A blended training programme for healthcare professionals aimed at strengthening territorial networks for the prevention and contrast of gender-based violence

Un programma di formazione *blended* rivolto a professionisti della salute mirato al rafforzamento delle reti territoriali per la prevenzione e il contrasto della violenza di genere

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ABSTRACT

OBJECTIVES: a blended training programme combining residential meetings (*de visu*) and distance training course (DTC) have been developed in order to provide the key elements for prevention, individuation, and care of women victims of violence.

DESIGN: the Project involved the identification and testing of a systematic methodology of blended training addressed to social and health operators of 28 Emergency Room (ER) Units in 4 Italian regions (Lombardy – Northern Italy, Lazio – Central Italy, Campania and Sicily – Southern Italy). Tuscany region (Central Italy) collaborated through experts in the field from the Grosseto Task Force. This training approach specifically aimed to increase the professional competences for diagnosis, management and treatment of gender-based violence, as well as to strengthen multidisciplinary territorial networks against violence.

SETTING AND PARTICIPANTS: in this Project, 28 ERs in the four Italian regions mentioned above were selected because of their involvement in managing gender-based violence. This selection was performed by a coordinator, one for each region, who also coordinated the recruitment of personnel to be involved in the training programme. The programme has therefore been proposed to social and health operators and police officers in the ERs recruited.

In each ER, two referents were identified (a doctor and a nurse) in order to ensure a constant connection between the course participants and the experts involved in the management of the Project and the DTC platform.

MAIN OUTCOME MEASURES: evaluation of the increase of knowledge relatively to gender-based violence issue in the ER professionals who have concluded the blended training programme. A systematic analysis and comparison of all accesses concerning women aged ≥14 years in the period 1 July-31 December 2014 (before the blended training programme) and in the period 1 July-31 December 2016 (after the blended training program).

RESULTS: among the 866 registered professionals, 636 participants (73.5%) completed the course, 202 (23.3%) professionals did not complete it, 21 (2.4%) did not pass the certification test, and 7 (0.8%) participated as Auditors.

WHAT IS ALREADY KNOWN

- **According to the Italian National Institue of Statistics (Istat), 6,788,000 women have suffered, during their lives, a form of sexual or physical violence. Based on the last survey, carried out in 2014, more than 90% of victims do not report the violence.**
- **Hospital emergency rooms (ERs) are the places most frequently targeted by women victim of gender-based violence.**
- **The Istanbul Convention (2011), ratified by Italy, underlined the need to activate training and updating courses dedicated to ER workers.**

WHAT THIS ARTICLE ADDS

- **A blended training programme (*de visu* and distance) has been designed to focus the basic elements for prevention, diagnosis, and care of women victims of gender-based violence.**
- **In the period November 2015-June 2016, 636 professional workers from 28 ERs of four different Italian regions (Sicily, Campania, Lazio, Lombardy) were trained.**
- **At the end of the blended training programme, an increase in the capacity of ER professionals of correctly identifying cases of gender-based violence, using proper diagnostic codes, was observed.**

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Among the participants who completed the course, most of them (70.8%) were females; the average age was 45 for both males and females. The most represented professional role was the nurse (61%), followed by the medical doctor (27.2%). Based on our data, in the post-training period, an increased number of cases of violence were correctly recorded in comparison to the pre-training period.

CONCLUSION: the Project allowed to define a training strategy for health professionals of the ERs who respond daily to the health needs of women who are victims of violence. The blended training programme combining residential meetings (*de visu*) and distance training course has been developed in order to provide the key elements for prevention, individuation, and care of women victims of violence. The observed improvement in the recording and management of cases of gender-based violence is probably due to a greater competence in the awareness and use of specific diagnostic codes by ER professionals.

Keywords: emergency room, blended training, prevention, network, gender-based violence

RIASSUNTO

OBIETTIVO: sviluppare e sperimentare un programma di formazione *blended* (incontri *de visu* e formazione a distanza – FAD) finalizzato alla prevenzione e al contrasto della violenza di genere.

DISEGNO: una metodologia di formazione *blended* è stata proposta a operatori sociosanitari di 28 unità di pronto soccorso (PS) in 4 regioni italiane (Lombardia, Lazio, Campania e Sicilia) in collaborazione con gli esperti della Regione Toscana (Task Force di Grosseto).

SETTING E PARTECIPANTI: nelle 4 regioni, sono state selezionate 28 unità di PS sulla base del loro coinvolgimento nella gestione della violenza di genere. Per ogni regione, un professionista ha coordinato il reclutamento del personale sociosanitario da coinvolgere nella formazione e in ciascun PS sono stati identificati due tutor (un medico e un infermiere).

PRINCIPALI MISURE DI OUTCOME: rilevazione dell'incremento di conoscenze riguardo il tema della violenza di genere nei professonisti che hanno concluso il percorso. Un confronto sistematico degli accessi di donne di età ≥14 anni nel periodo 1 luglio-31 dicembre 2014 (pre-formazione) e nel periodo 1 luglio-31 dicembre 2016 (post-formazione).

RISULTATI: su 866 professionisti inseriti nel programma, 636 hanno completato il corso (73,5%), 202 lo hanno abbandonato (23,3%), 21 non hanno superato il test di certificazione (2,4%) e 7 (0,8%) hanno partecipato come uditori. I partecipanti sono risultati prevalentemente infermieri (61%) e medici (27,2%). Nel periodo post-formazione, è stato osservato un notevole aumento del numero di casi di violenza registrati correttamente rispetto al periodo di pre-formazione.

CONCLUSIONE: il Progetto ha permesso di definire una strategia di formazione per gli operatori sociosanitari dei PS. Il miglioramento osservato nell'attribuzione dei codici di diagnosi e nella gestione dei casi di violenza di genere è probabilmente dovuto a una maggiore consapevolezza e competenza da parte dei professionisti dei PS.

Parole Chiave: pronto soccorso, formazione *blended*, prevenzione, rete, violenza di genere

INTRODUCTION

Violence against women is currently a structural problem, as highlighted by the World Health Organization (WHO). The Istanbul Convention of 2011 indicated that a systemic action, consisting of comprehensive and coordinated policies encompassing all relevant measures to prevent and combat all forms of violence, is required.

In Italy, this Convention has been approved, ratified, and translated into the *National Guidelines for Health Structures on intervention and social-health assistance to women who suffer violence* (Italian Official Journal No. 24 of 30.01.2018), as well as in the "National Strategic Plan on Male Violence against Women 2017-2020" and in the "Operational Plan Actions of the Ministry of Health" (2018).

These documents highlight the strong need to activate training courses for healthcare workers employed in Emergency Rooms (ERs), which generally represent the first access of a victim of a violence to a health facility.

Therefore, as the gender-based violence is a complex issue and represents a public health problem, it is essential to activate continuous, multidisciplinary, and capillary training courses allowing healthcare workers to strengthen professional and relational skills required to effectively respond to the health needs of women who have been abused.

Within this framework, the Operational Unit Psycho-Socio-Behavioural Research, Communication, Training of the Infectious Diseases Department of the Italian National Institute of Health (ISS) coordinated the Project "A blended training programme in healthcare and non-healthcare workers: strengthening territorial networks to promote prevention and control of gender-based violence (CCM 2014)", promoted and funded by the Italian Ministry of Health.

This Project focused on the identification and testing of a systematic approach of blended training for healthcare workers employed in 28 ERs from 4 Italian regions: Lombardy (Northern Italy), Lazio (Central Italy), Campania and Sicilia (Southern Italy). The Toscana region (Central Italy) has collaborated with the experts of the "Grosseto Task Force" because of their consolidated expertise, knowledge, and skills on gender-based violence.

In Italy, despite the endorsement of the Istanbul Convention, a significant regional variability still occurs with re-

gard to to adequate gender-based violence training programmes for healthcare workers.
Based on the positive experience in some Italian regions, experts in the field of gender-based violence were involved in order to define the key contents, and to set up an effective training programme for ER professionals. Thus, residential (*de visu*) and distance (DTC) training approaches were integrated into a designed blended training program, based on methods already tested within other health education programmes managed by the experts from the Training Unit" of the ISS.

OBJECTIVES

This study aimed to:
- implement a blended training programme addressed to healthcare workers from 28 ERs in the above-mentioned 4 Italian regions in order to increase the professional competences for diagnosis, management, and treatment of gender-based violence;
- evaluate the ability to correctly identify cases of gender violence in the selected ERs, before and after the blended training programme;

The indicators used in this study were:
- the difference between the correct answers given in the entry test and those given in the post test of the DTC;
- the difference in the number of cases of violence reported in the ER medical records in the six months following the training period compared to the six months of the pre-training period.

METHODOLOGY

TARGET

Twenty-eight ERs in four Italian regions (Lombardy, Lazio, Campania, and Sicily) were selected. This selection, performed by a referent person for each region, aimed at identifying which ERs could be potentially involved in the management of cases of violence. The referent persons also coordinated the selection of the personnel to be included in the blended training.
For each ER, two tutors were identified (a doctor and a nurse) in order to ensure a constant connection between the course participants and the experts involved in the coordination of the Project and in the management of the DTC platform.
The specific blended training programme was proposed to a total of 1,720 healthcare professionals of the 28 ERs through *de visu* meetings. The participation in the programme was on a voluntary basis.
A total of 866 professional workers voluntarily joined the training programme, registering to distance education course using the EDUISS platform (https://ww.eduiss.it), based on the Learning Management System (LMS) Moodle, easily accessible from the work or personal computers.

BLENDED TRAINING PROGRAMME

The combination of residential and distance learning can be effective in the training of healthcare professionals.[1] An education model able to facilitate the interaction between the teacher and the participants, as well as among the participants, has been identified and implemented, in order to assure active involvement of ER professionals.[1,2]

Residential training

Residential training has been performed through specific *de visu* meetings, which involved the regional referents, the tutors of each ER, and the professionals of the selected ERs. Residential training has been performed in the period November-December 2015. The residential education has been designed and conducted based on the principles and priorities in health professionals training, as previously reported.[1,2]
Specifically, the following topics have been addressed:
- relevance of the phenomenon and centrality of the ER structures;
- description of the Project (objectives, phases, blended methodology);
- discussion between participants: strengths and critical areas in the reception, management, and treatment of the victims of violence (SWOT Analysis);
- description of the blended training programme (learning units, training objectives, and contents);
- illustration of the DTC platform (registration and practice of the course).

Distance training

The distance education has been developed as an autonomous course, essential component of the broader blended training programme.
As regards the DTC methodology, the problem-based learning (PBL) active method has been used.[3,4] Within this approach, the training process already described in the scientific literature, has been followed.[5,7-9]
The participants could have access to the course through the ISS-DTC platform, accessible from anywhere and at any time.
The DTC platform course was accessible for 6 months (from 15 December 2015 to 15 June 2016), free of charge, accrediting CME credits with the assignment of 48 credits for the health professionals.
The DTC consisted of 2 learning units, encompassing the following themes:
1. to implement and evaluate the effectiveness of the blended training programme for the health and non-health professionals of the ERs to promote the prevention and control of gender-based violence;
2. to define the tools and the standardized indicators for the correct identification and registration of the cases;

3. to describe the main effects of gender-based violence on the health (physical, psychological, and social) of the person and of the children who witnessed it;
4. to describe the most appropriate communication-relational strategies to identify cases of violence;[10,11]
5. to identify the procedures for the proper management of cases of gender-based violence;
6. to identify the tools for a correct detection of the risk of re-victimization through the danger assessment code based on 5 pre-established items (DA5);
7. to identify the legislation on gender-based violence;
8. to describe the role and the relevance of the different actors involved in the network.
For each learning unit, specific communities of practise (CoP) have been introduced within four regional forums, in order to promote networking, i.e., each participant could share questions and comments with colleagues, based on their professional experience; healthcare workers from the same geographical area could interact on the critical points of gender-based violence, but also on the opportunities for intervention.

EVALUATION TOOLS

Tools assessing distance training outcomes

An entry test has been provided to the participants at the beginning of each learning unit, in order to enable the comparison with the results of the post test and to evaluate the improvement of learning (before performing the final certification test). Specifically, the entry and the post tests were based on the same questions (n. 8) and the final score was calculated on a 100 scale (awarding 1 point for any correct answer and 0 for any wrong answer) and expressed as a percentage. No minimum score was required to complete the two tests.
Upon completion of the DTC course, participants were asked to perform a certification test for each of the two units and, as required by the legislation in continuous professional education, the assessment of learning was based on multiple-choice questions, which number was proportional to the time-length of the course. The final score was calculated on a 100 (awarding 1 point for any correct answer and 0 for any wrong answer) and expressed as a percentage.
A score higher than or equal to 75% was mandatory to pass both tests and to complete the course.
The level of general learning of participants who completed the course was evaluated by the comparison of the percentages of correct answers in the self-assessment post tests *vs.* those in the entry test, with a proper statistical analysis (T student test).

Tools assessing the satisfaction of the DTC course

At the end of the distance training course, a satisfaction questionnaire, including 18 closed questions regarding the methodology, contents, evaluations, interaction, and support, was submitted to the participants. The answers of the closed questions were based on a Likert scale. In this scale, five ordered response levels are used, from 1 to 5 (1: I do not agree at all, 2: I do not agree, 3: neither I agree nor disagree, 4: I agree, 5: I strongly agree).
Two open questions regarding the strengths and weaknesses of the course were also introduced and allowed to get opinions and suggestions of the participants.

Pre- and post-training assessment on the ability to identify cases of gender violence

The assessment of the ability of health operators to identify and correctly manage the cases of gender violence within the selected ERs was carried out through a systematic analysis and comparison of all accesses of women aged ≥14 years, in the period 1 July-31 December 2014 (before the blended training programme started) and in the period 1 July-31 December 2016 (after the blended training programme).
Anonymous data, such as age, citizenship, date and time of access to the ERs, arrival way, main problem, type of trauma, triage, ICD-9-CM code diagnosis (max 5 diagnoses), outcome, and completed report for judicial authority, were considered and collected through the national emergency information system called EMergency-URgency (EMUR).
For the two examined periods, the incidence rates of violence were calculated by reporting the cases identified as gender-based violence to the total accesses of women due to violence and/or for all types of trauma.
A further analysis has been carried out by stratifying data for some variables, such as age groups (14-17; 18-24; 25-44; 45-64; 65 years and over), citizenship (Italian or foreign), arrival time in the ER (night time 23-8 or daytime 9-22), medical triage (urgent or not urgent), arrival way (autonomous or by ambulance), region of residence.

RESULTS

PARTICIPANTS IN THE BLENDED TRAINING COURSE

Out of 1,720 candidates proposed by the regional referents, 866 healthcare workers (452 from Lombardy, 181 from Lazio, 156 from Sicily, and 77 from Campania) have registered to the DTC.
Among the 866 registered professionals, only 636 participants (73.5%) completed the course, 202 (23.3%) professionals did not complete it, 21 (2.4%) did not pass the certification test, and 7 (0.8%) participated as auditors.
The majority of the health care and non-healthcare professionals who completed the course came from Lombardy (58.3%), 18.7% were from Sicilia, 16.0% from Lazio, and 7% from Campania (table 1).

Among the participants who completed the course, most of them (70.8%) were females, and the average age was 45 for both males and females. The most represented professional role was the nurse (61%), followed by medical doctor (27.2%). Obstetricians and social assistants were represented in lower percentages (6.1% and 1.6%, respectively). All the other professional types, such as psychologist, psychiatrist, non-health professionals, educator, gynecologist, neurophysiopathology technician, lawyer, biologist, were represented in percentages ranging from 0.2% to 0.9%.

Data analysis in communities of practice

In the CoP proposed at the end of the first learning unit, the distance training participants could enter a shared discussion on a defined question: "Based on what you have learned so far and in consideration of the strengths of your ER to respond to a violence victim's request for help, how should the reception of a woman mistreated or who has suffered physical and/or sexual violence be organised?"
Many posts were sent by course participants, in which some elements of interest have revealed the need of:

- a continuous and homogeneous training on gender-based violence for ER professionals;
- a competent multidisciplinary team in each ER, in the case of defined or suspected gender violence;
- a space specifically dedicated to the care of gender violence victims;
- a networking between hospital and territorial social services in order to provide violence victims continuity of care.

In the CoP proposed at the end of the second learning unit, the discussion was based on the question: "Which elements can be relevant to identify the cases of violence and to favour the subsequent involvement of the local services?"
Also in this case, some relevant elements emerged, i.e.:

- the opportunity to set up, within each ER, appropriately trained multi-professional teams and a network of territorial services to effectively manage women who were victims of violence, as well as children if present;
- the interest in adequate tools for the evaluation of danger assessment and of the risk of re-victimization.

Analysis and evaluation of the course participants learning

The evaluation of the level of learning by the course participants, resulting from the attendance to the DTC, has been performed by comparing the percentages of correct answers to the two training tests (entry test *vs.* post self-assessment test).
A statistically significant increase ($p<0.0001$) of the means of percentages of correct answers achieved at the end of the course was observed (table 2), indicating a greater degree of learning.
A total of 636 (74%) participants passed both final certification tests, consissted of 144 questions, with an overall average score of 89.89% (data not shown), indicating a satisfactory degree of learning among professionals who completed the whole training course.

REGIONS	NUMBER OF PARTICIPATING CANDIDATES REPORTED IN THE REGIONAL REFERENTS LISTS	NUMBER OF REGISTERED PARTICIPANTS	NUMBER OF PARTICIPANTS WHO COMPLETED THE BLENDED PROGRAMME
Sicily	316	156	119
Campania	135	77	44
Lazio	266	181	102
Lombardy	1,003	452	371
Total	**1,720**	**866**	**636**

Table 1. ER professionals participating in the blended training course, by region.
Tabella 1. Professionisti dei PS che hanno partecipato al corso di formazione blended, per regione.

	MEAN PERCENTAGE	SD
Entry test (No. 636)	72.77	12.38
Post self-assessment test (No. 636)	79.46*	12.94

*Percentage values of corrected answers in post test were significantly higher than those in pre test ($p<0.0001$). / *La percentuale di risposte corrette nel post test era significativamente maggiore rispetto a quella del pre test ($p<0,0001$).*

Table 2. Comparison between scores of corrected answers (mean percentages) obtained by distance course participants in both training tests (No. of tests: 636).
Tabella 2. Confronto tra i punteggi delle risposte corrette (medie percentuali) ottenuti nei test formativi dai partecipanti al corso di formazione a distanza (n. di test: 636).

Evaluation of the participants' satisfaction of the course

The analysis of the answers to the questionnaires from all participants indicates that the majority of them considered the training tool effective and satisfactory by rating the method, the contents, and the platform with values consistently between 4 and 5.

Pre- and post-training assessment on the ability to identify cases of gender violence

The ability to identify cases of gender violence by health professionals of the ER unit included in the Programme was evaluated by the comparative analysis of the ER access rates for gender-based violence in two time-periods: before and after the blended training programme (July-December 2014 *vs.* July-December 2016). In particular, for the two examined periods, the number of accesses concerning women aged ≥14 years and registered as gender-based violence cases was reported to that of total accesses for violence or for all types of trauma.

In the considered ERs, total accesses of women because of trauma or violence were similar in the two periods examined (30.591 in 2014 and 30.388 and 2016). The access rates for gender-based violence in the considered ERs resulted 10.8 per 10,000 accesses in 2014 and 19.4 per 10,000 accesses in 2016, respectively, with an increase of 79.6%. In particular, the detailed analysis of accesses, based on EMUR information flows, shows that, in the period July-December 2014, 33 cases of gender-based violence were identified, 14 of which were reported through the diagnostic code "violence by others" in the main field, while 19 cases were reported with the proper diagnosis codes for gender-based violence. In the same period of 2016, over 60 cases of violence were identified, with a significant increase in those for which the proper diagnosis codes of gender violence were used (44 in 2016 *vs.* 16 in 2014) (figure 1).

The increase in the cases of gender violence reported in 2016 was higher for women who came autonomously into the ER (102% increase), compared to those arriving by ambulance (49% increase).

Regarding the triage code attributed by the nurse, it is noteworthy that the cases classified as urgent (yellow or red code) increased significantly in 2016, while no relevant differences were observed for cases considered not urgent (green or white code). Regarding the triage code attributed by the medical doctor after the examination, a slight increase was found in 2016 only for cases defined moderately urgent (green or yellow code).

The analysis of the data also shows that the propensity to correctly identify gender violence cases increased significantly in the accesses during daytime (from 8 a.m. to 11 p.m.). Interestingly, a relevant increase in the cases registered as gender violence were observed in 2016 among Italian women (110% increase compared to 2014) and a slighter increase (37%) was found among foreign women. Finally, the number of cases registered as gender violence showed an increase in all age groups, with the exception of the 45-64-year age group.

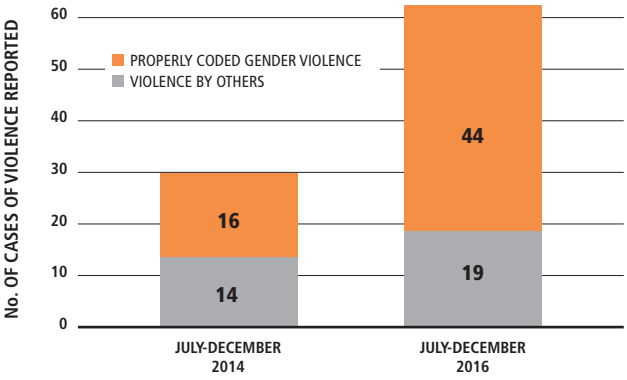

Figure 1. Number of cases of violence reported in the selected ERs as "violence by others" or as "properly coded gender violence" in the two six-month periods before or after the blended training.
Figura 1. Numero dei casi di violenza registrati nei PS selezionati come «violenza altrui» o «violenza di genere con codici diagnostici appropriati» nei due semestri prima o dopo il corso di formazione blended.

CONCLUSIONS

The Project, which lasted two years, allowed to define an effective training strategy for the health professionals of ERs who respond daily to the health needs of women victims of violence. In particular, a blended training programme combining residential meetings with a DTC at medium interaction was developed in order to provide the key elements for prevention, individuation, and care of women victims of violence.

The blended training programme was, therefore, structured in order to allow health operators of 28 ERs of 4 Italian regions to increase their capacity to correctly identify cases of violence with a greater appropriateness in the use of diagnostic codes. Based on the data observed in the present Project, in the post-training period (July-December 2016), a noticeable increase in the number of cases correctly recorded as gender violence was observed compared to the pre-training period (July-December 2014). This increase is probably due to a greater focus on this issue and to an improved competence in the use of specific diagnostic codes identifying gender-based violence by ER professionals. Further, the increase in the number of cases classified at the triage with codes defining urgency (yellow or red code) suggests that ER professionals may have acquired a greater awareness of the relevant physical and emotional consequences of the phenomenon. This occurred particularly during daytime, when ERs are usually overcrowded and professionals may have a lesser chance of properly managing gender-based violence cases.

The evaluation of the achievement of all the expected objectives highlighted strengths and weaknesses of the Project, providing useful indicators to improve the structuring of the blended training programme.

One of the strengths of this Project consists in the participation of experts in different areas, which synergistically collaborated in the elaboration and implementation of the Project. A global approach, based on the contribution of clinicians, researchers, communication specialists, lawyers, experts in preventive strategies, psychologists, and training-methodologists, has favoured the design and implementation of a blended training programme in extremely different regional realities and sociocultural contexts.

Another positive element is the effectiveness of blended methodology as training tool for health professionals, who could simultaneously follow the same distance training programme in a well-defined time frame. At the same time, *de visu* meetings allowed to deal with issues and relational dynamics requiring a direct interaction with course experts. In this approach, the presence of training tutors (a doctor and a nurse in each selected ER) were essen-

tial bridging figures among the different professionals involved in the training process.

Further, the blended training programme also focused on the importance to set up collaborative agreements with the judicial authority and with voluntary associations, thus creating a territorial network for women who suffered violence. Indeed, this approach requires a higher competence by ER professionals in the identification of real cases of gender-based violence in order to activate the procedures and the network in the territory which is necessary for the proper care of the victims.

The main limit of the Project was related to the gaps in geographical distribution of the enrolled ERs, due to a convenience sampling. The choice of the 4 regions to be involved in the Project was based on the availability of ERs on a voluntary basis. Further, within each selected region, there was a relevant difference in the number of daily accesses in the involved ER.

Another critical issue encountered in the Project was related to the unequal skills and computer equipment of the participants. Therefore, because of organizational and structural limitations, a relevant number of ER professionals could not access or complete the entire training course, despite the distance course was structured to meet the basic requirements in terms of accessibility and usability. These elements confirm the data on digital divide in the Italian territory, as reported by the Agency for Digital Italy (AGID).

In order to partially solve this issue, the funding provided for the implementation of the blended training programme could be adequately increased in order to allow the updating and optimization of contents required for the possible provision at national level. Recently, due the encouraging results and satisfaction of the training programme, a new project, aimed at extending the DTC to ERs over the entire Italian territory, has been granted by the Italian Ministry of Health. The Project "Implementation of a Distance Training programme for Italian Emergency Rooms (ER) social and health operators, aimed at preventing and contrasting gender-based violence" has been therefore assigned to Italian National Institute of Health researchers and started in February 2019 with a foreseen involvement of over 600 ERs from all Italian regions for a period of 18 months. Italian Ministry of Health decided that this training approach should be applied not only to the ERs with an experienced competence and sensitivity on gender violence, but particularly to the health structures that still lack adequate knowledge and protocols for the individuation of cases of violence and for the care of the victims. Indeed, professionals in a relevant amount of Italian ERs urgently need to strengthen the skills and operational procedures related to the gender-based violence. Further, the implementation of territorial networks for the care and the follow-up of violence victims is highly necessary in many local realities in which the problem is underestimated. Thus, only the harmonization at national level of the degree of awareness and competence of health professionals and of the procedures for the management of gender-based violence cases could allow a real step forward in the fight against this diffused but still neglected phenomenon which bears deep consequences for the victims.

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Emergency Rooms involved in the Project

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REFERENCES

1. Liu Q, Peng W, Zhang F, Hu R, Li Y, Yan W. The Effectiveness of Blended Learning in Health Professions: Systematic Review and Meta-Analysis. J Med Internet Res 2016;18(1):e2
2. Knowles MS, Holton III EF, Swanson RA. Quando l'adulto impara. Andragogia e sviluppo della persona, 1973. Nuova Edizione. Milano, Franco Angeli Editore, 2008.
3. Cook DA, Hatala R, Brydges R et al. Technology-enhanced simulation for health professions education: a systematic review and meta-analysis. JAMA 2011;306(9):978-88.
4. Michael J. Where's the evidence that active learning works? Adv Physiol Educ 2006;30(4):159-67.
5. Guerrera D, Barbina D, Mazzaccara A. La formazione a distanza in salute pubblica. Esperienze e prospettive all'Istituto Superiore di Sanità. Not Ist Super Sanità 2014;27(10):11-15.
6. Barbina D, Guerrera D, Mazzaccara A. Studio di efficacia su un percorso e-learning a elevata interattività. In: Accarrino D, Calò A, Canazza S, Dal Bon C, Paulon C (eds). Atti del Convegno MoodleMoot, 20-21 June 2014, Padua; pp. 199-200.
7. Barrows HS, Tamblyn RM. Problem-based Learning: an approach to medical education. New York, Springer Publishing Company, 1980.
8. Barbina D, Carbone P, Guerrera D, Mazzaccara A. Il problem-based learning in salute pubblica con Moodle: esperienze e prospettive. In: Atti del Convegno MoodleMoot, 20-21 giugno 2014, Padua.
9. Barbina D, Guerrera D, Mazzaccara A. Strumenti interattivi per l'E-learning: il problem-based Learning con Moodle. In: Atti del Convegno Didamatica, 19-21 April 2016, Udine: Paper 26.
10. De Mei B, Luzi AM. Il valore aggiunto delle competenze di counselling per una comunicazione efficace in ambito professionale. Dossier. Milano, Editore Zadig, 2011.
11. De Mei B, Luzi AM. Le competenze di counselling per una gestione consapevole delle reazioni personali e dei comportamenti dell'operatore nella relazione professionale. Dossier. Milano, Editore Zadig, 2011.