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Impact of nurse-led psycho-education interventions on functioning of bipolar disorder patients

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Abstract:
Background: Bipolar illness has a negative impact on an individual's life as well as the lives of significant others. It also contributes to impairment because of decreased social and vocational functioning, an increased risk of suicide, and repeated relapses (Kurdal et al.,2014).

Objective: To assess the impact of nurse-led psychoeducation interventions on the functioning of bipolar disorder patients.

Study Design: This study used a two-group quasi-experimental pretest–posttest approach. A total number of fifty-nine patients were divided into two groups, (n=29) patients in the study group and (n=30) in the control group.

Tool: The Bipolar Disorder Functioning Questionnaire and a demographic questionnaire form were used to gather the data.

Results: After psychoeducation, the scores of the experimental group became high as compared to a comparison group on all functioning levels by significant scores ($p < 0.05$**).**

Conclusion: Psychoeducation has enabled bipolar patients to function at significantly greater levels.

Keywords: Nurse-led, Psychoeducation, functioning, bipolar disorder

Introduction:
Bipolar disorder (BD) is an extremely serious, ongoing, and recurring condition, bipolar disorder poses a serious hazard to the health of the general population due to its high degree of chronicity,

comorbidity, impairment, as well as its life-long frequency, additionally, those who are sufferers typically need to receive therapy for the rest of their lives. (Vancampfort & Goldstein, 2018). It is characterized by intervals of elevated mood (mania), sadness, and mixed moods. (McIntyre et al., 2020). As cited by (WHO), the World Health Organization, mood issues are one of the major health concerns of the twenty-first century. Bipolar disorder ranks sixth or seventh among all global disabling diseases. (Ferrari et al., 2016). Bipolar illness affects 0.3% to 1.2% of the world's population. According to estimates, 2% of people worldwide have bipolar illness. (He et al., 2020). It affected 46 million individuals worldwide in 2017, with female 52% and male 48% of those affected (Gautham et al., 2020).

It is well known that between 40% and 60% of people with bipolar disorder (BD) suffer functional decline both during acute mood episodes and euthymic states in reality, only one-third of patients are thought to fully recover socially and professionally and revert to their premorbid functional levels. (Wesley, Manjula, & Thirthalli, 2018). Bipolar disorder appears to have a significant degree of functional variation and impairment can be shown even after the first episode of the illness. (Sanchez-Moreno, J., Martinez-Aran, A., & Vieta, E. et al., 2017).

Even though pharmacotherapy is crucial for effective treatment about 40%, 60%, and 75% of BD patients who are receiving pharmacological intervention experience recurrence in the 1st, 2nd, and 3rd years, repetitively, (Faridhosseini et al., 2017). People with bipolar disorder frequently have poor quality of life, cognitive impairment, and chronic persistent symptoms. Therapy's objective now includes functional recovery rather than just clinical remission and the very latest, psychological recovery, taking into consideration the health and quality of life of the patient. (Bonnín, C. et al. (2019).

Including CBT (Cognitive Behavior Therapy), social rhythm, interpersonal, and (FFT) family-focused therapy, these various treatments are significantly different from simple interventions, and these all have certain common things, like offering psycho-education. Several recommendations suggest that the primary psychological remedy for bipolar illness should be psycho-education (PE). (Goodwin et al. 2016). Numerous studies have proven the value of psycho-education in assisting people with disorders to recognize early warning signs and adopt behavioral strategies to avoid full-blown occurrences, which often lead to high mortality and increased hospitalizations. (R. K. Morriss, 2016).

Psychoeducation is defined as a systematic, organized, and educational strategy for the disease and its treatment (Suhardiana, Dwi, Dwiko, & Dina, 2018). Many randomized controlled trials on psychoeducation denote that these psychosocial interventions perform a significant role in improving the functional level, delay in recurrence, enhanced psychosocial functioning, and treatment compliance. The study determined that adjuvant to routine treatment family-focused nursing intervention will enhance the client's functioning capacity in addition to regular psychiatric therapy for bipolar affective disorder. (Kavitha RR, Kamalam S., 2022).

Psycho-education intervention typically provides optimistic results and stresses the presentation of accurate information about mental disease and therapy to resolve misconceptions. In addition to medicines, psycho-education is a successful treatment for bipolar illness. (Bilderbeck et al., 2016).

Moreover, according to another research, To evaluate general and various functional deficits, to evaluate the (independence/autonomy, employment functioning, intellectual functioning, interpersonal relationships, financial concerns, and leisure activities. After psycho-education, the study group's performance was enhanced as compared to the control group on all functioning measures, ($p=0.05$ (Kurdal, E., Tanriverdi, D., & Savas, H. A. 2014).

Restoring functionality is the primary goal of psychological rehabilitation programs. Psychoeducation is one of these programs; its goals are to assist the patient and their family when they leave the hospital, help them deal with their difficulties, and help them live a successful life in society. Psycho-education offers notable advancement in learning about the illness, perspective on the illness, treatment compliance, symptom relief, attack prevention, shorter hospital stays, fewer hospitalizations overall, enhanced social-occupational functioning, and quality of life (Kurdal, E.,

Tanriverdi, D., & Savas, H. A. 2014).
Mental health is the most neglected field in Pakistan. Psycho-educational interventions are not sufficiently executed in Pakistan to aid individuals and their relatives in coping with this condition There are few research that examine the impact of psycho-education offered to individuals suffering from bipolar illness on their functioning. There is no proof of psycho-education intervention carried out by nurses at the Punjab Institute of Mental Health Lahore. The efficacy of psycho-education on the functionality level of individuals diagnosed with BD has not been examined. This study evaluates the effect of psycho-educational intervention for bipolar disorder patients in performing different important life functions and other outcomes.
Mental health nurses work in direct contact with patients (Hunter et al., 2015)(Alzahrani, M. S. 2023). Nurses can also play a significant role in engaging in mental treatment plans, Nursing is a comprehensive program including a range of treatment modalities that psychiatric nurses view as necessary to help patients resume their regular lives and activities. It entails promoting health, creating a therapeutic setting, helping patients take care of themselves, giving medicine, offering psychoeducation, and offering counselling (Fung et al., 2014).

Objective
The present study's goal is to evaluate the impact of nurse-led psychoeducation on functioning levels of bipolar disorder patients.

Methods
Study Design: Two groups (experimental and control) quasi-experimental pretest and posttest study design.

Study population: The study population consisted of bipolar disorder patients.

Sample Size: The sample of the study consisted total number of fifty-nine individuals selected from the study population, divided into two groups (29 patients in the experimental group and 30 patients in the comparison group) by using a purposive sampling technique. One person left the study.

Study Setting: This study was carried out at the Punjab Institute of Mental Health in Lahore, Pakistan.

Inclusion criteria: patients diagnosed with bipolar disorder in a mild/euthymic state. With moderate to severe functional impairment. Patients are Fully alert (aware of person, place, and time). The patients included in the study were taking medication regularly. Verified diagnosis of bipolar disorder by consultant psychiatrist. Having the mental capacity to follow instructions. Above the age of 18 - 45 years. No other major psychiatric disorders.

Data collection procedure
Before the commencement of psychoeducation, the corresponding author obtained pretest data from the intervention group in the first session and from the control group at the first interview in the wards and outpatient department of the Punjab Institute of Mental Health Lahore. Data was gathered through questionnaires. The demographic data section includes the characteristics of participants such as age, gender, marital status, level of education, patient history and medical record, and patient diagnosis. Second was the bipolar disorder functioning scale. It was initially created by (Admyer et al., 2007) It has 52 components and eleven subscales. The subscales encompass aspects of sexual functioning, emotional functioning, cognitive functioning, feeling stigmatized, social isolation, relationships with friends and family, taking part in social tasks, everyday activities and hobbies, occupation, and self-efficacy. The questionnaire was designed to have a 3 Likert-type response scale. 1 score for no or never, 2 for partially or sometimes, and 3 for yes or always. Thus, the questionnaire's score ranges from 52 to 156. The higher scores indicate better functionality. ≤ 52= disable. >52≤104=poor

performance,>104≤ 156=good functioning, >156= very good functioning.
The validity: is 0.89 and it was conducted by five mental health professionals. **The reliability:** of the scale is calculated after a pilot study of a 10% sample size. For the components of the scale, Cronbach's alpha index of reliability for intellectual functioning is .74, for sexual functioning .71, for emotive functioning .65, and for stigmatization .78. Social with drawl .79. household relationship: 0.81, for the friend relationship 0.85. 0.84 is awarded for taking part in social activities, 0.70 for everyday tasks,.74 for independence, and 0.67 for employment.

Research Educational Intervention Plan of Study
Preparatory phase: The objectives and background of the study were described to every patient. Written permission was acquired from the patient and guardian, after describing the nature and goals of the research. The investigation complied with the standard ethical guidelines for clinical research. It was guaranteed that information would remain private and anonymous. Participants of the research had the right to refuse to participate or leave.

Pre-assessment: In this study, pre-assessment was done for one month, and pre-data were gathered from patients regarding bipolar symptoms and functioning. the demographic data questionnaire and the scale of Bipolar Disorder Functioning (pretest) were completed.

Intervention:
Group psycho-education was conducted under the supervision of one clinical psychologist. The researcher who carried out the psycho-education program completed a psycho-education course and obtained accreditation in psycho-education before the study began. The researcher has been working as a head nurse at the Institute of Mental Health for eight years. All the educational sessions were carried out by the researcher consistently. The sessions of the psycho-educational program were organized according to a booklet of psychoeducation for bipolar disorder which was created by Colom and Vieta (2006). Patients received a booklet containing information on this content at the closure of the psycho-education procedure.

Procedure
They have generally informed individuals about the value and necessity of the psychoeducation program. A thorough information about the study's goals and methodology was provided. After receiving a thorough description of the study and their rights, each of them signed the written permission form. Information on the intervention's location was provided after enrollment in the trial. The training sessions were organized in group sessions, with a total of 16 sessions scheduled three times a week (all on the same day). Every session had a 45-minute duration. In all, 29 patients and 4 groups completed the course. The average size of each group was 7 individuals. Each session had predetermined goals, and the training's usefulness (fitness for purpose) was evaluated based on the solutions that participants came up with for issues after the session. The purpose of the psychoeducational intervention was to educate and assist individuals. Patients were encouraged to discuss both good and bad ideas, feelings, and experiences related to their disease. They were also urged to use the information and abilities they had gained to assist others in solving difficulties. Training sessions were held in the hospital's activity room, from 26th June 2023 to November 2023. This room was made with training compatibility. four months after the experimental group's patients finished their training, interviews (posttest) were held on the appointed days, and four months after the pretest the control group's patients filled out their Bipolar Disorder Functioning Questionnaire (posttest) again during the interviews.

Contents:
Session 1: Introducing the group and providing a definition of bipolar disorder.
Session 2: What are the factors and triggers of bipolar disorder?
Session 3: The symptoms of mania and hypomania

Session 4: The symptoms of depression and mixed episodes.
Session 5: Early identification of hypomania and mania.
Session 6: Initial identification of depression and mixed occurrences.
Session 7: Treatment: mood stabilizers, anti-manic drugs (lithium), antidepressants.
Session 8: Side effects of medicine.
Session 9: Alternative therapies**.**
Session 10: Importance of medication adherence.
Session 11: Risks related to treatment withdrawal.
Session 12: Diet, smoking, alcohol, and street drugs.
Session 13: How to proceed when a new phase is identified.
Session 14: Regularity of habitual routines and problem-solving techniques.
Session 15: Self-care techniques**.**
Session 16: Post-test/evaluation.

Data Analysis Process:

To analyze the data, Astatistical Package for Social Science (SPSS version-22) was utilized. If the data were normally distributed a paired t-test was applied Quantitative values of the results of the functioning of bipolar disorder patients were discussed by using descriptive and inferential statistics (mean ± standard deviation). But if the data were not normally distributed the non-parametric test (Wilcoxon Rank Sign) test was utilized. The analyzed data was presented in the form of tables, figures, bar graphs, pie charts, and histograms, which entailed the summarization and manipulation of data in a representable form to provide answers to the research question.

Ethical Considerations:

- Initially, the topic was approved by the supervisor and Research ethical committee of the University of Lahore.
- Data collection permission was granted from the Research Ethics Committee of Punjab Institute of Mental Health Lahore, and the University of Lahore Pakistan.
- Every human participant voluntarily chooses to participate in the study after being fully informed about its procedures and associated risks.
- The aims and objectives of the study were shared with all the participants and the participants were assured that the study is not going to provide them with any financial benefits. Consent forms were granted to all the participants before data collection.
- All the retrieved data kept confidential and was never be shared with anyone except the supervisor.
- The anonymity of the patients is kept through codes and alphabet words their records are secure through the use of password-protected files

Results

Table 4.1 Demographic information of patients:

Variables	Control Group	Experimental Group	χ^2 (p-value)
Gender			5.5(0.02)
Male	27(93.1%)	20(69%)	
Female	2(6.9%)	9(31%)	
Age (years)			1.62(0.45)
18-30	6(20.7%)	10(34.5%)	
31-40	15(51.7%)	11(37.9%)	
41-45	8(27.6%)	8(27.6%)	
18-30	6(20.7%)	10(34.5%)	
Marital Status			4.86(0.03)
Married	19(65.5%)	26(89.7%)	
Unmarried	10(34.5%)	3(10.3%)	
Educational level			0.16(0.92)
Illiterate	4(13.8%)	5(17.2%)	
primary school	14(48.3%)	14(48.3%)	

High school	11(37.9%)	10(34.5%)	
BAD1,2			3.16(0.08)
Mania		3(10.3)	
Depression	29(100%)	26(89.7%)	

Table 4. 2 Mean and SD of responses of participants about Subscales of Bipolar Disorder Functioning Questionnaire of pre-test and post-test using Paired t-test and independent samples t-test

Sr	Subscales of Bipolar Questionnaire		Pre-test	Post-test	Within groups		Between groups (at posttest)	
#	Factors	Groups	Mean±SD	Mean±SD	t	p	t	p
1	Cognitive functioning and comparison						-12.44	.000
		Control	8.72±1.41	9.03±1.15	1.96	.050		
		Experiment	9.17±1.73	14.38±2.01	4.64	.000		
2	Role functioning						-15.74	.000
		Control	5.72±1.03	6.03±0.94	2.07	.039		
		Experiment	6.03±1.55	11.31±1.54	4.72	.000		
3	Household Relations and comparison						-7.74	.000
		Control	6.31±1.44	6.34±1.26	0.21	.833		
		Experiment	6.41±1.62	10.34±2.48	4.59	.000		
4	Emotional functioning						-3.69	.000
		Control	5.45±0.91	7.31±3.88	4.22	.000		
		Experiment	5.66±1.23	10.14±1.38	4.73	.000		
5	Social functioning						-7.78	.000
		Control	4.17±1.31	4.1±0.82	0.00	1.000		
		Experiment	4.34±1.34	6.48±1.43	3.96	.000		
6	Relation with friends						-3.08	.000
		Control	3.38±0.98	3.62±0.68	1.81	.071		
		Experiment	3.48±1.09	4.59±1.55	3.07	.002		
7	Occupational functioning						-8.36	.000
		Control	3.66±1.11	3.97±0.82	1.52	.129		
		Experiment	3.66±1.23	6.83±1.65	4.65	.000		
8	Self Sufficiency						-19.59	.000
		Control	8.55±1.78	8.97±1.43	1.85	.064		
		Experiment	9±2.05	17.21±1.76	4.72	.000		
9	Daily Activities and Hobbies						-15.40	.000
		Control	9.52±1.88	9.79±1.21	1.16	.248		
		Experiment	9.59±2.15	17.83±2.54	4.72	.000		
10	Sexual Functioning						-1.28	.000
		Control	7.1±2.09	6.55±1.43	2.33	.020		
		Experiment	6.76±2.18	7.14±2.01	0.73	.463		
11	Feeling of stigmatization/ Social withdrawal						-11.76	.000
		Control	3.52±0.91	4.55±0.78	4.04	.000		
		Experiment	3.72±1.16	7.24±0.95	4.75	.000		
	Overall						-15.26	.000
		Control	66.1±6.91	70.28±5.59	3.35	.001		

Discussion

According to various types of research, bipolar disorder ranks sixth or seventh among all global disabling diseases (Ferrari et al., 2016). It is regarded as a serious public health issue that is frequently linked to deteriorated social and family interactions, and high rates of persistent mood (McIntyre et al., 2020). It is well known that between 40% and 60% of people with bipolar disorder (BD) suffer functional decline both during acute mood episodes and euthymic states in reality, only one-third of patients are thought to fully recover socially and professionally and revert to their premorbid functional levels. (Wesley, Manjula, & Thirthalli, 2018). Functional impairment affects different areas or categories, including the capacity for self-sufficient living, professional and academic success, the capacity for forming friendships and love relationships, and the capacity for leisure activities (Grande, I., Berk, et al., (2016).

5.1. Demographic Variables:

Under this section information regarding gender, age, marital status, level of education, medical record, family history, and diagnosis are discussed. Among 59 selected participants, Presents a classification of variables across the Control and Experimental groups. In terms of gender distribution, the table indicates that there is a statistically significant difference between the Control and Experimental Groups ($\chi^2 = 5.5$, $p = 0.02$), the Control Group comprises 93.1% males and 6.9% females, while the Experimental Group has 69% males and 31% females Congruent with our findings with a study in which 65% males and 35% females (Kurdal, et al., 2014). Regarding age distribution, the Chi-square test shows no statistically significant difference between the two groups ($\chi^2 = 1.62$, $p = 0.45$). The distribution of patients across different age categories (18-30, 31-40, and 41-45) appears relatively balanced between the Control and Experimental Groups. Marital status, however, exhibits a significant difference between the groups ($\chi2 = 4.86$, $p = 0.03$). The Control Group has a higher percentage of married individuals (65.5%) compared to the Experimental Group (89.7%), which has a higher percentage of unmarried individuals. Educational level and BAD subtypes do not show statistically significant differences between the groups ($\chi^2 = 0.16$, $p = 0.92$ for educational level; $\chi2 = 3.16$, $p = 0.08$ for BAD subtypes). The distribution of patients across different educational levels (Illiterate, primary school, and high school) and BAD subtypes (Mania and Depression) appears similar between the Control and Experimental Groups.

Patients' baseline functionality was largely assessed to measure the effectiveness of psychoeducation since it was significant for identifying the patients' functioning levels before receiving psychoeducation. When comparing the posttest results to the pretest results, the experimental group's patients' mean scores in all functional domains of emotive functioning, Cognitive functioning, sexual activity, social distancing, social disengagement, home and friendship relationships, participation in social tasks, and taking initiative and being independent were noticeably higher. The p-value of all sub-scales is (all $p < 0.005$). These results indicate that psychoeducation raised the patients' functional levels. Furthermore, the outcome supports the validity of the research hypothesis.

Noteworthy improvements are evident in various cognitive domains for the Experimental Group demonstrating significant enhancements from pre-test to post-test, as reflected in negative t-test values and low p-values (all $p < 0.005$) as compared to control group. This study is consistent with the Conclusions of another study that proves our findings suggest psychoeducation as a therapeutically realistic method of cognitive rehabilitation for bipolar patients, leading to better cognitive control over emotional inputs. (Šprah, L., Novak, T., et al., 2010).

Another analysis results are also congruent with the study to examine the impact of psychoeducation on the functional levels of patients with bipolar illness using a two-group pretest–posttest design. A total number of eighty patients were divided into the experimental and control groups. The data were collected by using the Bipolar Disorder Functioning Questionnaires compared to the control group, the experimental group performed exceptionally well on all functional levels. After psychoeducation, there were significant differences ($p < .05$) (Kurdal, etal., 2014).

In assessing work and general productivity, the Control Group exhibits a marginal increase from a pre-test mean of 1.17±0.38 to a post-test mean of 1.21±0.41. The Experimental Group, however, demonstrates a substantial improvement, with a pre-test mean of 1.10±0.31 escalating to 2.38±0.73 in the post-test. The Paired t-test. indicates a highly significant difference (T-test= -4.42, $p = 0.000$) for the Experimental Group, suggesting a notable enhancement in work and general productivity Similar trends are observed across various dimensions of role functioning, including tasks that participants were initially not up to doing, ability to perform work, ability to engage in normal daily activities. (all $p < 0.005$).

The Paired t-test indicates a highly significant improvement in the Experimental Group emphasizing the positive impact of the intervention on participants' ability to complete household tasks as compared to control group. Similar patterns are observed in various dimensions of household relations. pretest M 6.41+1.62 posttest M 10.34+2.48 T test value 4.59 and p value .000 (all $p < 0.05$), More over in this analysis the mean and standard deviation (SD) values of participants' responses regarding social functioning, along with a comparison of pre-test and post-test scores through the

Paired t-test for control group pretest M 4.17±1.31 posttest M 4.1±0.82 and for the Experimental Group indicates a highly significant improvement (T-test= -3.92, p = 0.000), suggesting that the intervention positively influences participants' interest in social activities.

A randomized controlled trials study was conducted in south India by (Kavitha RR, and Kamalam S., 2022). Longitudinal Interval Follow-up was used to measure the functional levels. The functioning is evaluated by using two tools Functional Assessment Short Test and Range of Impaired Functioning tool; the study group received seven sessions of psycho-education with routine treatment, and a posttest was administered, at discharge, one-month, and two-month follow-ups at the outpatient department (OPD), results, a notable improvement was assessed in the functional level. Total LIFE-RIFT score and the Functional Assessment Short Test scores were considerably lower in the study group than in the comparison group (P = 0.001).

Our analysis showed the effectiveness of psychoeducation by a great improvement in occupational functioning. The Paired t-test. indicates a highly significant improvement (T-test= -4.23, p = 0.000) for the Experimental Group, suggesting a positive impact on participants' ability to maintain paid employment. Similar trends are observed in efficiency in performing tasks at work, working in the field of education, and earning according to the level of the employment position. The Experimental Group displays significant improvements in all these aspects (all $p < 0.05$),

The result of another study denotes the effects after 12 months that the psychoeducation provides benefits to bipolar disorder patients in the domain of occupation and cognitive functions because the decreased attention has a great effect on occupational impairment (Sachs, G., Berg, A., et al., 2020). At six months after the intervention, the patients in the experimental group exhibited, the patients who received treatment report greater functioning and a wider social network (i.e., more social interactions every week, emotional and practical support from their social network, and better quality of close supporting connections). (Toni, C., Luciano, M., et al., 2023).

Our study results were also supported by another research finding that revealed the overall mean scores of the Internalized stigma scale and the mean scores of its subscales, significantly decreased after the conclusion of the psychoeducation program (p is less than 0.05). The findings show that internalized stigmatization levels in bipolar disorder patients may benefit from a psychoeducation program. (Keshavarzpir, Z., Seyed fatemi, N., et al ., 2021) (Çuhadar, D., & Çam, M. O. (2014)..

Group psychoeducation has been associated with greater treatment adherence, higher therapeutic lithium levels, reduced numbers and length of hospitalizations, a longer period until disease recurrence, and a decrease in stigma. (Soo, S. A., & Sim, et al., 2018). In the study of (Rusch et al., 2014), the type of psychoeducation did not affect reducing stigma but had positive effects on stigma stress, disclosure-related distress, secrecy, and perceived benefits of disclosure. As internalized stigma is one of the most prevalent issues among psychiatric patients, it is suggested that employing psychoeducation, and professional personnel in psychiatric clinics may assist in decreasing it.

In the self-sufficiency subscale, The Experimental Group displays significant improvements in all the aspects (all $p < 0.05$), the Experimental Group, suggesting a positive impact on participants' ability to engage in household activities. Similar trends are observed in buying groceries, managing finances, cleaning the house, bathing/toileting/changing clothes independently, grooming/changing clothes independently, and engaging in exercise, walking, and other hobbies.

Another research indicates that psychoeducation is a more efficacious approach to improving functioning than medication alone. The value of timely therapy to improve functioning should all be explained to patients (Stafford & Colom, 2013).

Present research findings indicated that for the functional improvement of BAD patients, pharmacological intervention combined with psychoeducation, communication, and problem-solving strategies is preferred as compared to normal psychiatric care (Bonnín, 2019)

A statistically significant difference (T = 2.311; P = 0.024) was seen between the two groups six months after psycho-education. Comparing the functionality level rates of the patients on the "emotional functionality" subscale (T= 2.311, p=0.024The subscale of "taking part in interpersonal activities" showed a further substantial shift between the six- and 12-month points. (T = 2.011 and P = 0.048, Conclusions: Independent psycho-education appears to be ineffective in enhancing other

skills and general quality; however, it does appear to improve the rate of participation in social activities (Gumus,2017).

Another research was conducted in Barcelona by (Bonnein et al., 2016) that is inconsistent with our study. 188 patients were selected out of 239 normal bipolar disorder sufferers. Patients taking functioning therapy (n = 56) demonstrated improvement in delayed free memory at the 6-month follow-up compared to the treatment as usual(n=63) and intervention (n=69) groups ($F2,158 = 3.37$, $p = 0.037$, degrees of freedom (df) = 2. When compared with treatment as usual TAU ($p = 0.04$), only the functional rehabilitation improved; did not with psycho-education ($p = 0.10$). according to Tukey post-hoc tests. (Bonnein et al., 2016)

Conclusion:

Nursing is a holistic profession. Nurses have direct contact with the patients and their families and can build the best therapeutic relationship. Psycho-education may be effectively delivered by nurses to minimize functional impairment in patients and their families completely. A functioning level is necessary for the patient to be able to play a greater role in society. It has been observed that functional impairment exists both throughout the acute phase and the remission. Thus, this nurse-led intervention can raise the patient's functional level while they're in the hospital and even after they go home.

This study proved the positive effects of nurse-led psychoeducational intervention on bipolar patients. This statistical scrutiny provides a robust foundation for understanding the nuanced impact of the interventions, contributing valuable evidence to the field of mental health interventions.

Recommendations:

- It is advised that further research focus on methods to optimize the advantages of these treatments, including family-focused and interpersonal relationships.
- Psychiatric nurses should gain knowledge and training in psychoeducation and conduct psychoeducation programs to help people adhere to their treatment plans and function better.
- This study recommended that in psychoeducation the caregivers should be involved in psychosocial interventions that notably decrease the consequence of recurrence in people with bipolar disorder.
- Psychoeducation should be provided to all patients with All Mental Illnesses admitted to mental hospitals.

Strengths of the Study:

It is the first study of its nature in the nursing sphere of practice that identified the effects of psychoeducation on the functioning of bipolar disorder patients provided by the nurses in a major psychiatric hospital in Punjab, Pakistan.

- It was quick and less expensive to conduct the study.
- It was suitable for the topic as experimental research was required.
- It was helpful to understand the complex phenomenon of perception and status of bipolar disorder.

Limitation of the Study:

The first limitation is that the study was carried out in a single mental health hospital.

The second limitation was that the study could not be generalizable because of a very small sample size.

The third limitation was that psychoeducation is applied only to patients with bipolar disorder. The relatives/ caregivers are not included.

The fourth limitation was group fellows had a great effect on the activity level of one another.

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