

The impact of a participatory intervention on the therapeutic relationship in mental health nurses: a multicenter study

ABSTRACT

Aims: To evaluate the effects of an intervention aimed at improving the therapeutic relationship, using the participatory-action research method, in terms of improving the quality of the nurse-patient therapeutic relationship.

Design: A single-group pre-post research design.

Methods: Quantitative data was collected between January 2018 and June 2019 using an online form completed by nurses from 18 mental health units (n=95). Data were collected before and after the intervention, which consisted of the design, implementation, and evaluation of strategies to improve the therapeutic relationship through participatory-action research involving nurses. The Working Alliance Inventory-Short, Interpersonal Reactivity Index, Evidence-Based Practice Questionnaire and Practice Environment Scale of the Nursing Work Index were used. The Wilcoxon rank-sum test was used together with the Spearman's correlation coefficient. Two multiple linear regressions models were constructed.

Results: Overall, the intervention improved the nurse-patient therapeutic relationship. In addition, the results revealed that, above all, the improvement in evidence-based practice along with a decrease in nurses' personal distress were the factors associated with the improvement of the nurse-patient therapeutic relationship.

Conclusion: In mental health units, the therapeutic nurse-patient relationship can be improved through participatory interventions that include the implementation of evidence-based practices.

Impact: This research examined the effects of an intervention aimed at improving the therapeutic relationship among nurses working at mental health units using participatory action research. The results show that the therapeutic relationship can be improved through participatory methods where evidence-based practice is implemented and enhanced among nurses, since a better therapeutic relationship along with reduced staff discomfort are determining factors that influence the quality of the therapeutic relationship. Institutional managers should promote participatory group interventions to enable nurses to develop evidence-based aspects of the therapeutic relationship together with expanding personal aspects and self-knowledge.

Key words: Empathy, Evidence-based practice; Mental health; Nurse patient relationships; Nursing practice environment; Mixed methods approaches; Practice nursing

1. INTRODUCTION

In acute mental health units, the nurse-patient therapeutic relationship is the primary vehicle of care (Moreno-Poyato et al., 2016; Zugai, Stein-Parbury, & Roche, 2015). The successful establishment of the therapeutic relationship enhances the effectiveness of clinical practice interventions (McAndrew et al., 2014) and improves patient health outcomes (Kelley et al., 2014). Despite its international relevance, limited research is available to evaluate intervention methods that assist nurses in improving the establishment of the therapeutic relationship with their patients (Hartley et al., 2020). In this regard, participatory action research has been shown to be an effective method to improve the quality of the therapeutic relationship using evidence-based practice (Moreno-Poyato et al., 2018; Munten, van den Bogaard, Cox, Garretsen, & Bongers, 2010).

1.1 Background

The concept of the therapeutic relationship has progressively evolved, in parallel with the professionalization of nursing, acquiring great relevance for mental health nursing practice (Gabrielsson et al., 2016; McAndrew et al., 2014; Zugai et al., 2015). In the early 1950s, Peplau conceptualized patient-nurse interactions (O'Brien, 2001). The nurse-patient therapeutic relationship can be defined as a helping relationship, where the nurse attempts to improve the health status of the person assisted, establishing an interpersonal commitment and a meaningful relationship based on mutual trust, eventually establishing a therapeutic alliance (Moreno-Poyato et al., 2016). This therapeutic alliance is composed of three dimensions: the bond between the nurse and the patient, the agreement on the therapeutic goals and the agreement on the tasks necessary to carry these out (Bordin, 1979).

Throughout the relational process, understanding the perceptions and needs of the other person is one of the main objectives of the therapeutic relationship (Reynolds & Scott, 1999). As a result,

from the patient's frame of reference, the nurse can empower the patient and promote skills to confront and overcome their problems (Peplau, 1997; Peplau, 1988). This makes empathy an indispensable attribute for the therapeutic relationship, both from the theoretical perspective (Peplau, 1988; Rogers, 1972), as well as from the perspective of mental health nurses (Gerace, Oster, O'Kane, Hayman, & Muir-Cochrane, 2018; Moreno-Poyato et al., 2016; Reynolds & Scott, 1999). Davis (1983) proposed a classification with four types of empathic responses. These included two cognitive responses: 1) the tendency to adopt the psychological point of view of others, a dimension the author called perspective taking, and 2) the capacity to imagine the situation and the feelings of others, termed fantasy. Furthermore, two other types of emotional responses were described by Davis (1983): 3) the tendency to experience feelings oriented towards others, such as compassion and concern, which was called empathic concern and 4) the tendency to react emotionally from the suffering of the other. The latter was labeled as personal discomfort (Davis, 1983).

In order to establish a therapeutic relationship of quality in mental health units, it is essential for the practice environment to fulfill optimal conditions, in which protected spaces are guaranteed to promote a high quality interaction to take place between nurses and patients (Gerace et al., 2018; Molin, Lindgren, Graneheim, & Ringnér, 2018). Similarly, other factors such as staff motivation, leadership and prioritization of psychosocial tasks are key elements (Raphael et al., 2021). Indeed, a frequently cited factor which appears to be an obstacle to the establishment of a quality therapeutic relationship is the clinical practice environment (Copanitsanou et al., 2017; Felton et al., 2018). Moreover, there is evidence of an association between an improved perception of the environment by nurses and a higher quality therapeutic relationship (Roviralta-Vilella, Moreno-Poyato, Rodríguez-Nogueira, Duran-Jordà, & Roldán-Merino, 2019).

Furthermore, Evidence-Based Practice (EBP) aims to support the nurses' ability to make clinical decisions using the best available evidence, considering factors such as patient experience and expectations (DiCenso et al., 1998). The implementation of EBP benefits both patients and nurses by improving the quality of care and outcomes (Moore, 2017). In addition, in the field of mental health, several studies indicate that the use of the EBP contributes towards the improvement of nurses' empathy (Moreno-Poyato, Delgado-Hito, Suárez-Pérez, Lluch-Canut, et al., 2017), favoring factors that contribute to a greater therapeutic alliance (Moreno-Poyato et al., 2018). Despite its relevance, although in nursing as a whole, EBP is an embedded and frequently used concept (McKinney et al., 2019), in the area of mental health nursing its implementation is often insufficient (Alzayyat, 2014; Hamaideh, 2017).

Among the strategies used to implement EBP among health services, Participatory Action Research (PAR) is a commonly used method (Abad-Corpa et al., 2012; Munten et al., 2010). The objective of PAR is to elicit changes using a dynamic method, in our case, in the context of nursing team clinical practice. PAR methodology is based on the fact that participants' actions need to be filtered through experience and reflection before improving or changing their practice. Thus, the use of this method has led to positive effects in the implementation of EBP, as it produces effects on nurses' knowledge, professional performance, structural context and on patient outcomes (Munten et al., 2010). In addition, in the context of mental health, the use of participatory methods has been shown to increase nurses' confidence, allowing them to reflect on their practice, present ideas and acquire new knowledge (Moreno-Poyato, Delgado-Hito, Leyva-Moral, Casanova-Garrigós, & Montesó-Curto, 2019).

Although implementation and promotion of the therapeutic relationship constitute key aspects of the nurses' role, contributing to improved patient outcomes in mental health units, there is poor

evidence in the literature regarding methods to improve and maintain sound therapeutic relationships (Hartley et al., 2020). Thus, it is necessary to increase the existing body of knowledge in this regard, by providing more evidence to support strategies that improve the quality of the nurse-patient therapeutic relationship in acute mental health units.

2. THE STUDY

2.1. Aims

The aims of this study were:

- a) To evaluate the effects of an intervention aimed at improving the nurse-patient therapeutic relationship in mental health units, based on the PAR method, in terms of improvement of the quality of the therapeutic relationship, empathy and competence for evidence-based practice in nurses.
- b) To examine the impact of the intervention in terms of the association between changes in levels of empathy, competence for evidence-based practice, and perception of the practice environment with changes in the quality of the nurse-patient therapeutic relationship in mental health units.

2.2. Design

This study was part of a mixed-methods project entitled MiRTCIME.CAT (Millorant la Relació Terapèutica en les Cures Infermeres Mitjançant l'Evidència. Estudi multicèntric en unitats d'aguts de psiquiatria de Catalunya), which aimed to improve the therapeutic relationship in acute mental health units in Catalonia (Spain). The project was carried out with a mixed methodology based on a sequential and transformative design (Teddlie & Tashakkori, 2012).

Quantitative methods were used based on a quasi-experimental single-group design with baseline and follow-up measurements in phases I and III of the project. The second phase of the project used qualitative methodology, in which the intervention was carried out using the PAR method. (see **Figure 1**). This study presents the results of phases I and III.

2.3. Sample/Participants

Information on the study was provided to all the acute mental health units that were part of the Catalan Network of Mental Health (n=21). The principal investigator presented the research project and its objectives to each center during informative sessions with the management of the centers. Finally, 18 units agreed to participate. A nurse from each unit joined the research team and was in charge of coordinating the study in his/her center and recruiting the nurses from each unit. All the nurses employed in the participating units were invited to participate in the study (n=235). Resident nurses who were in clinical practice were excluded from the study. In total, 198 nurses agreed to participate in the study. Ultimately, 95 nurses completed the study. The study power to detect at least a correlation coefficient of 0.3 in the baseline and follow-up measurements was calculated at an alpha of 0.05 and was 80% in a bilateral contrast.

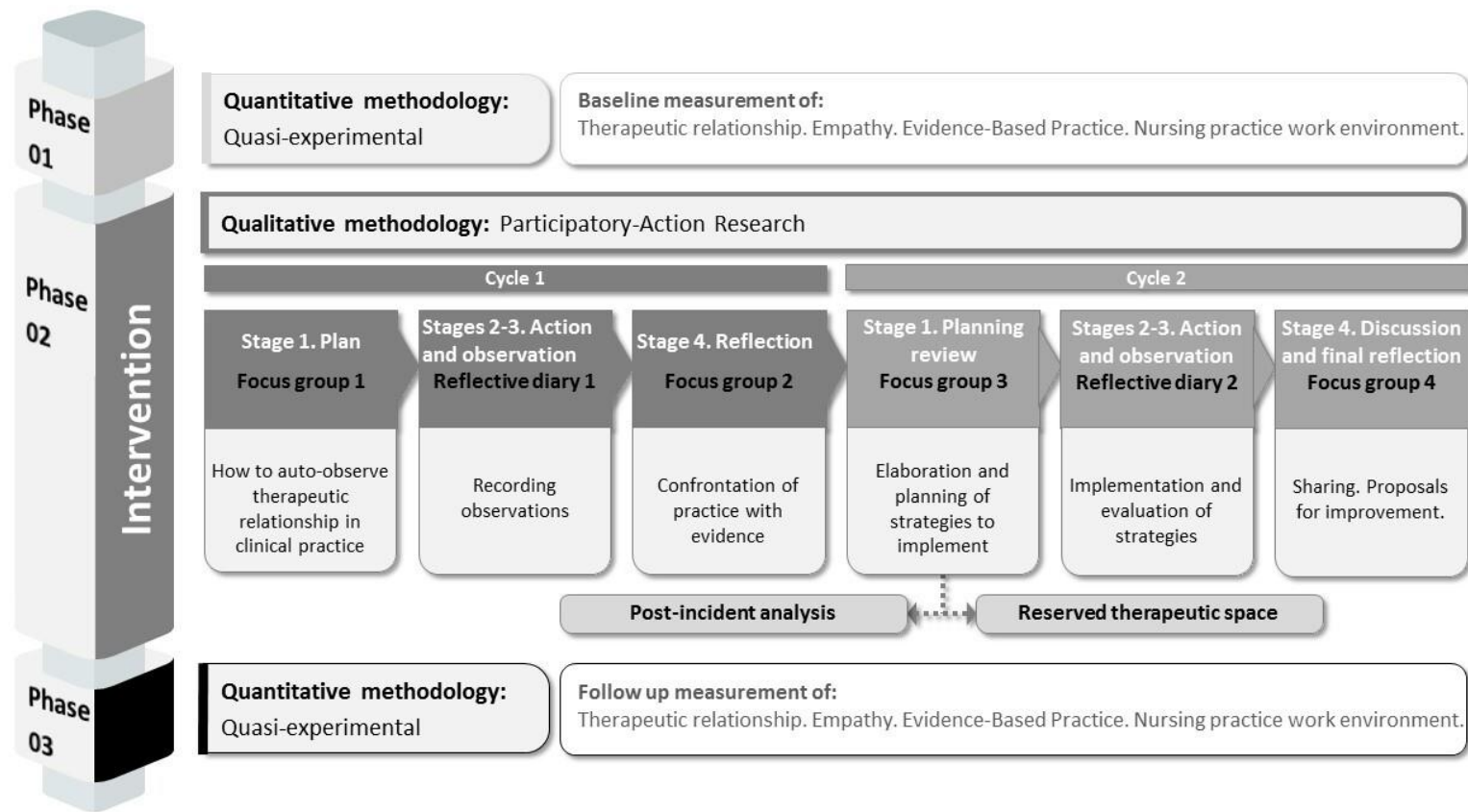


FIGURE 1. Mixed methods design and procedure of the intervention

2.4. Intervention

An intervention using the PAR method was conducted, aimed at improving the nurse-patient therapeutic relationship in the mental health units and which corresponded to phase II, or the qualitative part of the project (TIDieR (Template for Intervention Description and Replication) Checklist was followed). For this purpose, a group was formed at each center by the participating nurses of the center and led by the nurse who coordinated the study at each center. In this manner, 18 groups were constituted which were called support groups. Each support group operated in an autonomous manner throughout the process, except for the moment when it was necessary to agree on common strategies for the 18 centers. At that time, a main group was formed by the coordinating nurses who were in charge of conveying the information from each of the groups. The process was developed in two cycles with four stages each. As can be seen in **Figure 1**, during each stage the nurses carried out a series of activities individually or collectively. The first cycle began with the first stage where the coordinating nurses in the main group agreed on how nurses should observe their practice regarding therapeutic relationships. Later, they conveyed the information to each of the support groups at each center. In the second and third stages, the individual nurses carried out self-observation of their practice, recording this using reflective journals. In the fourth stage, they compared the results of their observation with the guide of good nursing practice "Establishment of therapeutic relationships" (RNAO, 2002), initially individually and subsequently collectively via the support groups at each center. In this manner, participants moved on to the first stage of the second cycle, where the coordinating nurses in the main group agreed upon and planned the strategies for improvement that were proposed at each of the centers' support groups. Later, in stages II and III of this second cycle, the nurses at each center carried out the strategies and evaluated these individually through

reflective journals. Finally, in stage IV, a collective evaluation was carried out at the support groups in each center and a final evaluation was carried out with the coordinating nurses in the main group.

The two strategies that were designed, implemented and evaluated in the PAR were:

a) Reserved Therapeutic Space, a strategy centered on the monitoring of the hospitalization process focused on the patient's health expectations and needs, and which consisted of dedicating approximately 30-60 minutes per week to working with the patient in a personalized manner, through individualized interactions with their assigned patients. This was a regulated and programmed space, in a comfortable, intimate and uninterrupted environment.

b) Reflective post-incident analysis, a strategy that aimed to improve self-knowledge and constructive criticism of nurses' responses and interventions to incidents in their clinical practice. This strategy consisted of carrying out a critical-constructive analysis after the occurrence of an incident in clinical practice. Concrete and isolated situations such as violent behaviors (physical and/or verbal self-heteroaggression) towards the staff or between patients, agitation/containment, suicide, runaways and vital medical emergencies were categorized as incidents. The nurses had to analyze and reflect on what had happened together with the rest of the team that had participated in the incident.

2.5. Outcome measures

2.5.1. Primary outcome

The quality of the therapeutic relationship was evaluated using the Working Alliance Inventory-Short (WAI-S; Horvath & Greenberg, 1989) in its Spanish version (Andrade-González & Fernández-Liria, 2015). The short form of this scale contains 12 items. The items are assessed by the health professional using a scale that ranges from 1 (never) to 7 (always). The score range of the overall WAI-S is 12-84 points. Higher scores indicate a greater quality of the therapeutic relationship. This questionnaire consists of three dimensions: (1) bond: the patient-nurse bond, including empathy, mutual trust and acceptance; (2) objectives: the agreement between patient and nurse regarding the therapy goals, and (3) tasks or activities: the agreement between patient and nurse regarding the tasks to be performed.

2.5.2. Secondary outcomes

Empathy was measured following the theoretical framework by Davis (1983; 1994) via the Spanish adaptation of the Interpersonal Reactivity Index (IRI) (Mestre Escrivá et al., 2004): this scale measures the empathic capacity of an individual across four dimensions which must be independently evaluated. Two dimensions are centered on the cognitive aspects of empathy: the perspective taking subscale estimates the individual's tendency to see things from the point of view of the other person, when relating to that person; the fantasy subscale measures the respondents' tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters. The other two dimensions evaluate emotional reactions: the empathic concern subscale measures the individual's tendency to respond with compassionate feelings of concern in light of the difficulties and anguish experienced by another person; the personal distress subscale examines the level of anxiety and other self-oriented negative effects which occur based on experiences of suffering of other people in difficult situations or crises. Each

dimension comprises seven items using a Likert scale based on five points. The scores on each subscale can range from 0 to 27.

Evidence-based practice was measured using the Evidence-Based Practice Questionnaire (EBPQ-19) developed by Upton & Upton (2006). The EBPQ-19 Questionnaire consists of 19 items, structured in three dimensions: a) practice, which includes six items (e.g., ‘Tracked down the relevant evidence once you have formulated the question’, or ‘Formulated a clearly answerable question as the beginning of the process towards filling this gap’), b) attitude, with 3 items (e.g., ‘I welcome questions on my practice’ or ‘Evidence-based practice is fundamental to professional practice’) and c) professional knowledge and skills for evidence-based practice with 10 items (e.g., ‘Knowledge of how to retrieve evidence’ or ‘Ability to critically analyze evidence against set standards’). Each item scores from 1 to 7, with 1 being the least favorable value and 7 the most favorable in terms of competence in the application of EBP. The scale ranges from 19 to 133 points. We used the Spanish adaptation of this questionnaire validated by Pedro Gómez et al. (2009).

The perceived nursing practice environment was measured with the Practice Environment Scale of the Nursing Work Index (PES-NWI: Lake 2002), comprising 31 items assessed based on a Likert scale ranging from 1 to 4 points (1= completely disagree, 2= disagree, 3= agree, and 4= completely agree). These items are grouped in 5 subscales: (1) nurse involvement in the center’s affairs, referring to the participatory role and status assigned to nurses in the hospital context at large, (2) nursing foundations for quality of care, stressing the nursing foundations for high-quality patient care, (3) nurse manager ability, leadership and support for nurses, concerning the crucial role of nurse managers, (4) staffing and resource adequacy, referring to the need for human and other resources to provide high-quality care, and 5) nurse-physician relations, which

refers to the need for collegial relations. We used the Spanish adaptation of this questionnaire validated by Pedro-Gómez et al. (2009).

2.6. Data collection

The coordinating nurses at each center were responsible for collecting the informed consent documents and the nurses' e-mail addresses to provide an individual confidential participant code to each nurse. The collection of quantitative data, both from phase I and phase III, was carried out using an electronic form sent to the participants' e-mail addresses. The data was collected between January 2018 and June 2019, before and after the intervention. The electronic form included a questionnaire that collected socio-demographic and professional data from nurses, the WAI-S (Horvath & Greenberg, 1989), the EBPQ-19 (Upton & Upton, 2006), the IRI (Davis, 1983) and the PES-NWI (Lake 2002).

2.7. Ethical considerations

This study was approved by the Research Ethics Committees of all the participating hospitals, and the participating nurses signed a consent form. The consent forms and the completed questionnaire were given to participants as separate forms, and data were treated confidentially.

2.8. Data analysis

Descriptive data are presented as the mean and standard deviation (SD) for continuous outcomes and number and percentage (%) for categorical outcomes. The nonparametric Wilcoxon rank sum test was used to compare the continuous outcomes between baseline and follow-up. For the main and secondary outcomes, the differences between follow-up and baseline variables were defined for each outcome. Regarding the interpretation of these new outcomes, values below 0 indicated a lower evaluation, values equal to 0 indicated no change, and values above 0 indicated

an improvement in the evaluation. The opposite logic was used for the interpretation of the distress subscale. The association between the difference (follow-up - baseline) in the quality of the therapeutic relationship with the difference in the perceived nursing practice environment, evidence-based practice and empathy was studied using Spearman's correlation coefficient. Two multiple linear regression models were constructed. The first model aimed to determine the difference in the secondary outcomes independently associated with the difference in the therapeutic relationship adjusted for the baseline therapeutic relationship and participants' sociodemographic and professional characteristics. The second model included the difference in secondary outcomes with a p-value of < 0.05 , according to their association with the difference in the quality of the therapeutic relationship adjusted for the baseline therapeutic relationship, participants' sociodemographic and professional characteristics. The variance inflation factor (VIF) was used to quantify the severity of the multicollinearity effect. VIF values higher than 5 are considered high multicollinearity (Sheather, 2009). All significance tests were two-tailed, and values of $P < 0.05$ were considered significant. Statistical analyses were conducted using the R 3.6.1 for Windows statistical software package (R Core Team, 2019).

2.9. Validity and reliability/Rigor

The Spanish version of the WAI-S has good reliability and validity, with a Cronbach's alpha of 0.93 (Andrade-González & Fernández-Liria, 2015). In the case of our sample, the Cronbach's alpha value for the total scale was 0.82.

The Interpersonal Reactivity Index has been validated in Spanish and the Cronbach's alpha values vary between 0.63 and 0.71 across the four factors (Mestre Escrivá et al., 2004). In our sample, the Cronbach's alpha values varied between 0.59 and 0.81 across the four factors.

The Evidence-Based Practice Questionnaire (EBPQ-19) has been validated in Spanish by Pedro Gómez et al. (2009) with Cronbach's alpha values of 0.89, 0.72 and 0.92 for each of the factors. In our sample, the Cronbach's alpha values was 0.94 for the total scale the Cronbach's alpha values varied between 0.61 and 0.95 across the three factors.

The PES-NWI has been validated in Spanish by Pedro-Gómez et al. (2009) and the Cronbach's alpha values for each of the factors were 0.85, 0.83, 0.92, 0.87 and 0.81, respectively. In our sample, the Cronbach's alpha values varied between 0.77 and 0.92 across the five factors.

3. RESULTS/FINDINGS

3.1. Description of the sample

Table 1 reflects the characteristics of the 95 participating nurses who completed the study. The nurses were between the ages of 22 and 62 with a mean age of 33.4 years (SD=9.3). Almost 70% of the nurses were women. Their mental health experience averaged 7.7 years (SD=8.0). Only 23.2% had the official title of mental health nurse specialist and only 22% of the nurses had a PhD or master's degree. 80% of the nurses had a permanent employment contract. All of the centers' work shifts were equally represented in the sample.

TABLE 1. Participants' sociodemographic and professional characteristics (n=95)

Variable	n (%)
Mean age, years (SD)	33.4 (9.3)
Gender	
Male	31 (32.6%)
Female	64 (67.4%)
MH nursing specialty	
Yes	22 (23.2%)
No	73 (76.8%)
Highest education	
Bachelor's degree	74 (77.9%)
PhD or master's degree	21 (22.1%)

Work shift	
Morning	14 (14.7%)
Afternoon	21 (22.1%)
Night	19 (20.0%)
Rotating	41 (43.2%)
Employment contract	
Permanent	76 (80.0%)
Temporary	19 (20.0%)
Mean MH experience, years (SD)	7.7 (8.0)

Data are presented as number (percentage) or means (SD, standard deviation).

MH, mental health.

3.2. The effects of the PAR

The nurses showed a statistically significant improvement in the level of their therapeutic relationships after the intervention (baseline 61.3 vs follow-up 62.8, $P = 0.02$). In relation to the remaining quantitative variables evaluated before and after the intervention, effects occurred in different directions (**Figure 2, Table 2**). The nurses improved evidence-based practice competence, albeit not significantly (baseline 4.9 vs. follow-up 5.0, $P = 0.11$). In addition, the score of the perception of the nursing practice environment decreased significantly after intervention (baseline 2.6 vs follow-up 2.4, $P < 0.001$). Regarding the dimensions of empathy, although most did not undergo significant changes, the score of nurses' empathic concern did decrease significantly after the intervention (baseline 21.2 vs. follow-up 19.9, $P < .001$).

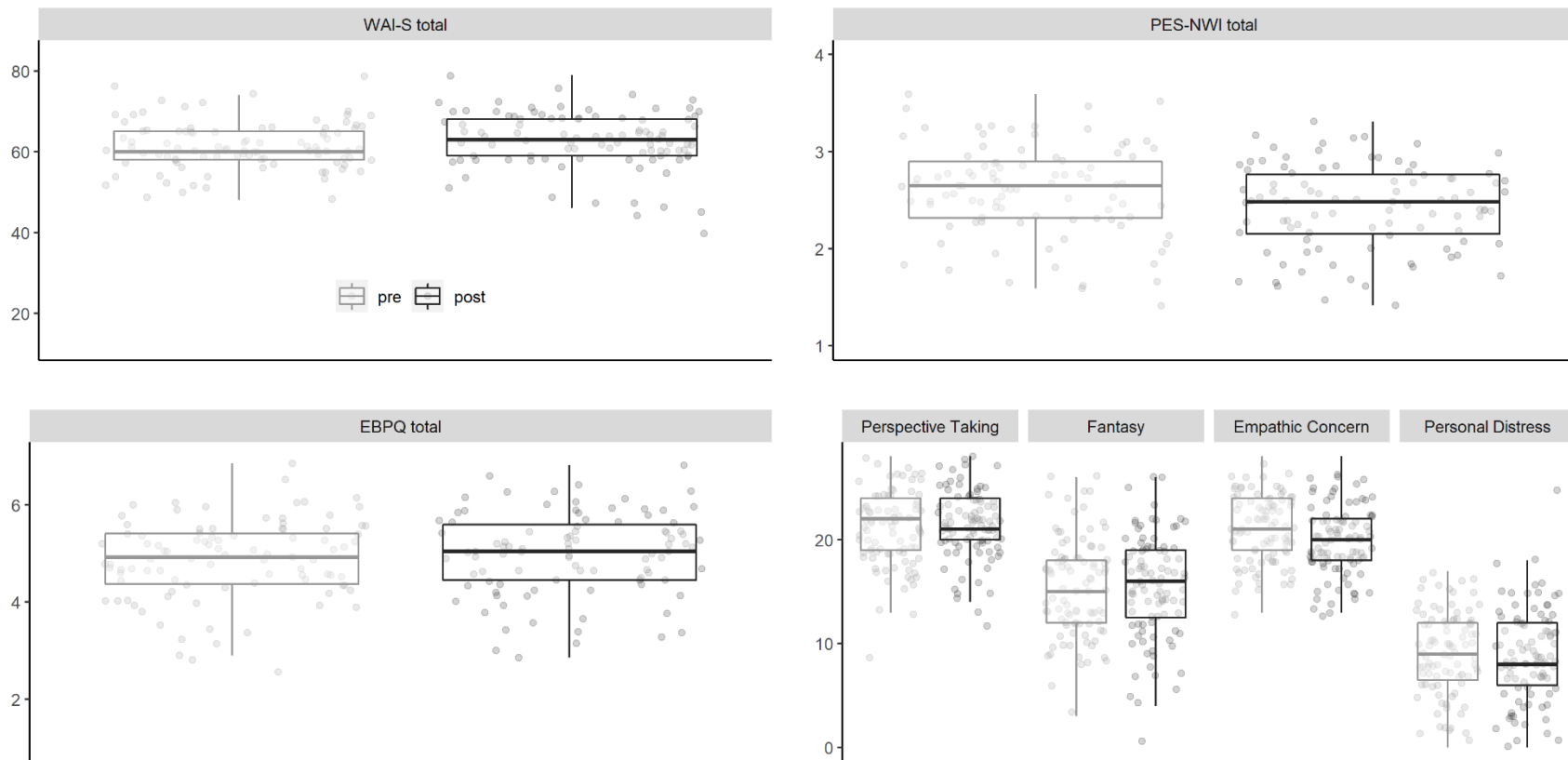


FIGURE 2. The effects of the intervention on primary and secondary outcomes

TABLE 2. Changes in primary and secondary outcomes between baseline and follow-up and association between the difference (follow-up - baseline) in the quality of the therapeutic relationship with the difference in the perceived nursing practice environment, evidence-based practice and empathy

Variable	Baseline (n=95)	Follow-up (n=95)	P-value [†]	Spearman's correlation coefficient [‡]	
				rho	P-value
The Working Alliance Inventory Short (WAI-S)	61.3 (5.9)	62.8 (7.2)	0.021	-	-
The Practice Environment Scale of the Nursing Work Index (PES-NWI)	2.6 (0.5)	2.4 (0.4)	<0.001	0.119	0.251
The Evidence-Based Practice Questionnaire (EBPQ-19)	4.9 (0.8)	5.0 (0.9)	0.115	0.328	0.001
The Interpersonal Reactivity Index (IRI)					
Perspective Taking	21.3 (3.7)	21.5 (3.3)	0.870	0.274	0.007
Fantasy	15.4 (4.7)	15.5 (4.9)	0.723	0.141	0.172
Empathic Concern	21.2 (3.3)	19.9 (3.4)	<0.001	0.288	0.005
Personal Distress	8.9 (4.1)	8.9 (4.5)	0.382	-0.214	0.038

The values are expressed as mean (SD) for the comparison of baseline and follow-up.

[†] Wilcoxon rank sum test

[‡] Spearman's correlation coefficient between baseline vs follow-up difference in total WAI-S and baseline vs follow-up difference in secondary outcomes.

In bold, statistically significant (p<0.05) differences and correlations.

3.3. The association between the effects produced by the intervention and the changes in the therapeutic relationship

The results of the association between the difference (follow-up - baseline) in the quality of the therapeutic relationship with the difference in the perceived nursing practice environment, evidence-based practice, and empathy are shown in **Table 2**. As can be observed, a significant association was obtained between the effects produced in the EBPQ and the improvement of the therapeutic relationship ($\rho=0.328$, $P=0.001$). Similarly, a statistically significant association was observed between the effects in each of the dimensions of empathy and the improvement of the therapeutic relationship, with the exception of the fantasy dimension. Thus, it should be noted that the score for empathic concern, despite having decreased after the intervention, was associated with an improvement in the therapeutic relationship ($\rho=0.288$, $P=0.005$). However, a negative association was found between changes in the score of nurses' personal distress and improvement in the therapeutic relationship, indicating que a decrease in the score of the therapeutic relationship is associated with an increase in the personal distress score ($\rho=-0.214$, $P=0.038$). Finally, although there was a significant decrease in the score of the perception of the environment after the intervention, the results indicate that this change was not related to changes in the therapeutic relationship ($\rho=0.119$, $P=0.251$).

The results concerning the multiple linear regression models are detailed in **Table 3**. The first model explained 37.2% of the changes produced in the therapeutic relationship. According to this model, the improvements in the EBPQ were the factor with the most weight ($\beta=4.045$, $P<0.001$), once adjusted for the baseline values of the therapeutic relationship, the sociodemographic variables and the nurses' professional characteristics. A second model was then constructed without incorporating the PES-NWI variable that had previously shown no association in the bivariate analysis. The second model explained 37.4% of the changes in the

TABLE 3. Multiple lineal regression models for determining the association between the difference in the secondary outcomes independently associated with the difference in the therapeutic relationship adjusted for baseline therapeutic relationship, participants' sociodemographic and professional characteristics

Variable	Model 1					Model 2				
	β Coefficient	Std. Error	t value	Sig.	VIF	β Coefficient	Std. Error	t value	Sig.	VIF
PES-NWI	1.198	1.478	0.811	0.420	1.20	-	-	-	-	-
EBPQ	4.045	0.980	4.127	<0.001	1.24	4.102	0.975	4.206	<0.001	1.24
Perspective Taking (IRI)	0.299	0.190	1.573	0.120	1.19	0.299	0.190	1.572	0.120	1.19
Fantasy (IRI)	0.142	0.151	0.940	0.350	1.43	0.171	0.146	1.169	0.246	1.35
Empathic Concern (IRI)	0.064	0.231	0.277	0.783	1.59	0.061	0.231	0.266	0.791	1.59
Personal Distress (IRI)	-0.350	0.193	-1.814	0.073	1.23	-0.374	0.190	-1.961	0.053	1.20
Adjusted R2	0.372					0.374				

WAI-S, Working Alliance Inventory Short; MH, mental health; PES-NWI, Practice Environment Scale of the Nursing Work Index; EBPQ-19, Evidence-Based Practice Questionnaire; IRI, Interpersonal Reactivity Index; Std, Standard; Sig, Significance; VIF, Variance Inflation Factor. Adjusted for baseline WAI-S, Gender, Years of mental health experience, Mental Health Specialty, Highest education and Type of contract

therapeutic relationship and once again confirmed that the improvements in the EBPQ were related to improvement of the therapeutic relationship ($\beta= 4.102, P < 0.001$). In addition, in this second model, a notable finding was the relationship between the decrease of personal distress in nurses and its association with the improvement of the therapeutic relationship. ($\beta= -0.374, P= 0.053$).

4. DISCUSSION

The aims of this study focused on evaluating the impact of an intervention using the participatory action research method on the quality of the therapeutic relationship and other secondary outcomes such as empathy, competence for EBP and perception of the practice environment in mental health unit nurses. It also sought to examine the association between changes in secondary outcomes and changes in therapeutic relationships. In this sense and according to our findings, it is worth noting that following the intervention, there was an overall improvement in the nurse-patient therapeutic relationship. In addition, the results revealed that the improvement in EBP and the reduced nursing staff discomfort were the factors that were more related to the improvement of the therapeutic relationship. These results are highly relevant since there are hardly any published works in the mental health field presenting interventions that have improved the therapeutic relationship (Hartley et al., 2019). In addition, no studies have been found that show results of factors associated with change in the quality of the nurse-patient therapeutic relationship in mental health units.

It should be noted that, although the intervention was aimed at improving the therapeutic relationship, the secondary outcomes evaluated were also affected. First, it should be noted that a slight improvement was observed in the evidence-based practice competence of nurses.

Consequently, the results suggest that, as in other settings (Munten et al., 2010), in the context of

mental health units, the use of participatory methods is useful for improving and implementing EBP. In this sense, in the published literature there is hardly any evidence of effective interventions from a quantitative point of view for the improvement of EBP, since, with the exception of a study with primary care nurses where significant improvements were obtained in some dimensions of EBP (Ramos-Morcillo et al., 2015), in other contexts with nurses or nursing students and with other methodologies, no general improvement in competence was found for EBP (Moore, 2017; Rojjanasrirat & Rice, 2017).

For the remaining secondary outcomes evaluated, the impact of the intervention varied. In the case of empathy, as in other studies, there were no significant changes in most of the dimensions (Avasarala, Whitehouse, & Drake, 2015; Imran, Aftab, Haider, & Farhat, 2013; Rodríguez-Nogueira, Moreno-Poyato, Álvarez-Álvarez, & Pinto-Carral, 2020; Webster, 2010; Zeppegno, Gramaglia, Feggi, Lombardi, & Torre, 2015). Significant changes were only observed in the case of empathic concern. In this sense, from the perspective of empathic response as a person-specific situational state, the experiential background of nurses' empathic responses helps the perspective-taking of the other (Gerace, 2020). Thereby, the decrease in empathic concern among nurses could be due to a sense of greater security and confidence on behalf of the nurses in the relationship. This argument helps to explain that these findings could be related to the method used for the intervention. Considering that it has been shown that the use of participatory methods helps nurses become more aware of their practice, and furthermore, working in groups to agree on problems and ways to resolve these generates more confidence and confidence in their clinical competence (Eddy et al., 2016; Moreno-Poyato et al., 2019; Oelofsen, 2012). Perhaps for these reasons, nurses may have decreased their levels of empathic concern. Similarly, after the intervention nurses' perception of the practice environment was significantly

reduced. This could also be explained due to the excessive duration over time of the intervention and the personal and professional maturation process of the participating nurses. However, it could also be related to the methodology of the intervention, since it is known that participatory methods help nurses to become more critical and therefore, in our case, in the context of the intervention, nurses rated their work environment more negatively (Petriwskyj & Power, 2020; Sepahvand et al., 2020).

However, not all changes in secondary outcomes were related to an overall improvement in the therapeutic relationship. In this sense, the fact that nurses had a poorer perception of their practice environment was not related to the improvement in the therapeutic relationship. This could have been due to increased confidence and security in their clinical practice triggered by changes in empathic concern, as well as the adaptive and resilient capacity of mental health nurses and their attitude towards care (Foster et al., 2020), therefore, despite rating their environment poorly, this did not affect them in terms of improving the therapeutic relationship. This finding should be analyzed in greater depth in subsequent studies since a cross-cutting relationship has been found between both factors (Roviralta-Vilella, Moreno-Poyato, Rodríguez-Nogueira, Duran-Jordà, & Roldán-Merino, 2019).

In contrast, improving the competence for nurses' EBP was related to of a higher quality therapeutic relationship. This result is highly relevant in mental health nursing since it confirms the importance and relationship between EBP and the quality of the nurse-patient therapeutic relationship (Moreno-Poyato et al., 2020). This finding demonstrates that the therapeutic relationship is not only a construct that can be improved based on the nurses' experience and other individual characteristics (Alzayyat, 2014; McAndrew et al., 2014), but rather there may be a structured, evidence-based approach that can guide the clinical practice of nurses towards an

improved therapeutic relationship. Consequently, by improving the EBP of mental health nurses, the therapeutic relationship is improved, considered the most important tool in the care of people with mental health problems (Moreno-Poyato et al., 2016; Peplau, 1988; Vahidi et al., 2018). In addition, it should be noted that, among the effects produced on the dimensions of empathy, the change that was most influential in improving the quality of the therapeutic relationship was the improvement in nurses' personal distress. This fact is also highly relevant and confirms the importance of emotional empathy and especially personal distress in the quality of the therapeutic relationship. (Gerace, Oster, O'Kane, Hayman, & Muir-Cochrane, 2018; Moreno-Poyato & Rodríguez-Nogueira, 2020). Since personal distress is the way nurses react to certain situations of patient suffering which conditions rapid decision making at times when there is no time for reflection (Haas et al., 2015), there is a clear need for self-knowledge and reflexivity on behalf of nurses working in mental health units.

Limitations

This study has several limitations. First, the single-group design does not allow comparison of the effect of the changes with a control group. However, this study presents a multivariate analysis of the effects, which enables the ability to adjust and define the changes that occurred. In addition, considering that the therapeutic relationship is a multifaceted construct, the amount of variance explained in the changes affecting the therapeutic relationship was high. Second, the lengthy intervention period may have increased the dropout rate. However, in most cases the dropouts were due to service transfer, although in the final phase of the study several dropouts occurred due to attrition. In any case, one of the strengths of the study was the number of units and nurses that participated, which allows for generalization of these findings. Thirdly, given the small effect of the changes produced and the possible influence of the Hawthorne effect on

nurses, the results should be considered with caution. Finally, it is important to consider that the therapeutic relationship was evaluated as a general measure and this was related to the nurses' overall perceptions on the therapeutic relationship, which could have differed from those of their patients. Considering that the therapeutic alliance is constructed between two people, a limitation of the approach used in this study is that the assessment is subject to the nurse's perception of their relationship with patients in general. Therefore, it would be interesting for future studies to consider the perspective of the patients. In the same vein, the decrease in nurses' empathic concern, which could be due to a sense of greater security and confidence among nurses regarding the relationship, could be perceived differently by patients.

5. CONCLUSION

This study demonstrates that the therapeutic relationship established between nurses and patients in mental health contexts can be further enhanced through participatory interventions that include the implementation of EBP. The results of this study show that the associated factors of quality improvement in therapeutic relationships were improved competence for EBP and decreased personal distress among nurses.

These results indicate the need to work on both the personal and self-knowledge aspects of nurses in order to reduce their personal distress in the face of compromising situations, as well as the implementation of evidence-based actions.

Likewise, the results show that, to improve the therapeutic relationship, considered a central aspect of mental health nursing, the managers of health centers should consider the need to implement participatory group interventions where nurses can develop evidence-based aspects of

the therapeutic relationship, implement changes in their actions and provide a space for reflection.

Future research along the same lines should be directed towards further study of the effectiveness of interventions based on participatory methods, using controlled intervention designs and measuring outcomes both in nurses and in patients (Patient Reported Outcomes).

Conflict of Interest statement

The authors declare no conflict of interest.

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