THEORETICAL/PRACTICAL TEACHING IN NURSING GRADUATION FOR MENTAL HEALTH

Ensino teórico/prático na graduação em enfermagem para atuação em saúde mental

Enseñanza teórica / práctica en graduación de enfermería para la salud mental

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ABSTRACT

Objective: To analyze the theoretical / practical teaching in Mental Health and Psychiatry received during undergraduate nursing. Method: quantitative study, developed with 44 nurses from a Psychosocial Care Network in the city of São Paulo through a validated questionnaire. Results: 72.7% of nurses are not prepared to treat mental health for the first time, 68.2% consider that it has been poorly explored and 84.1% is interested in taking courses in the area. Conclusion: there is a duality in the theoretical / practical education offered by higher education institutions, configuring the need to revise skills so that generalist nurses can meet the demands of Mental Health in various fields of professional practice in accordance with paradigm of the Psychiatric Reform of the suppositions of psychosocial rehabilitation.

Descriptors: Psychiatric nursing, Mental health, Nursing education, Higher education, Professional practice.

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INTRODUCTION

The training of human resources in mental health to provide qualified care requires that professionals be prepared to intervene in the implementation and support of public policies aimed at overcoming the logic of manicomial and consolidate the model of psychosocial care supported by the notions of deinstitutionalisation, psychosocial rehabilitation and emancipation of the person in psychic suffering.

The Curricular Guidelines for Nursing Courses and the Law no.10.216 on Psychiatric Reform (PR) are contemporary and bring important indicators to guide the training of professionals committed to the health of the population and the teaching of nursing in Mental Health/Psychiatry (MH/PSY), with a view to preparing professionals articulated with the National Policy on Mental Health (NPMH), capable of overcoming the paradigm of madness and madness.

Following the logic of SUS and the Psychosocial Care Network (PCN), care for people with mental health needs happens at all levels of care, from the perspective of contributing to the reconstruction of life, to confer identity, dignity, belonging and autonomy, and in any circumstance the nurse deals with issues related to this field of action, although he has been offering care with little knowledge about these specificities.

The contents offered in the MH/PSY subjects by most Higher Education Institutions (HEIs) are weak and restricted, referenced in historically outdated and hospitalocentric views, which disregard the mental suffering of the individual in its historical-cultural aspects, conducted by teachers who are unaware of the new forms of care. Thus, HEIs do not meet the requirements of education agencies and have been training nurses with poor quality.

Considering that curricula are socially constructed products and are influenced by a historical context and current knowledge model, curricular updates and reformulations conducted by HEIs are necessary to provide theoretical and practical content aligned with political reality. To overcome this gap, the theoretical/practical teaching provided during academic training needs to be rethought as to the sufficiency of the workload, maintenance of specific discipline or internships, contrary to brief contents often presented in a biased manner.

As the ones responsible for defining the segment lines of the subjects’ contents and specific workload, HEIs should have in the student the center of their decisions, teaching-learning process and contents that, in fact, will prepare him/her for the world of work. The offer of care in MH/PSY is not restricted to the specialty space, being necessary to develop competencies for the generalist nurse to deal with this field of knowledge. Thus, this study aims to analyze the theoretical/practical teaching in Mental Health and Psychiatry received during the nursing degree.

METHODS

Quantitative study, developed in three components of the RAPS of the West region of the City of São Paulo with 44 nurses, eight from the Center of Psychosocial Attention (CAPS), 10 from Basic Health Unit (BHU) and 26 from Emergency Room (ER).

Data collection took place between May/June 2017 with a socio-demographic questionnaire and training in MH/PSY at graduation. The SPSS version 25 was used and the Chi-square test was applied to compare the association between the answers of the professionals/service, it was considered p<0.05. The term “Mental Health/Psychiatry” was adopted in this study to refer to the discipline. Ethical opinion.1.528.264. of 04/05/2016.

RESULTS

Of the 44 nurses, 36 (81.8%) were female, aged 29-39 22 (50%), married 21 (47.7%), from the Southeast region 34 (77.2%). Graduates, 20 (45.5%) more than 10 years old, 18 (40.9%) between 6-10, and six (13.6%) between 1-5, in the Southeast 40 (90.9%), Northeast two (4.5%), South,
one (2.3%) and one (2.3%) Centre West, in private HEIs 33 (75%). They operate in services of 1-3 years 22 (50%), 7-9 years 10 (22.7%), less than one year, nine (20.5%), and 4-6 years three (6.8%). They specialized 39 (88.6%), seven (17.9%) in MH/PSY.

The 36 nurses interested in training in MH/PSY CAPS are from CAPS eight (100%), BHU nine (90%), PS 19 (73.1%) (p=0.385). Of this total, 32 (72.7%) do not know the courses offered by the Health Coordination.

From the total sample, 30(68.2%) reported that the MH/PSY content was little explored at graduation and 72.7% reported little/no preparation to deal with the area for the first time. Among the three scenarios, 10(20%) nurses at BUHU portray content not well explored. In general, nurses point out that the content of MH/PSY was well explored, as well as the preparation to deal with this area for the first time Table 1.

Table 1 – Exploration of the content of Mental Health and Psychiatry in the graduation of nursing and preparation to deal with the area by nurses of CAPS, BHU and ER (N=44). São Paulo, SP, Brazil, 2017

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total</th>
<th>CAPS</th>
<th>BHU</th>
<th>ER</th>
<th>x</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content Graduation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poorly explored</td>
<td>62.5</td>
<td>25</td>
<td>22</td>
<td>5</td>
<td>10</td>
<td>68.1</td>
</tr>
<tr>
<td>Well explored</td>
<td>37.5</td>
<td>15</td>
<td>18</td>
<td>2</td>
<td>5</td>
<td>31.9</td>
</tr>
<tr>
<td>p-value</td>
<td>0.032</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Preparation</td>
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</tr>
<tr>
<td>Low/No preparation</td>
<td>37.5</td>
<td>15</td>
<td>18</td>
<td>2</td>
<td>5</td>
<td>72.7</td>
</tr>
<tr>
<td>Prepaid</td>
<td>62.5</td>
<td>25</td>
<td>22</td>
<td>5</td>
<td>10</td>
<td>37.3</td>
</tr>
<tr>
<td>Source: p=0.06</td>
<td></td>
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</tbody>
</table>

They did not like the theoretical content during the first time. Among the three scenarios, 10(20%) nurses at BHU portrayed content not well explored. In general, nurses showed that the content of MH/PSY was well explored, as well as the preparation to deal with this area for the first time.

The more recent the training, the greater the insertion of the MH/PSY content in the curricular matrix (p=0.190). The sample (n=44), five (50%) BHU nurses and three (30%) UBS and seven (26.9%) nurses had the possibility of MH/PSY (p=0.061).

The more recent the training, the greater the insertion of the MH/PSY content in the curricular matrix (p=0.190). They considered it a difficult area and after contact they started to interpret it as difficult 26(59.1%). They believed that it was not a difficult area and after contact they started to interpret it as difficult 10(22.7%). Of the 33(75%) nurses who considered the work process in MH/PSY horizontal, before contact with the area, they started to see it as vertical 15(59.1%) (p=0.513).

Before and after having contact with the area, 23(52.3%) of the sample maintained the vision of being an area with high complexity of care, 21(47.7%) of the professionals maintained the vision of high dangerousness, and seven(15.9%) who did not see dangerousness began to see (p=0.044). Regarding the vision of more humanized care for this population, 19(43.2%) nurses started to recognize it as an integral part after their insertion, in contrast, 25(56.8%) of professionals did not recognize it (p=0.002). They considered an area with low professional demand, before working nine (20.5%) and after coexistence six (13.6%) started to consider it.

Regarding stigma, 22(50%) started to understand how much MH/PSY is stigmatized and 22(50%) remained without this perspective (p=0.025). The possibility of social inclusion of users was recognized by 27(61.4%) nurses and seven(15.9%) did not recognize this possibility, and continued to believe even after contact with the area.

Psychiatric Hospital (PH) 18(40.9%) prevailed; five (50%) BHU nurses completed mandatory supervision PH training. Of the PS(N=26) nurses, 15(57.7%) did their PW internship in General Hospital and 11 did their mandatory supervised internship in PH. Of the nurses of CAPS, five (62.5%) did their internship in CAPS and the others in PH.

The professionals who did an internship in PH 18(100%) and in PW 16(85.5%) reported unpreparedness to deal with the area. The nurses also had the opportunity to get to know other fields such as CAPS Alcohol/Drugs, three(6.8%), Therapeutic Communities, five(11.4%) and clinical school, eight(18.2%).

From the total sample of the study, 27(61.4%) concluded the graduation with a load greater than fifteen days of supervised internship. Of the CAPS nurses, seven (87.5%) concluded the internship time with technical visits only, different from three (30%) BHU nurses, and two (7.7%) PS nurses. The optional internship (last period of the course) was carried out by four (9.1%) of the study nurses, two (25%) CAPS and two (7.7%) ER, and one (2.3%) BHU, with more than 100 hours.

The study nurses believe to be their function in the scope of MH/PSY, before entering the graduation and after the contact with it, during the discipline or in the insertion in the job market, were different. They considered it a difficult performance and after contact they changed this perception 26(59.1%); they believed that it was not a difficult area and after contact they started to interpret it as difficult 10(22.7%). Of the 33(75%) nurses who considered the work process in MH/PSY horizontal, after contact with the area, they started to see it as vertical 15(59.1%) (p=0.513).

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Regarding the vision of care with a focus on de-hospitalization and de-medicalization, 25 (56.8%) professionals maintained the perspective that they are part of the treatment, and 19 (43.2%) began to recognize another possibility (p=0.006).

The choice for the area of MH/PSY for professional performance was conducted by personal issues and affinity for 27 (61.4%); like the content during graduation 16 (36.4%); like the internship/curriculum 14 (31.8%); cases of mental health in the family, arousing curiosity three (6.8%); location of the service six (13.6%); benefits/salary 12 (27.3%); employment opportunity 12 (27.3%); self-knowledge eight (18.2%) imposition of the service, four (9.1%).

As for the specific functions of the nurse in the area of MH/PSY, these are not recognized by professionals either. Regarding the performance of WG, Therapeutic Care and weekly consultations of MH/PSY nine (90%) of the professionals from BHU, two (25%) from CAPS and 16 (61.5%) from ER, do not recognize them as part of their activities (p=0.018). For most nurses, approximately 60%, i.e., five (50%) BHU, five (62.5%) CAPS and 16 (61.5%) ER, matrix-based strategies is not recognized as a possibility to practice them (p=0.836). About STP, five (62.5%) CAPS nurses, three (30%) BHU and 10 (38.5%) ER recognize as part of their responsibilities (p=0.404). In general, 26 (59.1%) do not recognize RV in MH/PSY as a function, two (25%) CAPS, 18 (69.2%) ER and six (60%) BHU.

**DISCUSSION**

It is possible to detect potency in undergraduate teaching that gave the future nurse a theoretical/practical contribution to sustain MH/PSY actions, although commitment is observed in ABS professionals. In literature, it is observed that this problem has not been overcome and still does not meet the prerogative of a teaching in MH/PSY for an action consistent with current policies.²⁻⁹

The training of fit-for-work nurses must be based on teaching based on the paradigms of the current NPMH. In this perspective, the theme of deinstitutionalisation and social inclusion was given to most of the participants, a fundamental proposal to consolidate the advances of RP and the organization of mental health care.⁷

The study reveals that the general contents of MH/PSY are present but were conducted briefly. Thus, it is recognized that this approach does not guarantee that the professional will actually have theoretical/practical teaching based on the principles of PNSM, since this content should provide the future nurse with conditions to advance in the specialty, be critical-reflexive, creative, capable of breaking traditional paradigms, and strengthen the care in this field of action in a post-RP reality.¹⁻³,⁵⁻⁶

It is considered that if the professionals had received this content more broadly they would be safer for a better contact with the area, in any case, it is an advance that brings a breath of optimism and safeguard so that the theoretical/practical teaching of these future professionals is constantly rethought.

It is necessary to recognize that for insertion in the contemporary working world, nurses need to conduct transformative practices and compose services that are configuring and molding themselves in the adscription of the territory, having as premise that doing MH/PSY is not limited to the exclusive scenario of the specialty.¹²

To this end, they must bring with them the perspective of breaking traditional practices and conceptions, and exercise political positioning at work, with society, with families and in the deconstruction of stigma and prejudice¹¹ sustained in the exercise of autonomy and citizenship, anchored in the assumptions of the RP.¹³

Nurses at BHU and ER consider that they deal little with mental health. This perception does not dialogue with the current moment that mobilizes the construction and sedimentation of RAPS, and has in its components ABS and Emergency Care, where Nursing has a significant role, and in all network components.¹⁵

It is believed that this perception is relative to the most severe and robust clinical conditions, which deserves special attention, since people in mild mental distress may not be being adequately served.¹⁶ In contrast, a portion, especially those who have been trained for longer recognize that this demand exists, but the shallow content received during graduation does not support their actions.⁶

The fact that the specific discipline of MH/PSY was present for the majority of the interviewees represents a gain, and the contents explored are in accordance with the current health needs, such as the topic of Alcohol/Drugs, largely due to the public policies plans to combat crack that have required the supply of qualified nursing care to meet this demand.¹¹

The contents of MH/PSY were integrated into the disciplines of Collective Health, making it possible to infer a theoretical/practical teaching in the training of nurses from the perspective of deconstructing the biomedical paradigm, to the detriment of a view of health as an expression of social determinants, a result opposed to that found in a recent study, which detected little interlocution between these fields.³

On the contrary, the teaching of Psychopharmacology, together with the nosology of Mental Disorders, is revealed in the centrality of teaching, findings that still strongly permeate the training of nurses. Contents on RAPS were not extensively worked on in the training but, although still young, this policy requires mobilization around its construction and sedimentation and contemplates significant role of the nurse in all components.¹⁷

It is surprising that the RIT/CT content, instrumental in the work of the nurse, was more present for those who graduated long ago. This fact may be linked to the
rise of nursing theories about the RIT/CT, instituted in the graduation curricula of nursing in Brazil in the 50’s, and which were also highlighted in the Curricular Reform of 2001, the same period in which the PNSM was promulgated.3

The RIT/CT has important roles in addressing the health needs of the individual and represent essential components of care. It is fundamental that the approach and/or the deepening of this content be provided still in the graduation and be extended in permanent education activities in order to guarantee the proposal of nursing care in MH/PSY.18 In this way, the training institutions must assume the commitment of inserting these contents, because it is a mental health promoting tool used in the specificity of the area and/or any other area of knowledge of the profession.18

The theme of Solidarity Economy as an emancipatory proposal is processed through work and represents an important axis of the RAPS2, but it has not been well explored and may produce a gap in the social organization of work in its practice. Regarding the GT content, conceived as one of the main resources in the context of work in the CAPS19, the offer took place for more than half of the professionals participating in the study, which demonstrates that they bring with them previous knowledge that subsidizes the applicability of this resource in their daily activities.

Nurses do not recognize VD as a care strategy for mental health users. This data contrasts with the reality that sustains this practice in daily life, as a resource for clarifying doubts to the family/user, support, in monitoring drug treatment, in general guidelines for management and referrals, as well as a means for welcoming and strengthening the bond and the possibility of knowing the reality and context of life of the population.20

Not liking the way the theoretical-practical content was conducted signals incoherence with a reality of hostile practice scenarios, which did not allow for a more plural look at care in this field. This fact increases the chance of disinterest in the area, makes the quantity of human resources unavailable and reduces the possibilities of insertion of these future professionals in the labor market.21

The choice of a specific area for future professional activity has a strong link with the way the degree is developed and can impact the quality of the assistance provided. By not experiencing the practice in MH/PSY or a minor contact during the graduation, in the form of quick technical visits and/or in scenarios that disadvantage the teaching-learning process. Moreover, it is known that unsatisfactory curricular contents and the distance from practice fields impact the future disinterest in the area and favor the scarcity of human resources.8

The stereotyped and prejudiced view of the MH/PSY users, before and after having contact with the area, demands from the professionals that do not fit this logic the daily exercise of deconstruction of these beliefs. These issues need to be worked on during the formation and in the process of permanent education, avoiding to negatively compromise the professional performance and therapeutic behaviors.22

In relation to doing MH/PSY in the services, the ER and BHU nurses, recognize only the administrative functions, medicines and clinical care as assignment. Those of CAPS, do not recognize Matriciamento e Consulas de Enfermagem as part of the care. Therefore, continuing education needs to be present to (re)build the knowledge and potential of nurses in this care setting.

Recognizing the importance of improvement, it is noted the need to search for training, in this journey, those who work in CAPS advance, possibly by the demands of the service itself. With regard to filling the gaps left by graduation, one should think of strategies that overcome this mismatch in the formative process and build possibilities of training that expand the repertoire of nurses in a technical-scientific perspective, which allows a safe practice, articulated with the needs of NPMH.

Achieving a quality educational process is fundamental to enhance the indissociability between the political and epistemological dimensions of theory and practice, in order to meet the demands of a universally accessible health system. Thus, training cannot be marked by theory alone, internship strengthens the professional for the world of work, so the variety of fields makes it possible to corroborate the premise that the diversification of teaching-learning scenarios represents a positive practice, and contributes to the formation of more critical professionals.

However, it is important to highlight the absence of mandatory internships in the curricular matrix in some HEIs, in scenarios far from that proposed by NPMH.23 The literature shows that nurses graduated more than ten years ago feel more prepared when they get in touch with the area of MH/PSY when they received content on social inclusion and networking.24 Therefore, HEIs committed to teaching MH/PSY should provide contact with the area through diverse internships. The limitations of the study are in the size of the sample and reading of a local reality but that do not infirm its results, direct them to conduct future studies.

CONCLUSIONS

It is concluded that there is duality in the interface offered by HEIs in conducting MH/PSY teaching. The heterogeneity in the recognition of the demands of MH/PSY, from the perspective of nurses working in BHU and ER shows that advances need to happen to solidify the work in RAPS, since the care is not restricted to the field of specificity. It is necessary to review the training so that generalist nurses can meet the demands of MH/PSY, in the various fields of action, according to the paradigm of caring for assumptions in psychosocial care.

REFERÊNCIAS
1. Organização Mundial da Saúde. Relatório sobre saúde no mundo 2001. Saúde mental: nova concepção, nova esperança. Genebra: OMS; 2001. Disponível em: http://www.who.int/bcachoice/publications/choice euler/01/choice euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler euler 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