



Estudos de Psicologia (Campinas)

ISSN: 1982-0275

Programa de Pós-Graduação em Psicologia, Pontifícia  
Universidade Católica de Campinas

CESNIK, Vanessa Monteiro; ZERBINI, Thais

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Estudos de Psicologia (Campinas), vol. 34, no. 1, 2017, January-March, pp. 161-172

Programa de Pós-Graduação em Psicologia, Pontifícia Universidade Católica de Campinas

DOI: 10.1590/1982-02752017000100016

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# Sexuality education for health professionals: A literature review

## *Ações educacionais em sexualidade para profissionais de saúde: uma revisão de literatura*

Vanessa Monteiro **CESNIK**<sup>1</sup>  
Thais **ZERBINI**<sup>1</sup>

### Abstract

The objective of this study was to review the scientific literature addressing educational actions related to the training of health professionals in sexuality between 2003 and 2013. The results obtained show that college seniors, recent college graduates, or those working in hospitals and other health care facilities are not adequately prepared to meet patients' needs regarding sexuality. Several studies have shown improvement in the health practitioners' ability to deal with patients' sexuality issues after participating in training programs in sexuality, regardless of the course load. According to the articles reviewed, in order to improve the performance and comfort level of health practitioners to deal with patients' sexuality concerns, investments in educational actions are necessary.

**Keywords:** Education; Health; Nursing; Sexuality; Training.

### Resumo

*Este estudo teve por objetivo analisar a literatura científica relacionada a ações educacionais para capacitação de profissionais de saúde na área da sexualidade, no período entre 2003 e 2013. Os resultados mostram que tanto estudantes do último ano quanto profissionais recém-formados ou vinculados a uma organização hospitalar há mais tempo estão despreparados para atender às atuais necessidades dos pacientes em relação a questões de sexualidade. Pesquisas indicam melhoria da capacidade dos profissionais em lidar com questões de sexualidade dos pacientes após participarem de treinamentos nessa temática, independentemente da carga horária do curso. Para melhorar o desempenho e conforto dos profissionais de saúde em relação a questões de sexualidade dos pacientes, fazem-se necessários investimentos em ações educacionais nessa área, como mostram as pesquisas analisadas.*

**Palavras-chave:** Educação; Saúde; Enfermagem; Sexualidade; Treinamento.

The objective of the present study is to conduct a literature review on the Training, Development, and Education (TD&E) actions for

health practitioners regarding sexuality. The way these professionals have been dealing with sexuality issues will be firstly discussed, followed by the TD&E concept.

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<sup>1</sup> Universidade de São Paulo, Faculdade de Filosofia, Ciências e Letras, Programa de Pós-Graduação em Psicologia. Av. Bandeirantes, 3900, Monte Alegre, 14040-901, Ribeirão Preto, SP, Brasil. *Correspondência para/Correspondence to:* T. ZERBINI. E-mail: <thaiszerbini@fclrp.usp.br>.

Support: This work is financed by *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* as part of the first author PhD project.

Sexuality is one of the dimensions of quality of life that has been considered as an essential part of the health-disease process in recent years (Wilmoth, 2007). According to a World Health Organization report, good quality-sexual life or sexual happiness is a fundamental condition to promote human health (World Health Organization, 1986).

Thus, health practitioners should assist and counsel their patients regarding their sexual problems. However, there are many barriers to the implementation of interventions to address sexuality in health care contexts (Junqueira, Vieira, Giami, & Santos, 2013; Moore, Higgins, & Sharek, 2013; Vieira, Ford, Santos, Junqueira, & Giami, 2013). According to Barton-Burke and Gustason (2007), these barriers come from implicit assumptions about sexuality made by both patients and the health professionals working with them.

Professional practice and the scientific literature indicate that, in general, health practitioners may feel insecure addressing issues of sexuality in the health care facilities' environment (Cesnik & Santos, 2012a; Costa & Coelho, 2013; Olsson, Berglund, Larsson, & Athlin, 2012; Santos & Campos, 2008). Their insecurity is a result of inadequate professional training to deal with patients' sexuality issues, indicating the need for professional development in the area. Therefore, there is a gap in the provision of such care, hindering effective communication, making it difficult to deliver an appropriate and comprehensive health care; thus it has become a public health problem in Brazil (Cesnik & Santos, 2012b).

Increasing knowledge and awareness about this topic can contribute to minimize the provision of inefficient care or unsatisfactory professional performance concerning sexual education or detection or prevention of problems. Therefore, higher-education institutions should provide thorough training for their students to effectively deal with this issue, and hospitals and other health care facilities should also provide proper training for their health professionals (Brêtas, Ohara, & Querino, 2008; Cesnik et al., 2013; Junqueira et al., 2013).

Training, Development, and Education (TD&E) is an area that refers to programs and actions designed to create learning opportunities for employees to improve their performance (Abbad & Borges-Andrade, 2004; Borges-Andrade, 2002). These actions are strategies adopted by organizations or institutions to maintain the quality of the service offered by investing in the training of personnel and development of Knowledge, Skill, and Attitude (KSA) compatible with their goals. It is worth mentioning the importance of choosing the appropriate prediction and criteria measures to assess performance and skills in the workplace (Vasconcelos, Sampaio, & Nascimento, 2013), as well as measures and variables that influence different forms of learning in organizations (Lopes & Mourão, 2010; Noe, Clarke, & Klein, 2014).

Thus, TD&E actions are an effective strategy to evaluate the performance of health practitioners in terms of dealing with sexuality issues in a health care setting. The objective of this study was to review the scientific literature related to TD&E actions for the training of health professionals regarding sexuality.

## Method

A literature review was conducted to identify relevant articles published between 2003 and 2013 based on the following key question: "What has been published on Training, Development, and Education regarding sexuality and health professionals?". The search included journals indexed in the bibliographic databases PsycINFO, Web of Science, Proquest, Cinahl, and the Virtual Health Library.

In order to achieve the objective set, the following steps of the systematic review methodology recommended by Rojon, McDowall, and Saunders (2011) were taken: (a) systematic search of national and international academic publications; (b) identification of authors, research objectives, methodology, year of publication, journals in which the articles were published, country where the study was conducted, and results obtained; (c) critical analysis of the results reported,

and assessment of contributions to the existing knowledge of the topic.

Articles published up to 2012 were sourced in April 2013, and those published in 2013 were sourced in January 2014. The search was conducted using the following keywords: training, formation, and education combined with sexuality, nursing, and health. A total of 730 abstracts were retrieved from the literature search, of which 144 were duplicates. Therefore, a total of 586 abstracts were selected to be read through according to preset inclusion and exclusion criteria.

The inclusion criteria were as follows: 1) articles on Training, Development, and Education regarding sexuality; 2) original articles written in English, Portuguese, or Spanish; 3) articles published between 2003 and 2013; 4) articles reporting empirical results; 5) articles involving health professionals. After reading the abstracts, several articles were selected, applying the inclusion criteria.

The information obtained was entered on a particular identification form for each article using the computer program StArt (State of the Art through Systematic Review), version 2.0, which allowed for the systematization of data. Frequency distribution was used to organize and analyze the data.

## Results and Discussion

The final sample consisted of articles indexed in the databases searched and met the inclusion criteria established. Of the 586 articles selected, 21 met these criteria and were included for analysis and discussion in the present study. These articles are shown in Table 1.

The Training, Development, and Education actions are a system composed of three subsystems or steps: Training Needs Assessment (identification of skill deficiencies for adequate job performance); Planning and execution (definition of the objectives and plan contents and selection of teaching methods and appropriate evaluation criteria); Training and evaluation (evaluation of training effectiveness, applicability, and usefulness and

performance of participants and instructors to be used as feedback for continuous improvement of the TD&E system (Borges-Andrade, 2002; Meneses, Zerbini, & Abbad, 2010). All articles reviewed were selected based on the TD&E system considering the chronological order of the process: Evaluation of higher education courses; Training needs assessment of health practitioners; and Evaluation of the training provided for health practitioners. It is worth mentioning that there is a variety of validated assessment instruments in the TD&E area, which facilitates the process. Therefore, the present study focused on the assessment instruments used in the articles that were selected after comprehensive analysis.

With regard to the year of publication, it was observed that the number of publications on this topic increased. According to the criteria established, there were 5 articles published in 2013 and no articles published in 2004 and 2007. This finding indicates a growing interest in the topic within the scientific community, slowly improving the current situation since, according to Ressel and Gualda (2002), scant attention has been given to sexuality issues.

The articles that comprised the sample were published in 15 different journals. Five were published in the Sexuality and Disability journal, two in the Nurse Education Today journal, two in the International Journal of Mental Health Nursing. The others were published in the following journals: Sexual & Relationship Therapy, Australian Journal of Advanced Nursing, Canadian Journal of Human Sexuality, Clinical Rehabilitation, *Escola Anna Nery Revista de Enfermagem* (Anna Nery School of Nursing Journal), Journal of Advanced Nursing, Journal of Clinical Nursing, Educational Gerontology, Journal of Women & Aging, Online Brazilian Journal of Nursing, and Rehabilitation Counseling Bulletin. The first scientific journal aforementioned is devoted to the psychological and medical aspects of sexuality in rehabilitation, the second journal acts as an interface between the theory and the practice of nurse education, and the third focuses on nursing practice committed to promoting mental health. This shows that this topic has been discussed from a multidisciplinary perspective.

Table 1

Articles selected from the search of the TD&amp;E literature on sexuality, Ribeirão Preto, SP, Brazil, 2014

Authors and year of publication	Objective	Participants
Booth et al., 2003	Assess the training required to investigate and evaluate a practical model for sexuality issues following spinal cord injury.	Interdisciplinary team in a spinal cord injury rehabilitation service.
Kendall et al., 2003	Develop a scale for the assessment of training needs of rehabilitation professionals in the area of sexuality.	Multidisciplinary team in a spinal cord injury rehabilitation service.
Fronek et al., 2005	Evaluation of a training program in sexuality for a rehabilitation interdisciplinary team.	Spinal cord injury rehabilitation interdisciplinary team.
Simpson et al., 2006	Evaluate the effectiveness of a staff training program in sexuality as a means of improving the rehabilitative management of clients' sexual concerns after neurological disability.	Multidisciplinary team involved in rehabilitation and disability.
Oezdemir and Akdemir, 2008	Determine the knowledge level of cardiology nurses in relation to sexual and other lifestyle adjustments required of their patients following myocardial infarction.	Cardiology nurses in cardiology clinics and outpatient clinics of university hospitals.
Post et al., 2008	Assess a sexological training for rehabilitation professionals in The Netherlands.	Multidisciplinary team in two rehabilitation centers in The Netherlands.
Brás et al., 2009	Investigate the factors influencing the training of primary health care Portuguese nurses in sexuality.	Nurse practitioners in 226 healthcare centers.
Kong et al., 2009	Investigate knowledge, skills, attitudes, and readiness to deal with sexual health concerns of clients and identify strategies to help nursing students with sexual health-related care.	Nursing students.
Alencar et al., 2010	Investigate whether the lack of human sexuality knowledge affects nursing education and to conduct a survey on the inclusion of sexuality education in undergraduate nursing courses in public universities in the state of <i>São Paulo</i> .	Public university nursing students (1st and 4th years).
Kazukauskas and Lam, 2010	Determine the influence of Knowledge, attitudes, and level of comfort when addressing patient sexuality issues.	Certified rehabilitation counselors.
Langer-Most and Langer, 2010	Determine gynecologists' knowledge and attitudes regarding sexuality in older women.	Gynecologists in 5 hospitals.
Astbury-Ward, 2011	Obtain information about the provision of training in human sexuality in nursing schools.	Academic nurse educators.
Fronek et al., 2011	Investigate whether the changes in the treatment group observed at the training 3- month-follow-up were maintained and compare to the control group.	Interdisciplinary team in a spinal cord injury rehabilitation service.
Barrett et al., 2012	Examine the level of emphasis placed on 18 sexual health topics within family medicine, obstetrics and gynecology, and undergraduate medicine programs at Canadian medical schools.	Professionals in charge of 41 educational programs (Medicine Residency programs).
Quinn and Happell, 2012	Explore mental health nurses' experiences of using the BETTER model to assist in raising the topic of sexuality with patients.	Nurses in a mental health service.
Higgins et al., 2012	Evaluate the effectiveness of an interdisciplinary sexuality education program for staff working with people with acquired physical disability.	Interdisciplinary team in a hospital.
Bauer et al., 2013	Evaluate an educational program delivered to residential aged care nurses to improve their knowledge and attitudes towards older people's sexuality in this context.	Residential aged care nurses and staff.
Quinn et al., 2013	Investigate whether the participants continue addressing sexual issues as part of practice after using the BETTER model for 2 years.	Nurses in a mental health service.
Sehnm et al., 2013	Investigate sexuality education in nursing students.	Public university nursing students.
Sung and Lin, 2013	Evaluate the effectiveness of sexual health care education provided for nursing students in dealing with sexual issues.	Senior nursing students.
Tsai et al., 2013	Assess the training needs of nurses in terms of addressing regarding patients' sexual health concerns.	Senior nursing students.

Note: TD&amp;E: Training, Development, and Education; BETTER: Bring Up, Explain, Tell, Time, Educate, Record.

In the current context of globalization, it is important to identify the research centers and groups active in this area in order to facilitate and boost international academic exchange and research collaboration. As for the countries where the studies were conducted, Australia stands out with seven articles, followed by The United States, Brazil, and Taiwan with two articles each. Four of the Australian studies were conducted by the same research team and two by a different team, indicating that there is more than one research center carrying out studies on this particular topic in Australia.

With regard to the participants involved in these studies, the majority of them (7 articles) were members of multidisciplinary or interdisciplinary health care teams. This indicates a tendency to seek a common competency standard for these teams, suggesting a distribution of responsibility towards this issue among all health practitioners involved instead of delegating it to one or two practitioners only. On the other hand, nursing was the most frequent profession involved in those studies. In addition to being part of the multidisciplinary or interdisciplinary teams, nursing profession was also the focus of other studies with undergraduate students and graduate professionals. This finding corroborates other studies that reported that nurse practitioners are those who have closer contact with patients, and therefore they are more likely to have to deal with sexuality issues during their daily work (Brêtas, Lima, & Yamaguti, exposed to sexuality issues 2006; Kaplan & Pacelli, 2011). It is important to mention that undergraduate nursing students are considered appropriate participants in studies on the evaluation of training provided and their knowledge of a given subject. However, in terms of training needs, these participants may not be the most appropriate group since these students do not have enough practical experience making it difficult for them to express an opinion on these problems. In this case, a more appropriate group of participants would be practitioners with at least one year of professional experience after graduating college.

The quantitative methodology was used as a standalone approach in the 14 of the studies

reviewed and in combination with the qualitative methodology in 3 of them. Only four studies used the qualitative methodology as a standalone approach: two Brazilian studies (Alencar, Ciosak, & Bueno, 2010; Sehnem, Ressel, Junges, Silva, & Barreto, 2013) and two Australian studies (Quinn & Happell, 2012; Quinn, Happell, & Welch, 2013). These approaches should be combined into mixed-methodology research more often to use different ways to study the same phenomenon. Thus, it is suggested that more studies conducted abroad on this topic use the qualitative approach, and more studies conducted in Brazil should use the quantitative approach.

Different methodological steps were taken in the articles reviewed, and some included more than one data collection procedure. In those studies, the most frequently used strategy (11 articles) was the distribution of unaddressed envelopes containing a questionnaire to be completed and returned, accounting for 52% of the sample. The questionnaire return rate was considered good, in general, facilitating the composition of the sample. Other methodological steps used in those studies were face-to-face interviews (4) and focus group (3). It is important to identify the most commonly used data collection procedures so that they can be considered as alternative strategies in future studies.

### **Assessment instruments used in the studies reviewed**

It is important to identify the type of assessment instruments that are commonly used in TD&E research on sexuality. Of the selected articles, 12 used validated scales with psychometric properties, and the other 9 articles used questionnaires specifically designed for their studies. The Knowledge, Comfort, Approach and Attitudes towards Sexuality Scale (KCAASS) was the most commonly used scale in these articles; it was used in 7 of these 12 articles. One study mentioned developing a specific version of this scale, and the others used the original version (4) or an adapted version (2). This scale was specifically developed for



the assessment of rehabilitation multidisciplinary or interdisciplinary teams.

More discussion about the scope of these scales and the need for new assessment instruments is required. Each one of the instruments mentioned is based on a conceptual framework and a specific group of participants. The KCAASS (Kendall, Booth, Fronek, Miller, & Geraghty, 2003) was developed according to the scientific literature focusing on the issues of patients undergoing spinal cord injury rehabilitation, while the Aging Sexuality Knowledge and Attitude Scale (ASKAS) (White, 1982) focused on issues of sexuality of elderly patients, regardless of their health problem.

Other more general assessment instruments, such as the "The Sex Attitude Scale" (Hudson, Murphy, & Nurius, 1983), do not focus only on professionals' attitudes in health care settings but rather on attitudes towards sexuality as a whole, including everyday issues. Therefore, using this scale to assess health professionals' attitudes towards sexuality may not reflect their workplace reality since people may have different attitudes and perceptions in different contexts.

The Learning Needs for Addressing Patients' Sexual Health Concerns Scale (LNAPSHC) (Tsai, Huang, Liao, Tseng, & Lai, 2013) assesses the training needs in terms of professional knowledge rather than professional practice activities. According to Ferreira, Abbad, Pagotto, and Meneses (2009), the identification of training needs focused on performance deficiency is not always very specific, thus wasting investment on TD&E. The identification of competencies that are more aligned with the organization strategy and goals is needed in order to improve organizational results. Abbad and Mourão (2012) argue that the identification of training needs using a list of topics is still commonly used by organizations and researchers. This method of training needs assessment may be adequate as an initial and more general survey followed by a more specific assessment, as described by Happell, Platania-Phung, and Scott (2013) and Happell, Scott, Nankivell, and PlataniaPhung (2013).

It is worthy highlighting that no scale for assessing the training needs of Brazilian professionals regarding sexuality was found in the literature.

Therefore, the cross-cultural adaptation of one of scales available for use in national studies is very important. Another option would be the development of an instrument based on the needs of Brazilian professionals, taking these findings into account.

## Evaluation of higher education courses

Of the 21 articles reviewed, six evaluated higher education courses in health care, especially undergraduate nursing courses. In the study conducted by Brás, Azeredo, Nobre, and Silva (2009) with 1,735 nurses from Portugal, it was showed that most nurses (67.3%) reported that their undergraduate training did not provide adequate education regarding sexuality. According to these authors, adequate undergraduate education and training in sexuality is provided for nurses between 22 and 30 years of age (45.2%), for practitioners with 1-7 years of professional experience (46.1%), and for single professionals (47.6%) from private schools (40.5%). This indicates that private colleges and universities have recently included disciplines related to sexuality in their undergraduate curricula, enabling younger professionals with less experience to have greater access to this type of training (Brás et al., 2009).

Similarly, Astbury-Ward (2011) found that the training in human sexuality in undergraduate nursing curricula is insufficient to meet the patients' changing needs. The programs evaluated provide an average only 6.8 hours of training in human sexuality in a total of 2,300 hours of theoretical training. Sehnem et al. (2013) added that the training of undergraduate nursing students in sexuality has been insufficiently and informally addressed or addressed under the concept of neutrality, prohibition, and dissexualization. Sung and Lin (2013) also reported that most participants believe that patients' sexuality can be affected by treatments and diseases, but, in general, they do not expect patients to ask about their sexual concerns.

Barrett et al. (2012) pointed out that the most common sexual health topics found in

undergraduate medicine programs are: information and skills for contraception (97.6%), information and skills for the prevention of sexually transmitted diseases (75.6%), sexual violence/assault (73.2%), and female sexual dysfunction (73.2%). The Topics least likely to receive emphasis are: childhood and adolescent sexuality (17.1%), sexuality and disability (22.0%), sexuality and aging in males (24.4%), and social and cultural differences in sexual beliefs and customs (26.8%).

Investigating 1<sup>st</sup> and 4<sup>th</sup> year undergraduate students, Alencar et al. (2010) found that although 88.1% reported had sufficient knowledge of sexually transmitted diseases before college and 50% believe that their undergraduate training in sexuality and sexually transmitted diseases was satisfactory, the students inadequacy to address sexuality issues was evident. Therefore, more effective assessment of training needs is required in order to accurately identify the gaps, instead of assessing more general areas and topics indicated by health professionals, corroborating the TD&E literature (Iqbal & Khan, 2011; Meneses & Zerbini, 2009) that argues that Training Needs Assessment (TNA) is the main step of the TD&E system since the other steps are based on it. After identifying skill and competency gaps, hospitals and other health care facilities can offer more adequate training and professional development by investing on educational actions that will greatly contribute to performance improvement of health practitioners, thus improving the quality of health care provided.

It was found that higher education courses in health care do not provide adequate training, and therefore the students are insufficiently prepared to deal with sexuality issues. This finding indicates the importance of updating the curricula including courses focused on human sexuality (theory and practice) and that address everyday challenges and the comfort required to deal with these situations.

### Training needs assessment of health practitioners

Of all articles reviewed, seven addressed the first step of the TD&E system: TNA and found similar

results. In some of these studies that focused on evaluating the knowledge of health practitioners (or undergraduate nursing students) in terms of human sexuality issues, medium to appropriate knowledge level was found. On the other hand, other studies (Kong, Wu, & Loke, 2009; Oezdemir & Akdemir, 2008; Tsai et al., 2013) found that few professionals help patients with their sexual concerns due to lack of ability and to the fact that they perceive sexuality issues are a private matter. In general, the participants recognize their role in dealing with patient's sexual health. However, they hesitate to take a proactive approach and do not intend to provide sexual health care.

With regard to the correlation of the variables that influence this type of analysis, Langer-Most and Langer (2010) reported that 20% of the variance in attitude could be explained by age, and therefore older participants had lower attitude scores. In their study, gender, ethnicity, and level of training did not demonstrate a significant correlation with attitude scores. Kazukauskas and Lam (2010) found that 17% of the variance in comfort and 19% of the variance in ability could be explained by knowledge and attitude, indicating that they influence comfort level and ability of participants in dealing with patients' sexuality issues. These data may indicate that educational actions focused on knowledge and attitudes contribute, to some extent, to the comfort level of the health practitioners in addressing patient sexuality concerns. As for the social and demographic variables, there were no significant correlations, except for age. The authors found that, the younger the professional, the higher the levels of discomfort (Kazukauskas & Lam, 2010).

Some articles (Booth, Kendall, Fronek, Miller, & Geraghty, 2003; Tsai et al., 2013) evaluated the issues with the highest learning needs, including sexuality in health and illness, communication about patients' intimate relationships, approaches to sexual health care, counseling, professional boundaries, and fertility and assistive devices. In the study conducted by Tsai et al. (2013), the learning needs about "Obtaining a comprehensive sexual health history" was the highest, while "Having sex



consultations with patients without embarrassment" was the lowest.

It is worthy highlighting that in the studies conducted by Kendall et al. (2003) and Tsai et al. (2013), different assessment instruments were developed (KCAASS and LNAPSHC, respectively) to assess the training needs, and these instruments can be used before the implementation of educational actions (to determine the where training is needed) and after the educational program to confirm its effectiveness. In these cases, it is possible to obtain pre- and post-training measures, facilitating the identification of changes resulting from educational actions. These instruments can also be used to define the training objectives more clearly. This shows the great contribution of these authors to this area.

It was observed that there is a great need for training for health practitioners regarding sexuality issues and that these professionals are unprepared and feel discomfort in dealing with these issues during their daily clinical work. Hospitals and other health care facilities have to consider these facts and provide their staff with training opportunities, development, and education in order to offer a better care and a more comfortable environment for the health practitioners and for the patients and their families.

### **Evaluation of the training provided for health practitioners**

Eight articles in the sample selected addressed the evaluation of training provided for health practitioners. It is important to mention that the study conducted by Fronek, Kendall, Booth, Eugarde, and Geraghty (2011) reports the longitudinal results of the research carried out in 2005. In these studies, the evaluations were performed immediately before and immediately after implementing the educational action. Some of the articles continuously evaluated the training results and/or compared them to the control group (no training) to evaluate training effectiveness. All studies reported a significant and lasting improvement in practitioner knowledge, attitude,

and comfort in dealing with patients' sexuality concerns after completing the training provided.

The educational programs described in these studies consisted of short training sessions, lasting from 40 minutes to 2 days. Two models available in the literature were used for the developing and implementation of the educational action: Permission, Limited Information, Specific Suggestions, Intensive Therapy (PLISSIT), developed by Annon in 1976 (according to Fronek, Booth, Kendall, Miller, & Geraghty, 2005; Fronek et al., 2011; Higgins et al., 2012; Simpson, Anwar, Wilson, & Bertapelle, 2006), and Bring Up, Explain, Tell, Time, Educate, Record (BETTER), developed by Mick, Hughes, and Cohen in 2004 (according to Quinn & Happell, 2012; Quinn et al., 2013). After implementation of the educational programs, the participants were, in general, more willing to raise issues for discussion and create a supportive listening space for patients to talk about their concerns regarding sexuality. Therefore, these training programs proved an effective intervention for improving the practitioners' ability to meet the sexual health needs of their patients/clients.

Some studies assessed only the level of nurses' knowledge regarding the sexual life changes of rehabilitation patients; their abilities and attitudes towards these issues were not assessed. Attitude scales measure both knowledge and attitudes indicating work performance in daily practice. Having knowledge does not necessarily mean people will transfer it to the workplace (Zerbini & Abbad, 2010).

One limitation of these evaluations of training effectiveness is that there is no evidence indicating that the educational action used increased the scores measured. Furthermore, with regard to post-training effects, Salas and Cannon-Bowers (2001) and Tannenbaum and Yukl (1992) argue that the effectiveness of an educational action can be influenced by events that occur after a trainee returns to the job. It was observed that the some employees leave training with new skills and with strong intentions to apply those skills to their job, but limitations in the post-training environment interfere with the transfer of training. Tannenbaum

and Yukl (1992) add that the limitations in the post-training environment can discourage the application of newly acquired knowledge. These authors also stated that more recent studies have supported the importance of pre- and post-training environment as determinants of training effectiveness. Salas and Cannon-Bowers (2001) argued that recent studies have focused on the improvement of methods and procedures to assess training and events that ensure the transfer and application of KSA acquired.

Post, Gianotten, Heijnen, Lambers, and Willems (2008) found different training results among the medical disciplines evaluated. Physical therapists, for example, showed no post-training improvements. The authors argue over whether the training provided for these practitioners focused only on their pre-existing skills or it did not include attitude and comfort issues, which resulted in no improvements. These findings demonstrate that educational actions should be developed based on the real training needs of the professionals involved.

The results found by Bauer, McAuliffe, Nay, and Chenco (2013) indicate that a relatively short educational program (3-hour training) can have a significant impact on the staff permissiveness and attitudes towards sexuality of older patients. These findings show that training programs with a heavy workload do not guarantee effective training.

The Hawthorne Effect, an important effect that was mentioned in only one of the articles selected (Kong et al., 2009), is a type of reactivity in which the individuals modify their behavior in response to knowing that they are being observed or monitored. This type of effect can be stronger when associated with issues that are considered by many as embarrassing, for example, sexual issues. According to Magnan and Norris (2008), when discussing sensitive topics such as sexuality, participants may restrict their answers or provide answers based on what they believe to be socially acceptable instead of disclosing their true beliefs.

The evaluation of the training programs in sexuality that were provided for health practitioners indicated that, in general, the professionals had an improvement in knowledge, attitude, and comfort.

In order to achieve even better results, it is important to establish instructional objectives aligned with the real training needs of these professionals.

## Final Considerations

The present study provides a critical review that demonstrates the current state of knowledge about the TD&E system in the area of sexuality, highlighting the limitations and potentialities that can affect educational actions and research in this area. The major limitation observed was the limited number of disciplines related to sexuality in higher education courses, which results in unprepared health professionals. On the other hand, there were improvements in knowledge, attitude, and comfort after the training sessions, indicating the importance of providing continued education focused on sexuality in the context of health.

These findings show the relevance of this field of research, which aims to improve interventions made to help health practitioners in the area of sexuality providing them with more comfort and competence thus enabling comprehensive patient care. Therefore, further investigations are needed for better understanding of the phenomenon to promote greater integration of actions for patient care.

Furthermore, researchers in this area should conducted investigations that go beyond the academic environment to include other environments such as the TD&E area of hospitals and other health care facilities in order to incorporate the knowledge produced by recent research into services provided by these institutions. Perhaps this is one of the greatest challenges to be faced. One way to encourage more frequent use of academic knowledge in organizational practices is the dissemination of research findings through different methods other than publishing scientific articles, for example, by organizing or holding workshops and in-person and online lectures. The use of different methods of dissemination can enhance the impact of research upon professional practice.

## Contributors

V.M. CESNIK contributed to conception and design of this study, data analysis, interpretation, discussion of the results and writing of the manuscript. T. ZERBINI contributed to conception and design of this study, discussion of the results, the review and final approval of the manuscript.

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Received: September 10, 2014  
 Final version: November 19, 2015  
 Approved: December 3, 2015