns not only on the stakeholders but also on the whole society. In order to achieve flexible inter-sectoral cooperation, it is indispensable to know the system-level operation and to identify the obstacles to cooperation. The situation is fundamentally aggravated by the fact that early childhood interventions generally are in connection with three areas: with health, social and educational area. However, there is no coordinated operation between the sectors and there seems to be a lack of uniform terminology among the professionals. Although numerous data are generated in the care systems, their processing is still unsatisfactory. Moreover, several redundant data are generated, and the essential information often ends up lost. Less stable relationships are developing between the professionals of the different sectors. Professional activities are hidden from each other, which leads to a lack of inter-sectoral cooperation.

Multidisciplinary, mostly *transdisciplinary* activities are needed to understand the factors influencing the mental health of children/adolescents and to remedy the possible symptoms [8]. In terms of the mental health care of the child, when we are talking about networking, we are primarily thinking of coordinating the sectors responsible for the different forms of care (child protection, social care, primary health care and public education) [11]. This form of collaboration is defined as a mental hygienic team. Although *contacts* realise mainly between the particular areas of social sphere and health care, its operation is not optimal. The research of Odor [12] reveals that there is no dynamic exchange of information between nurses and paediatricians/doctors with mixed practice, and in about one-third of the cases, the lack of proper cooperation is a barrier to prevention and healing [13].

The *general lack of information* not only hinders the operation of the system but also keeps the parents of a child dealing with problems in uncertainty. In several cases, they are informed by non-authoritative sources about individual therapies and entitlements, e. g. friends, Internet. There are neither databases that store the most basic information in a coherent way nor publications that provide information about the possibilities of treatments forward or how to treat them. There is neither a uniformly applicable protocol for the cooperation tasks and activities of different sectors nor the qualification of professionals [14].

Examining the actors of the public education sector, it can be concluded that there is no communication or cooperation between the expert committees, the educational advisors or the care providers. The exchange of information between the different sectors is mainly informal, and the parents have a bridging and informative role [9]. However, the treatment of mental disorders and maintaining mental health is a comprehensive and complex activity that should be integrated into broader political, social, educational and legislative processes.

2. Methods

We wanted to compare and complete the information obtained during the review of the Hungarian and international literature with the reasonable opinions and experiences of the members of the local child and youth psychiatry, addictology and mental health care system(s). For this reason, semi-structured interviews were recorded with the involvement of the relevant experts. In the interview, seven main dimensions were defined, and a total of 25 sub-dimensions were asked. The main dimensions were the following:

- a comprehensive exploration of the activities and practices done in the institution;
- identifying the professional indicators used by the institutions in their current practice (both professional and non-professional);
- developmental suggestions, organisational and institutional needs to improve the effectiveness of professional work;
- formulating essential needs and developmental suggestions for the organisation;
- exploring the characteristics of the tracking system;
- exploring the human resource management of the institution (expertise, professionals, specialisations);
- description of the contacts (collaborations) of the institution;
- moreover, presenting the current practice of data provision and report obligations.

As a result of the expert sampling, interviews were conducted with the leaders or representatives of 12 public educational institutions, six social and six health institutions (three primary services and three special services). The primary processing of the interviews was done by content analysis with codifying

technique: coding, creating topics (identification of the codes), thematic table, the grouping of the topics (code families), quantitative summary and the interpretation of the results.

3. Results

3.1 Characteristics of the network and collaborations

According to the interviewed professionals, our results suggest that there are several conceptions about the collaboration of local suppliers and they reflect and interpret each other differently. There is no accepted category and working form, which would be integrated into professional work. The professionals express an opinion or provide information about the inter-sectorial collaboration based on their own experiences. That is, subjectivity and personal attitude play a significant role.

The most forms of collaboration are merely accidental, cannot be called network operation or organisation. Resource sharing cannot be detected; neither coordination nor adaptation functions are applied systematically. However, the concerned three fields (health care, social and public education sectors) are not entirely isolated from each other. Every organisation has at least one inter-sectorial connection. Public education institutions have 4–9 connections; most of them are within the education system. In the field of social suppliers, we identified 6–12 connections which are the most extensive to the two other sectors, while in the health care systems, there are 4–16 connections. Among the health care suppliers, the general practitioners and emergency doctors have the lowest number of professional contacts, while the drug ambulance has the highest number of them. In order to develop and maintain collaborations, development of motivational support system is necessary to the collaboration of local suppliers.

In the extensive relationship system of social suppliers, we identified not only institutions or suppliers from the two other sectors but also institutions of higher education, police, authorities, offices, civic organisations, church organisations, partly due to the signalling network.

In the mentioned fields, the occurrence probability of relationships is greatly influenced by the operation profile and its legal regulation. In connection with them, the network of ‘social suppliers, public health, education, offices and authorities’ primarily develops. Neither the civic organisations nor the market operators fit into the processes of formal function, so there is no service-welfare pluralism. Surprisingly, the market sector (companies, enterprises) is neither at the level of social suppliers nor at the health care suppliers. This sector got into the network only through the vocational educational system.

It is also critical that the role of civic organisations does not appear prominently in the care system. Displacement of civils from the care system makes the introduction and spread of integrated services, and makes the partnership-based organisation of innovative initiatives more difficult. In the absence of civic organisations, the role of intermediary and knowledge-transfer functions is lost, which could support to overcome the relationship impeding from the specificities of bureaucratic systems, as well as to launch and operate new, innovative initiatives that complement the existing service system.

3.2 Qualitative characteristics of connections

Mutually reinforced relationships (i.e., both organisations mutually reinforce the existence of the relationship) occur only minimally among the interviewed organisations. Mostly we can identify one-sided, unbalanced, non-professional, rather administrative connections, which come from the reporting and statistical obligations.

Among the three specializations (health care, social and public educational sectors), the social system is the most inclusive. Neither public education nor health care system shows this kind of capacity. There are poorly embedded, rare, and incidental relationships which can be omitted any time, and can be replaced by new ones.

The results show that (with a few exceptions) there are no controlled and appropriately structured inter-disciplinary interventions among the interviewed organisations and suppliers, which would contribute systematically to the successful work, or could establish the introduction of a mental health teamwork method. The existing collaborations are routine, not sufficiently conscious and planned, often narrowed to specific issues. There are no clear *client paths*, not only among significant supply groups but also often within a single care system.

Overall, the responses of the interviewees showed that the cooperation between the three professional fields is not part of the everyday practice. It is primarily ad-hoc and based on informal relationships and personal acquaintances. By all means, the participants communicate about the collaboration (which often compelled by the law) that, they are significant and professionally needed.

3.3 Inter-institutional relations and communication

The network of social system is determined by the signalling system, which coordinates an extensive network of institutions, professionals and non-professionals, and covers those family and child welfare services, which are in connection with families and children.

The respondents emphasize the importance of different featured relationships in social care systems compared to primary care. They have a primary relationship with social care, work with them in collaboration, primarily through the case managers. Due to the constraints of the institutional existence, day-to-day communication with public education institutions is not smooth.

In the social rehabilitation specialization, the primary health care suppliers are the most crucial link in the input process, but the child psychiatric care also plays an important role. After the process of getting into, the relationship with the child welfare service becomes close and regular case discussions take place. Collaboration with patron supervision is also crucial in the course of professional activity, and relations with police relations are also not negligible.

Relations with schools play an extremely significant role in therapeutic work. There is an excellent professional relationship with the concerned schools to ensure that the individual curriculum or school

treatment of the drug-addicted youth manage appropriately.

3.4. The most frequent problems in the collaboration

According to the interviewees, the emerging problems in the collaboration are very diverse. Unclear client paths, lack of determining of competencies, difficulty in contacting (highly protected health data that also makes contacting and keeping contacting difficult), incomplete knowledge of each other's work, lack of feedback between sectors can cause problems.

Almost at all of the service providers interviewed, we also identified serious overburdening and lack of professionals (as an impeding factor of cooperation). Also, there is a lack of uniform data administering and data collection system - uniform and understandable datasheets, uniform statistics are missed.

3.5. Suggestions for improving and expanding relationships and communication

The primary care has extensive professional relations, but the need for closer cooperation with general practitioners and home paediatricians (especially in the form of personal, professional consultations and case discussions) appears as a point to develop.

In the aftercare and rehabilitation care of addicts, there are several needs for cooperation that could improve the effectiveness of professional work. Professional meetings with the experts of several fields (health care, education, etc.), interpretation of professional indicators (e.g. what they mean on success) and planning common developments are needed. It was also proposed to expand the system of professional training to support the establishment of common knowledge.

4. Discussion

Our workgroup aimed to propose a measurement and data collection tool which can measure and document the collaboration of local suppliers taking into account the current data collection and performance measurement tools. Besides, we had to describe conceptions about using, evaluating and generalizing and test them in practice. From the reviews, we can conclude that the multi-sectorial preventive approach is essential in the mental health care of children. It is a holistic approach in which the organisations, professionals, non-professionals, the members of health care, social and public education sectors, the justice, the children, the adolescents, as well as the concerned parents, educators, caregivers play a significant role [15, 16, 17]. Indeed, it does not mean that each system must be involved in the problem of every child; it rather means that we need to determine the best and the most cost-effective intervention for the individual and create an interventional supporting team. In an ideal case, an individual development plan must be made for the patients, in which one person would coordinate and monitor the development, inform every participant, and every profession would make proposals as equal partners.

The fundamental task is to organize the different forms of care, sectors and professionals together to achieve a common goal. The majority of our team members are currently working in a care system where the Department of Child and Youth Psychiatry is an integral part of Children's Nurses and Drugambulances. These departments primarily keep close contact with the professionals of public education, social sector and justice by the social workers. Based on interviews with professionals from social care, the child emergency department also has a social worker who is involved in keeping contact. A institutional contact person in the institutes is an essential part of the cooperation [18, 19].

5. Conclusions

Following the statutory regulations, the case discussion work in the social care system more or less operates well. Reports about the number of these discussions are made regularly, and the data are also processed statistically. To the annual report, from health care, the data is also asked to provide. Nevertheless, the health care database and the patient flow registry programs are not suitable to record and store these data. These are often stored in the ‘crew memory’ or paper-based form and rarely in an internal institutional database. In the field of public education, there is also no uniform documentation register currently [20, 21].

The next pillar of our recommendation is a cross-sector case documentation record, datasheet, in which data of case discussions could be recorded. If the cooperation of the system members will improve, the number of documented case discussions should increase. Thus, both the number of documented case discussions and the number of changes serve as an indicator of cooperation.

Based on the interviews and reviewed relevant international [e.g. 7,11,12,22,23,24] and Hungarian literature [e.g. 8,9,10], we recommend the following indicators to measure the cooperation of local suppliers:

Table1: List of indicators (Source: the Authors)

List of indicators	
1.	Number of attendance at case discussions
2.	Changes in the number of documented local case management collaborations
3.	Number of new formal and informal collaborations
4.	Number of formal inter-institutional collaborations in different sectors (cooperation agreement, task contract, etc.)
5.	Number of formal intra-institutional collaborations in different sectors (cooperation agreement)
6.	Changes in the number and qualification of team members who take part in the care of patients
7.	Number of professional trainings to promote collaboration in the given district

Within one year, it is planned to test the developed data collection pilot. The results and experiences of it will be reported in another study.

Declarations

Abbreviations: Not applicable.

Ethics approval and consent to participate: The study procedures were carried out in accordance with the Declaration of Helsinki. The research was carried out in the cooperation between the National Healthcare Services Center and the University of Debrecen which aimed at measuring patient satisfaction of children receiving psychiatric treatment but not their health state. Due to GDPR, we consulted the Data Protection Officer of the University of Debrecen in several rounds to ensure that the pseudonymization could not be identified and to form the written and oral text of the informative. Thus, the Kenézy Gyula University Hospital with the National Healthcare Services Center allowed the research (2018/1/M4). All of the patients were deemed able to give informed consent by the researchers. The interviewers approached the participants, and provided them with verbal and written information outlining the purpose of the study.

Consent for publication: The participation in the research was anonym thus patients cannot be tracked back. Each patient received a general informative that the results of the research will be published in articles in general.

Availability of data and material: There is no data set associated with the paper.

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Footnotes

[1]The multidisciplinary team consists of professionals working in different disciplines and working independently with the given client, but share information about the clients and the care of the client with each other [7].

[2]In this project, the mental health team is not a multidisciplinary professional group operating within a single institution. The members of the mental hygiene team are primarily professionals working in the fields of health, public education, institutions and professionals of the social sectors and professionals working in the field of child and youth psychiatry and addictology. It has no declared leader, no hierarchical relationship is existing within the team, and its work is based on the division of labour and responsibility according to the professional competencies.

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