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The concept of *recovery* is not about curing illness (Anthony, 1993) and does not simply involve concepts of regeneration or sustained remission of symptoms, but includes the process of transforming the affected individual into a new self as part of the recovery (Deegan, 1988). Recovery from disability is not just an improvement in symptoms and from psychiatric disabilities based on objective and clinical viewpoints but is an achievement of meaningful life and valued sense of integrity, based on subjective and individual viewpoints (Liberman, 2008). In Japan, the currently employed methods utilizing the concept of recovery include assertive community treatment (ACT) and peer support. As ACT, a psychiatric social worker, an occupational therapist, a doctor, and a nurse visits individual homes to provide visiting medical care and lifestyle support to people with untreated disabilities or with severe disabilities for which treatment has been discontinued at their homes (Mishina, 2013). Peer support also utilizes the concept of recovery, encouraging people with disabilities to learn, change, and grow through an interactive relationship, whereby they can talk about their experiences to others (Japan mental health peer support specialists kensyuu kikou, 2015). Through the implementation of ACT, the effects of utilizing the concept of recovery are having a significant impact, as seen by decreased hospitalization frequency and hospital stay, improved social lifestyle functions, and decreased dosage of antipsychotic drugs (Nishio et al., 2012). The significance of peer support lies in providing the ability to live a unique life through interactions with other people and to make use of themselves for the happiness of others (Hamada, 2015). However, hospitalized treatment is still the main form of psychiatric care in Japan. To provide the already hospitalized patients the means to live a meaningful life in their community by being discharged early, there is a need for the expansion and implementation of methods such as ACT and peer support that use the concept of recovery.

In contrast to the concept of recovery that is utilized in local communities, medical specialists in psychiatric hospitals mainly employ a medical model and tend to focus on clinical results such as the patient's symptoms and psychiatric disabilities. However, it has been documented that pharmacotherapy-focused treatment at hospitals, the use of physical restraints and isolation rooms,

involuntary hospitalization, etc. actually suppress the recovery of the patient (Rapp & Goscha, 2006; Tanaka, 2008). Being viewed as a "sick" or "disabled" person by medical specialists causes the person's identity to become the illness itself, resulting in the loss of their humanity, future, and positive thinking (Deegan, 1988). Compared to other countries, the duration of hospitalization tends to be longer in Japan and many psychiatric hospitals mainly offer hospitalization-based treatment. As hospital doctors, nurses, etc. implement early support for community life from the time patients are hospitalized, they must understand the state of the community life of the person with the disability and the importance of moving the patient into their community (Ministry of Health, Labour and Welfare; MHLW, 2014). Therefore, at present, in Japanese hospitals, a shift from a medical model to a new support model utilizing the concept of recovery is needed. However, no specific initiatives for improving the understanding of the concept of recovery among medical specialists working at hospitals have been implemented.

The purpose of this study was to implement and evaluate an experience-based program for understanding the concept of recovery among psychiatric nurses working at a hospital. The goal was to obtain basic materials for nursing support aiming for patient recovery, which can be utilized in hospitals, and a working model for such support as a recovery-oriented practice. Another goal is to implement such support as recovery-oriented practice model systems early for community life in hospitalized patients and to link this to their ability to lead significant community lives.

Methods

Study Design

This study was an evaluation study model. Evaluation studies clarify how well a specific program or practice is being implemented (Polit & Beck, 2004; Kondo, 2010). The aim of the program implemented in this study was to promote understanding of the recovery in people with disabilities among psychiatric nurses working at a hospital. This evaluation was performed both quantitatively and qualitatively. Quantitative evaluation involved intersubject comparison analysis before and after the program, with a recovery orientation measurement scale as an index. For qualitative evaluation, qualitative, descriptive research, comprehensively summarizing phenomena and events while focusing on study participants, describes the program experience as close to

reality as possible (Sandelowski, 2000).

Ethical Considerations

This study was approved by the nursing research ethical review board of the Graduate School of Health Sciences, Okayama University (D09-02). Upon distribution of the preliminary survey, an outline of the purpose and of methods used in this study was explained orally to the head nurse of each facility and their consent was obtained. The preliminary surveys contained written explanations of the study outline, purpose, methods etc., and returning of the survey by each individual nurse was considered to indicate their consent. On day 1 of the program, the participants were again given written and oral explanations of the study outline, purpose, methods etc., and they signed a consent form. Participation in the study was guaranteed to be based on freewill, and participants would not be subject to any disadvantages if they did not consent or if they withdrew their consent. In terms of data management, personal information was protected. The results of the preliminary survey underwent unlinkable anonymization, and the results of recovery orientation

Participant Sampling

For sampling, a preliminary survey regarding recovery in people with disabilities was conducted via postal mail. The preliminary survey subjects were nurses working at five different facilities at which the head nurse agreed to cooperate after the questionnaires were distributed to a total of six facilities with psychiatric wards in Okayama City. During this preliminary survey, a program pamphlet was included in the information given to participants when they were recruited. At least 3 years of clinical experience in psychiatric nursing was a requirement for recruitment.

A total of 645 preliminary surveys were distributed. During a 3-week period from the date of distribution of the questionnaire, 181 responses were received (recovery rate: 28.0%). At this point, 12 registered nurses, who had applied to participate in the program, were enrolled as subjects. These twelve nurses participated in this program from the introductory lecture to the concluding observational practice on days 1 and 2. However, three did not participate in the group work from day 3 onward. Eventually, nine participants who completed the entire program were enrolled. The sampling methods described above are shown in Figure 1.

Program Outline

The purpose of this program was to encourage understanding among psychiatric nurses working at hospitals regarding recovery in people with disabilities. Two ACT specialist facilities at which activities had been implemented in 2005 and 2009 cooperated in the design and implementation of this program. These two ACTs were registered as being certified for ACT functions according to an objective index, and earlier research using M-GTA proved the quality of recovery-oriented practice skills focusing on the strength viewpoint rather than on a medical model (Mishina, 2013). The program was conducted over 3 days. It included 5 h of lectures, 9 h of ACT observational practice, and 2 h of group work. The concepts of recovery and ACT and the details of support using specific cases of ACT users were discussed on days 1 and 3. In addition, because of the importance of family support in recovery (Okamoto, Tanigaki, & Nagae, 2014), the lecture on day 1 of the program focused on family nursing. On program day 2, observational practice aiming for participants to "further understand recovery through experiencing ACT for one day" was conducted. This practical lesson involved participation in two ACT team meetings: one in the morning and one in the evening. Attending visits made to all ACT users were overseen that day by the ACT staff team (staff), observing all or part of the support. On day 3 of the program, group work using observational practice experiences and clinical cases in the hospital and a question and answer session reviewing the overall training were conducted (Table 1).

Evaluation

Intersubject comparison analysis using two recovery orientation measurement scales before and after the program

Knowledge of the participants' understanding of the concept of recovery was evaluated two times: once upon starting the program on day 1 and once after completing the program on day 3. The analysis involved intersubject comparison with the Wilcoxon test. The level of statistical significance was set at 5%. For all tests, the SPSS ver. 18 (IBM, 2009) statistical analysis software was used. In Japan, a measurement scale for grasping the knowledge, stance, attitudes, etc. of medical specialists regarding the concept of recovery has not been developed. In the US, however, such a scale has been developed (Chiba & Miyamoto, 2009). This scale is used to mainly evaluate

peer support programs in countries outside of Japan (Rabenschlag et al., 2012; Meehan & Glover, 2009; Hutchinson et al., 2006). Recently, using the measurement scale, the viewpoints of nursing students involved in recovery-oriented services have been reported (Happell, Byrne, & Platania-Phung, 2015). In the present study, we used the Japanese versions of the 7-item Recovery Attitudes Questionnaire (RAQ-7) (Borkin, Steffen, Krzton, Wishnick, & Yangarber, 2000), which has been frequently used in the earlier studies, and the Recovery Knowledge Inventory (RKI) (Bedregal, O'Connell, & Davidson, 2006). The reliability and validity of the Japanese versions of these scales has been demonstrated. The RAQ-7 was shown to be identical to the scale used in previous studies in the US based on an investigation of psychiatric specialists working at psychiatric clinics, social rehabilitation facilities, psychiatric hospitals, etc. (Chiba, Miyamoto, & Yamaguchi, 2012), and the RKI has been reported to mainly have good results (Chiba, Umeda, Miyamoto, Yamaguchi, & Kawakami, 2012). In line with these results, it appears that these scales could also be applied in Japan.

The RKI includes mainly evaluation scales of recovery perceptions and knowledge. It is composed of a total of 20 items (15 reverse items) and four subfactors. It was evaluated on a five-point scale, ranging from 1 point for "completely disagree" to 5 points for "strongly agree." Higher total scores, in which the reverse items for each item have been processed, indicate stronger recovery orientation. Scores ranged from 1 to 5 points.

The RAQ-7 mainly evaluates recovery attitudes and knowledge. This is a shortened 7-item version (no reverse items) of the original 21-item scale and is composed of two subfactors. Recovery is described in the instructions. The response scoring method, like the RKI, is based on a five-point scale. Higher total scores indicate a stronger recovery orientation. Scores range from 1 to 35 points.

Qualitative descriptive research using descriptions of observational practice

Data were collected by asking participants to freely describe their thoughts on their experience of "further understanding recovery through experiencing ACT for one day" on a sheet of B5-sized paper. This task is to be completed after the participant accompanies the ACT staff to all the visits on one day. These descriptions formed the raw data. The analysis procedure involved first carefully reading through raw data before extracting quotes from the participants regarding

how they felt, thought about, and considered the words and actions of staff interacting with ACT users. Data, comprising extracted quotes from participant descriptions, were converted into simple representative codes that clearly transmitted semantic content while taking care not to lose the meaning of the context of these extracted portions, complementing subjects, objects etc. Next, data that were similar to the representative codes were grouped based on differences and similarities while taking care not to lose the meaning of the context, followed by categorizing them while preserving the participants' words as much as possible. To secure analysis reliability, repeated discussions were held with the research collaborators until decisions were reached on codified extracts and category names and interpretations were unified. The categories were also explained to two public health nurses at two ACT specialist facilities and their consent was received after confirming the following: "Can you accept that these analysis results reflect ACT support as you and your colleagues daily conduct it for ACT users and their families?"

Terminology Definitions

Recovery from disability in this study was defined as a meaningful life and valued sense of integrity based on subjective and individual viewpoints and the process of transforming into a new self. An *experience* was defined as what one "felt, thought, and considered."

Results

Participants Description

The nine participants included eight women and one man. The mean age was 40.56 years (27–46 years), and the mean duration of clinical experience in a psychiatric ward was 123.78 months (56–240 months). All participants (100.0%) answered "Yes" when questioned whether they were interested in recovery and ACT. Although five participants (55.6%) answered that they had seen or heard about recovery and four participants (44.4%) answered that they had not, two participants (22.0%) answered that they had a rough understanding of recovery, whereas seven participants (88.0%) answered that they did not. Furthermore, nine participants (100.0%) answered that they had a rough understanding of ACT, whereas four participants (56.6%) answered that they did not. Six

participants (67.7%) said that they wanted to work in ACT, whereas three participants (33.3%) answered that they did not.

Changes in Japanese RKI and RAQ-7 scores before and after the program

Intersubject comparison analysis with Wilcoxon's test revealed a statistically significant difference for RKI mean score, which was 3.41 points before the program (SD, 0.28) and 3.69 points after the program (SD, 0.24) (p=.004). The mean scores for the four RKI subfactors of [I] roles and responsibilities in recovery, [II] nonlinearity of recovery process, [III] the roles of self-definition and peers in recovery, and [IV] expectations regarding recovery were as follows: [I] preprogram 3.89 points (SD, 0.43), postprogram 4.10 points (SD, 0.46), [II] preprogram 3.04 points (SD, 0.45), postprogram 3.35 points (SD, 0.36), [III] preprogram 3.67 points (SD, 0.32), postprogram 3.98 points (SD, 0.41), and [IV] preprogram 2.22 points (SD, 0.91), postprogram 2.61 points (SD, 0.65). Thus, significant differences were noted for the subfactors [I] and [II] (p=.039, p=.016). No significant difference was noted between the mean RAQ-7 score before and after the program (Table 2).

Categories obtained from observational practice experiences

As a result of qualitative descriptive analysis, 35 codes were extracted from the experience of "further understanding recovery through experiencing ACT for one day" by accompanying ACT staff on all of their visits and observing and participating in some instances of actual support. Four categories and seven subcategories were identified in these codes.

Hereinafter, categories are shown in *italics* and subcategories are shown in []. Raw data specifically quoting subjects were enclosed in quotation marks.

Continuing to attend to the need to live in one's community/home regardless of how bad psychiatric symptoms become without the use of medicines.

This category was composed of the two subcategories of [Even somebody with such bad symptoms as a result of non-medication can live in their community/at home by means of ACT] and [Continuing to attend to whatever fundamental style or needs the person has to facilitate community life].

- "What I honestly felt the most was that even somebody with such severe symptoms (even somebody appearing to be in such a poor state) is able to live in their community!! [...] They are actually able to live in their community and at home."
- "I believe that during both disease monitoring and daily lifestyle, repeatedly working to understand offered support in accordance with the person's basic individual lifestyle type and needs while sharing the patient's problems with their family to support them is important. Refusing to go to the hospital, refusing medication, and even refusing to acknowledge the disease could be considered the person's needs. I feel that attending to these needs and gradually correcting and solving any problematic behavior or difficulties that arise as a result of these needs could facilitate their being able to live in their community."

Viewing the person living their life in a place where they belong and in their own individual style.

This category was composed of the two subcategories of [Continuing to believe in and to find out about the patient's abilities so that they can live in a place where they belong in their own individual style] and [Not being able to patiently respond to the patient at hospitals that offer medical and pharmaceutical treatment, focusing on the patient's pathological condition alone].

- "It was very surprising for me to see somebody, who I honestly would not be surprised to see hospitalized, living their own individual lifestyle in their natural state. I reaffirmed the fact that as I go about my job, I forget that a hospital is actually an unnatural place and only treat the pathological conditions of patients. [...] I want to believe in the abilities of patients and their families and provide care to them in the future."
- "It really made me think of what is demanded of me as a person. When I am in the hospital, I always think of medical care and medication first. There are also time constraints, and I am rarely able to take time with my patients. Although it is truly difficult to think of what patients need in the place where they belong, I felt that this was what was most required out of me as a person."

Valuing the patient's wishes is the slow but sure way to a fruitful relationship.

This category was composed of the one subcategory of [Value the patient's wishes while

building a steady relationship so that they can make a call for help whenever they need to].

- "A relationship was built up so that even if the patient and their family did not recognize the need for support right now, they could make a call for help if the state of the supporting family changed or a crisis occurred. Although this takes time, it will eventually bear fruit."
- "As people who live alone have their own individual lifestyle, I was able to see that the patient's wishes were valued and help was only offered when they were truly in trouble."
- "The patient's 'walls' can be broken down by spending more time together bit by bit. It is important to make connections with them even if they are only small ones. [...] It is difficult to attend to patients when they do not want you to."
- "I felt that taking users who could not drive themselves on their own could improve their mood and relax them, making it easier to talk with them."

Become familiar to the patient and their family's lifestyle by carefully listening to the family's feelings.

This category was composed of the two subcategories of [Offering security and support by spending time close to the family so that the patient and their family could live together, keeping a certain amount of distance] and [Reducing family stress by listening carefully to them and offering help when they are tired or weak].

- "I felt that as the patient continued to live alone despite having an illness that was not being treated, the involvement of ACT made their daily lifestyle smoother and helped them to live while keeping a certain distance from their family."
- "Although I feel that living in the community places a heavy burden on the family and does tire them out, being attended by an ACT staff gives them a sense of security and supports them as a truly familiar presence."
- "As situations tend to be considered from the patient's viewpoint at hospitals, I felt that the family can be somewhat isolated. Support in the community that prevents the burden from being concentrated on the family needs to be offered."

"Even if you cannot talk to the patient, the family's stress can be reduced by listening carefully to them. This makes it possible for the family to also respond to the patient calmly."

"As the family is often tired or weak, preparing an environment that compensates for the patient's

lack of skills or weakness in their daily lifestyle can facilitate future treatment."

Discussion

The purpose of this study was to evaluate and implement a program to facilitate understanding of the recovery of people with disabilities among psychiatric nurses working in a hospital. Nine nurses who completed all of the content of this program, involving lectures on the concepts of recovery and ACT, observational practice at regional specialized ACT facilities, and group work, evaluated the program. The results of the intersubject comparison analysis of recovery orientation indicated that RKI scores increased significantly after the program. Based on the observational practice experience of "further understanding recovery through experiencing ACT over one day," the categories displaying the semantic content of "The 10 Fundamental Components of Recovery" (Substance Abuse & Mental Health Services Administration, 2007), as defined by experts including mental health patients, their families, specialists, and researchers, were obtained. Evaluation of this program indicated that learning about the concept of recovery in people with disabilities and experiencing support based on this program was effective for spreading awareness of the concept of recovery in daily nursing practice among hospital-based nurses. Hereinafter, with subcategories shown in [], with some of the components of recovery shown in quotation marks, we will now discuss the efficacy of our program.

Experiences of participants in this program included [Even somebody with such bad symptoms as a result of non-medication can live in their community/at home by means of ACT], not making the patient's pharmacotherapy and symptoms the top priority but [Continuing to attend to whatever fundamental style or needs the person has to facilitate community life], [Continuing to believe in and find out about the patient's possibilities so that they can live in a place where they belong in their own individual style] in their own home or household rather than a hospital, [Reducing family stress by listening carefully to them and offering help when they are tired or weak] even if communication is difficult and the patient is negative, and making sure to [Value the patient's wishes while building a steady relationship so that they can make a call for help whenever they need to]. Rather than being focused on symptoms and medical treatment, these experiences were "individualized and person-centered" and "holistic". They can be interpreted as support that

increased the person's abilities by "empowering" them and enabling them to implement "self-direction" so that they could live their own lifestyle in an independent manner. Meanwhile, participants reviewed their own daily nursing practice at psychiatric hospitals and realized that they were focusing on symptoms and medical treatment and were in a state of [Not being able to patiently respond to the patient at hospitals that offer medical and pharmaceutical treatment, focusing on the patient's pathological condition alone]. These participant experiences demonstrated that the nurses understood that the targets were not just patients but people who were worthy of "respect" and what they should be aiming for as nurses was a "strength-based" approach, taking the person's basic lifestyle and wishes into account and their needs, hopes, and abilities. Thus, multiple instances of the concept of recovery could be discerned from the categories obtained from ACT support experiences of participants. It appears that by enabling nurses to gain an understanding of the concept of recovery and to experience actual ACT practice, this program taught nurses specific methods in practices aiming for recovery and helped them to realize the current limitations of nursing support in hospitals.

Currently, in the US, a 5-year plan is underway for the development and realization of teaching methods to cultivate recovery-oriented practices among mental health nurses involved in acute care nursing. Analysis of the current situation indicates that hospital nurses need to learn more about recovery and put this into practice to enable the spread of the concept of recovery throughout daily nursing practices and continue to work to form partnerships with people with disabilities (U.S. Department of Health and Human Services, Substance Abuse & Mental Health Services Administration, 2011). However, few nurses have undergone basic education or training regarding recovery orientation (Cleary, Horsfall, O'Hara-Aarons, & Hunt, 2013). It has been indicated that knowledge and education regarding recovery in individual nurses is related to how strong the degree of recovery orientation is at the facility (e.g., hospital), where each nurse is working (Mcloughlin, Wick, Collazzi, & Puntil, 2013). In Japan, the state of recovery orientation in hospital-based nurses and education and practices related to recovery orientation is unknown. However, this program appeared to increase nurses' interest in recovery by means of autonomous initiatives, utilizing the free time of the participants during which they continuously engaged in activities such as going out into communities, engaging in observational practices of ACT, describing their experiences, and participating in group work. As this program was able to facilitate

understanding of the concept of recovery among nurses and demonstrate specific methods for practice aiming for recovery, it could contribute to establish the concept of recovery in hospitals that tend to rely on the medical care model and enable daily nursing practice from a "strength-based" viewpoint.

The possible reasons for no significant differences being observed in RAQ-7 scores for changes in recovery orientation after the program are as follows: past research showed that while RKI scores increased significantly for specialists who participated in peer support training, RAQ-7 scores exhibited no significant changes. However, comparison of scores in a low score group and a high score group indicated that a significant increase was only noted in the low RAQ-7 score group (Yokoyama, 2011). Furthermore, past research comparing results by subject attributes found that the RAQ-7 scores of specialists and individuals with experience in recovery or who had undergone relevant training were significantly high (Borkin, Steffen, Krzton, Wishnick, & Yangarber, 2000). The fact that our results for recovery orientation tended to be higher than those in previous studies suggests that the RAQ-7 score is easily influenced by the individual's original knowledge and attitude regarding recovery but that it is less easily influenced in people who originally have a strong recovery orientation. Furthermore, in Japan, it has been shown that though there is a significant, albeit not particularly strong, correlation between RKI and RAQ-7 scores, RAQ-7 is less reliable compared with RKI. This aspect and the fact that there is a small number of items and some issues related to expressions in the Japanese version (Chiba & Miyamoto, 2009) may be one of the reasons influencing the results.

Limitation

This study had some limitations. Firstly, the sample size was small with only nine participants ultimately included in the study because among the 12 initial participants in this study, three could not participate on the final day. The small sample size implies a possibility of biased analysis results. However, no previous study has quantitatively and qualitatively evaluated an experience-based program for hospital-based nurses with the aim of understanding the recovery of an individual and meaningful life for people with severe mental disability. Hence, we would like to emphasize the significance of the present study from this viewpoint. Secondly, the low recovery rate of the preliminary sampling survey for participation in the experience-based program and the

fact that only 12 nurses agreed to participate are two issues in this study. Perhaps, one reason for low participation rate could be that the concept of recovery has not yet permeated hospitals and that there is little recognition of its utility in daily nursing practice. Nonetheless, the reason for such a small number of participants who agreed to participate is still unclear. Going forward, we will plan and manage experience-based programs at individual hospital levels and examine program structures for intensive learning while ensuring the favorable aspects of the experience-based format to encourage as many nurses as possible to participate. Thirdly, differences were noted in RKI and RAQ-7 results. Therefore, we will gather data from comparative studies on basic education that utilizes the concept of recovery through regional activity experiences and will investigate their reliability and validity as assessment indices matched to subject attributes. Lastly, the period from program implementation to assessment was 2 months, indicating that the effects of understanding long-term recovery orientation were not assessed. Hence, a long-term assessment study using a large sample size needs to be conducted in the future.

Conclusions

We implemented an experience-based program that promoted understanding regarding the concept of recovery from disability among hospital-based psychiatric nurses. The results of the inter-subject comparison analysis indicated that recovery orientation significantly increased in the nine program participants. Qualitative descriptive investigation revealed multiple instances of the concept of recovery in categories obtained from participant ACT support experiences. This program is effective for facilitating understanding of the concept of recovery among nurses, demonstrating specific methods for practice aiming for recovery and helping them to realize the current limitations of nursing support in hospitals. The experiences of nurses who participated in this program could contribute to establishing the concept of recovery in hospitals that tend to rely on the medical care model and enabling daily nursing practice from a strength-based viewpoint.

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Figure 1. Participant sampling for the experience-based program

Table 1. Outline of the experience-based program to facilitate understanding of the concept of recovery

Day 1	Lecture Group work	90 min	Re-think how to understand families and their characteristics and how to offer family support. Use specific case examples to clarify emotional pain of the family and effects on recovery, establish a support hypothesis, and clarify goals.
	Lecture	90 min	Learn about goals and specific content of ACT support at private medical facilities (complete internal type) including attitudes on recovery, outreach/community care, and ACT characteristics, history, elements, effects, and issues.
	Survey report	30 min	Listen to presentations on the results of an interview survey regarding the thoughts of families who are users of ACT.
Day 2	Observational practice	540 min	Experience of a single day of ACT. After participating in a pre-visit team meeting, accompany staff on providing visiting support to users and receive feedback from staff after completing the practical work.
	Group work	120 min	Group work and question and answer session on experience presentations and clinical cases after completing the observational practice.
Day 3	Lecture	90 min	Learn about coordination between hospitals and communities, the fundamentals and elements of community lifestyle support (case management, recovery and strengths, outreach, multidisciplinary teams, social inclusion), mental health care centre support systems, public facility (network type) ACT implementation support goals, and the details and issues associated with specific support methods.

Table 2. Changes in Japanese	RKI and RAQ-7 sc	cores before and after t	he program by wilcoxon tests

	The program	Mean	SD	Ζ	р
	Pre	28.00	3.81	-1.496	n (
RAQ-7	Post	27.22	3.38	-1.490	n.s.
RKI	Pre	3.41	0.28	-2.668	.004
KKI	Post	3.69	0.24	-2.008	.004

n.s.:no significant

n=9