Vol. 4 No. 4 (2025)

Pakistan Journal of Medical & Cardiological Review

https://pakjmcr.com/index.php/1/about

Online ISSN 3007-2387

Print ISSN 3007-2379

EFFECTIVENESS OF NURSE LED COUNSELLING SESSIONS ON PSYCHOLOGICAL WELL BEING OF MOTHERS WITH PRETERM INFANTS AT TERTIARY CARE HOSPITALS IN SWAT

Amir Zeb
BSN, MSN, Assistant Professor, Hasnain College of Nursing & Allied Health Sciences, Swat.
amirzebafandi@gmail.com
Sardar Ali
BSN, MSN, MHPE, PhD*, Assistant Professor, Institute of Nursing Sciences, Khyber Medical University, Peshawar
Prof Dr. Dildar Muhammed
BSN, MHPE, PhD, Dean/Professor, Institute of Nursing Sciences, Khyber Medical University, Peshawar.
Dr. Ashfaq Hussain
M.B.B.S, F.C.P.S Psychiatry, Assistant Professor of Psychiatry, Saidu Medical College/Saidu Group of Teaching Hospitals, Swat.
Prof Dr. Ihsan ul Haq
M.B.B.S, F.C.P.S Paediatrics, HOD/Professor of Paediatrics, Saidu Medical College/S.G.T.H Swat.
Shah Hussain
BSN, MSN, PhD*Assistant Professor, Janbar College of Nursing, Swat.
Jawad Ahmad
BSN, Senior Lecturer, Hasnain College of Nursing & Allied Health Sciences, Swat.

Author Details

Keywords:
Psychological Well-Being, Psychological Issues, Mothers, Pre-Term Infants

Received on 11 Oct, 2025
Accepted on 21 Nov, 2025
Published on 08 Dec, 2025

Corresponding E-mails & Authors*:
Amir Zeb
amirzebafandi@gmail.com

Abstract

Introduction
Mothers of premature babies often exhibit emotional and psychological challenges due to the complexities associated with premature births. These challenges can include heightened anxiety, stress, and feelings of helplessness, which, if left unaddressed, can affect both the mother's well-being and her ability to care for her infant. Nurse-led counseling has emerged as a valuable intervention in the provision of mental and psychological assistance to mother during critical period like this.

Aim
The aim of the study was to investigate the effect of nurse-led counseling sessions on psychological wellbeing of mothers with preterm infants.

Methods and Materials
The study was a Quasi Experimental Study, carried out in district

Pakistan Journal of Medical & Cardiological Review
https://pakjmcr.com/index.php/1/about
Online ISSN 3007-2387
Print ISSN 3007-2379

Swat. Data were collected in NICU of Saidu Teaching Hospital Swat. A total 71 participants were employed in study. A Non Probability Convenient Sampling technique was used. Pre and post interventional data were collected using Psychological wellbeing questionnaire. Approval for study was taken from KMU ERB. All ethical considerations ensured before the collection of data.

Results

Pre-intervention majority (44%) of the candidates were reported medium Psychological wellbeing while improved further to (59%) post-intervention, followed by Low psychological wellbeing (39%) to (11%) and high psychological well-being (17%) to (30%) after the intervention. There was significant (P=0.000) mean difference between pre and post interventional psychological well-being score.

Conclusion

Results of the study concluded that nurse led counseling session have a magnificent effect on the psychological wellbeing of the mothers having preterm infants. Proper interventions are needed to address these issues and improve the psychological wellbeing of the mothers.

INTRODUCTION

Low birth weight, which is birth prior to 37 weeks of pregnancy, is a major challenge to the health of globe. Premature birth is the delivery of a baby before the completion of its 37 weeks gestation [1]. In 2020, the worldwide count of infant mortality within the first month reached 2.4 million. On a daily basis, an estimated 6,700 newborns succumb to various causes, constituting 47% of deaths among children having age less than 5 years [2].

Some of the research has indicated that there is an upward trend in the incidences of preterm birth in many countries. Preterm babies are at the risk of early mortality, immediate & late adverse health and developmental outcome than the full term babies. Caring for a preterm infant can also affect parents' psychosocial health adversely [3, 4].

UNICEF reports that Pakistan witnesses approximately 860,000 premature births annually, with nearly 102,000 children succumbing to complications associated with preterm birth. Pakistan holds the second position between the top ten countries of the world, collectively responsible, almost 2/3 of all deaths resulting from the issues related to premature delivery [5, 6].

Infants born prematurely face an elevated likelihood of encountering issues, like respiratory issues like distress syndromes, apnea, intra-ventricular bleeding, feeding intolerance, hyper-bilirubinemia, and susceptibility to infectious diseases. As a result, they often necessitate extended stays in Neonatal Intensive Care Units (NICUs) [7, 8]. Delivery of a premature infant results a challenging scenario for any mother. Preterm delivery and being

in the hospital, specifically in the Neonatal Intensive Care Units (NICUs) is a serious problem for parents, specifically for the mother [9]. When a newborn faces health issues necessitating NICU hospitalization, parents undergo heightened emotions and psychological strain [10].

Mothers of a new preterm infant experience a high level of psychological morbidity; this means that delivery of a preterm infant is a situation full of stress for the mothers. According to

gestational age, preterm babies are babies born less than 37 weeks of the pregnancy, they have the need to receive medical attention and often end up in neonatal intensive care unit (NICU's) [11].
This early birth also cuts short the normal attachment process and places a great deal of emotional and psychological pressure on mothers. These and other psychological problems, including anxiety, depression, fear, and helplessness, during this period may interfere with the parent's capacity specially the mother to care for the self and the baby [12]. The mothers of premature babies experience challenges that can significantly impact the emotional and psychological state [13]. The fragility of preterm infants, coupled with the extended periods of medical care and potential complications, can contribute to heightened stress levels, anxiety, and emotional strain in mothers [14].
The first week after birth can be considered as the early postpartum time at which maternal psychological adaptation and mother-infant attachment occur. Still, according to the results of this research, mothers of premature babies have limited opportunity to interact with their infants as healthy new born mothers do [15]. Distance at the time when the child is hospitalized and the infant is likely to exhibit immature behavior and a changed physiognomy compromised the formation of a positive mother-infant bond. This kind of Disconnected maternal or delayed maternal bonding can worse or worsened the anxiety, depression, grief and poor self-esteem of the mothers regarding the parenting role [16].
Qualitative counseling interventions by professional nurses or nurse counselors might be an effective strategy in managing maternal psychological and emotional upset among women who give birth to preterm infants. Counseling entails an understanding and verbally expressed attitudinal alliance between the counselor and the client that enables the resolution of significant emotional experiences and development of more adequate ways of coping with life stress [17, 18].

Methodology

The research utilized a quasi-experimental pre and post interventional model to determine the effect of nurse led counseling sessions on the psychological well-being of mothers of preterm babies. The research was carried out in Neonatal Intensive Care Unit (NICU) of Saidu Teaching Hospital, District Swat which is a tertiary care hospital covering a high population in the district and surrounding regions. The population of the study comprised all preterm mothers (24-36 weeks gestation) taken to the NICU or Special Care Nursery (SCN) that delivered above 18 years who comprehended Urdu or Pashto. Subjects with a prior psychiatric history or taking psychiatric drugs and those who were in a critical condition were excluded. The participants were chosen based on the inclusion criteria of a non-probability convenience sampling approach to produce a total number of 71 participants and the G * Power software was used to compute the medium effect size (0.3) with a 95% confidence and power of 0.80.

Data Collection

The 28-item General Health Questionnaire (GHQ-28) was used to gather data and was used to measure the psychological well-being in four subscales. When the scores are higher it means that

the person is even more psychologically distressed. The research was divided into three stages namely pre-intervention, intervention, and post-intervention. The data on the psychological well-being of participants at the pre-intervention phase were gathered. The intervention stage involved three separate counseling sessions (two hours per week) of three weeks of psychological issues by the investigator using lectures, discussions, and visual aids. Two months after, data were collected again two months after the counseling sessions using the same questionnaire. All the information was confidential and the reports were taken in secluded places, and the data stored in places where it would not be found.

Data Analysis

The data were keyed and processed with SPSS 25. Continuous variables of socio-demographic variables and psychological well-being were summarized using descriptive statistics and means and standard deviations, whereas categorical variables of socio-demographic variables and psychological well-being were summarized using frequencies and percentages. The effectiveness of the counseling sessions was to be determined by the use of the Paired T-Test to compare the pre- and post-intervention scores on psychological well-being. Moreover, Chi-square tests were done to serve as the examinations of relationships between the psychological well-being of participants and their socio-demographic traits. These analyses allowed making a clear evaluation of intervention outcomes and other factors.

Results and Analysis

Socio-Demographic Profile

The participants were asked regarding socio-demographic profile. The majority (40.8%) of the participants were from age less than 25 years, followed by 25 to 35 years (36.6%) and more than 35 years (22.5%). The gestation weeks of the majority (62%) of the babies were more than 30 weeks and 38% of the babies were from less than 30 weeks of gestation. Almost all (97.2%) of the participants were Muslims. 42.3% of the participants were illiterate followed by primary education (23.9%) and secondary education (12%). The majority (91.5%) of the participants was living in joint family and 88.7% of the participants were house wives (Table 1).

Table 1: Socio-Demographic Profile of the Participants:

Variable	Category	Frequency (n)	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Age of Participants	Less than 25 Years	29	40.8	40.8	40.8
	25–35 Years	26	36.6	36.6	77.5
	More than 35 Years	16	22.5	22.5	100.0
Gestational Age	Less than 30 Weeks	27	38.0	38.0	38.0

	More than 30 Weeks	44	62.0	62.0	100.0
Religion	Muslim	69	97.2	97.2	97.2
	Christian	2	2.8	2.8	100.0
Education	Illiterate	30	42.3	42.3	42.3
	Primary	17	23.9	23.9	66.2
	Secondary	12	16.9	16.9	83.1
	Graduate and above	12	16.9	16.9	100.0
Family Type	Nuclear	6	8.5	8.5	8.5
	Joint	65	91.5	91.5	100.0
Occupation	Housewife	63	88.7	88.7	88.7
	Government Employee	8	11.3	11.3	100.0

The GHQ-28 questionnaire was used to determine the psychological well-being of the 71 participants and was designed to assess physical, emotional, and social health. The reaction showed a difference in the perception of health, energy and psychological discomfort, with a significant percentage of the respondents experiencing fatigue, worry and sleep disturbances. Most of the participants reported being nervous, hopeless, and feeling of low self-esteem, which indicated moderate to high rates of psychological strain. Some participants reported positive coping behaviors like a busy schedule and daily activities. Generally, the results demonstrate that mothers of preterm infants experience severe psychological challenges that require special intervention. These findings give a benchmark of assessing how nurse-led counseling sessions can enhance maternal psychological well-being.

Table 2: Psychological Well-being of Participants, n=71

Item	Response Category	Frequency (f)	Percentage (%)
1. Felt very well and healthy	Never	48	67.6
	As usual	13	18.3
	More than usual	7	9.9
	Far more than usual	3	4.2
2. Need an energizing drug	Never	11	15.5
	As usual	17	23.9
	More than usual	27	38.0
	Far more than usual	16	22.5
3. Lack of energy / not feeling well	Never	8	11.3

	As usual	21	29.6
	More than usual	26	36.6
	Far more than usual	16	22.5
4. Felt sick	Never	6	8.5
	As usual	21	29.6
	More than usual	28	39.4
	Far more than usual	16	22.5
5. Headaches	Never	10	14.1
	As usual	24	33.8
	More than usual	25	35.2
	Far more than usual	12	16.9
6. Heaviness/pressure in head	Never	6	8.5
	As usual	22	31.0
	More than usual	29	40.8
	Far more than usual	14	19.7
7. Feeling cold / slurred speech	Never	8	11.3
	As usual	20	28.2
	More than usual	27	38.0
	Far more than usual	16	22.5
8. Sleeping little due to worry	Never	7	9.9
	As usual	19	26.8
	More than usual	28	39.4
	Far more than usual	17	23.9
9. Waking up most of the night	Never	4	5.6
	As usual	20	28.2
	More than usual	28	39.4
	Far more than usual	19	26.8
10. Constant tiredness	Never	6	8.5
	As usual	16	22.5
	More than usual	26	36.6
	Far more than usual	23	32.4

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11. Nervous/bad mood	Never	4	5.6
	As usual	22	31.0
	More than usual	27	38.0
	Far more than usual	18	25.4
12. Afraid for no reason	Never	6	8.5
	As usual	19	26.8
	More than usual	28	39.4
	Far more than usual	18	25.4
13. Feeling out of control	Never	4	5.6
	As usual	19	26.8
	More than usual	25	35.2
	Far more than usual	23	32.4
14. Nervous and agitated	Never	6	8.5
	As usual	18	25.4
	More than usual	26	36.6
	Far more than usual	21	29.6
15. Plan to stay busy/entertained	Never	18	25.4
	As usual	28	39.4
	More than usual	16	22.5
	Far more than usual	9	12.7
16. Spending more time doing things	Never	26	36.6
	As usual	23	32.4
	More than usual	12	16.9
	Far more than usual	10	14.1
17. Done things well overall	Never	22	31.0
	As usual	27	38.0
	More than usual	13	18.3
	Far more than usual	9	12.7
18. Satisfaction with performance	Never	19	26.8
	As usual	32	45.1
	More than usual	15	21.1
	Far more than	5	7.0

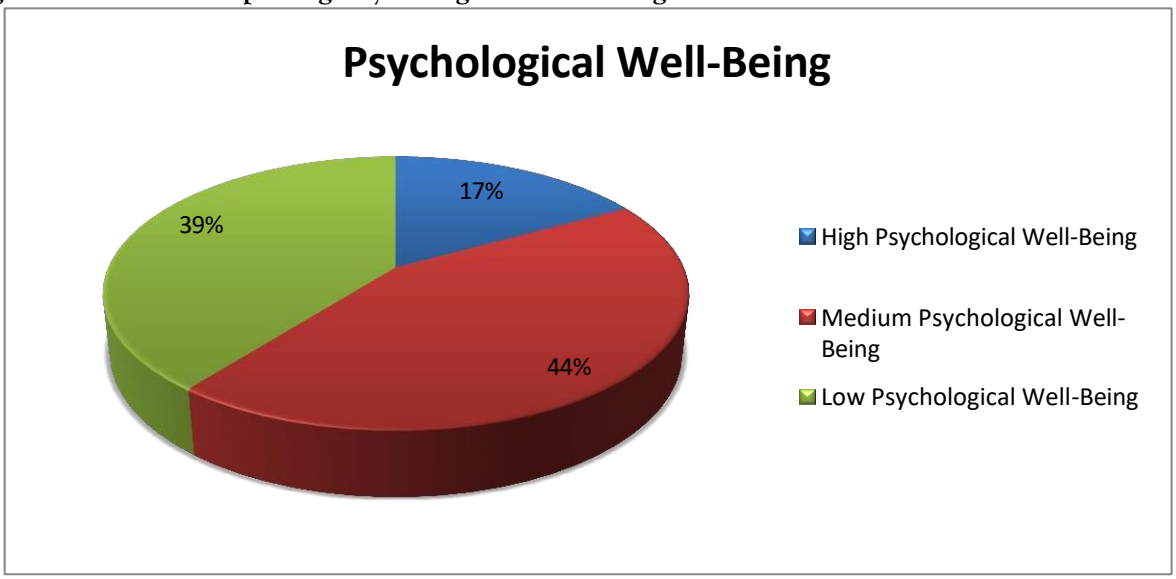
	usual		
19. Feeling effective in role	Never	23	32.4
	As usual	23	32.4
	More than usual	12	16.9
	Far more than usual	13	18.3
20. Ability to make decisions	Never	27	38.0
	As usual	22	31.0
	More than usual	9	12.7
	Far more than usual	13	18.3
21. Enjoy normal activities	Never	20	28.2
	As usual	32	45.1
	More than usual	14	19.7
	Far more than usual	5	7.0
22. Feeling worthless	Never	2	2.9
	As usual	6	8.6
	More than usual	35	50.0
	Far more than usual	27	38.6
23. Feeling life is hopeless	Never	3	4.3
	As usual	20	28.6
	More than usual	30	42.9
	Far more than usual	17	24.3
24. Life not worth living	Never	3	4.2
	As usual	18	25.4
	More than usual	29	40.8
	Far more than usual	21	29.6
25. Thoughts of rescuing oneself	Never	7	9.9
	As usual	17	23.9
	More than usual	33	46.5
	Far more than usual	14	19.7
26. Cannot do anything due to nervousness	Never	17	23.9
	As usual	24	33.8

	More than usual	22	31.0
	Far more than usual	8	11.3
27. Wish to die / escape everything	Never	10	14.1
	As usual	17	23.9
	More than usual	27	38.0
	Far more than usual	17	23.9
28. Thoughts of self-harm	Never	6	8.5
	As usual	19	26.8
	More than usual	31	43.7
	Far more than usual	15	21.1

Overall Psychological Well-Being before Interventions

Overall, Psychological well-being of the participants were assessed. The Majority (44%) of the participants were reported medium Psychological well-being, followed by Low psychological wellbeing (39%) and high psychological well-being (17%), (Figure 1).

Figure1: Pie-Chart depicting Psychological Well-Being before Interventions



Overall Psychological Well-Being after interventions

After the intervention the psychological well-being of the participants were assessed. The Majority (59%) of the participants were reported medium Psychological well-being, followed by high psychological wellbeing (30%) and low psychological well-being (11%), (Figure 2).

Figure2: Pie-Chart depicting psychological well-being after Interventions

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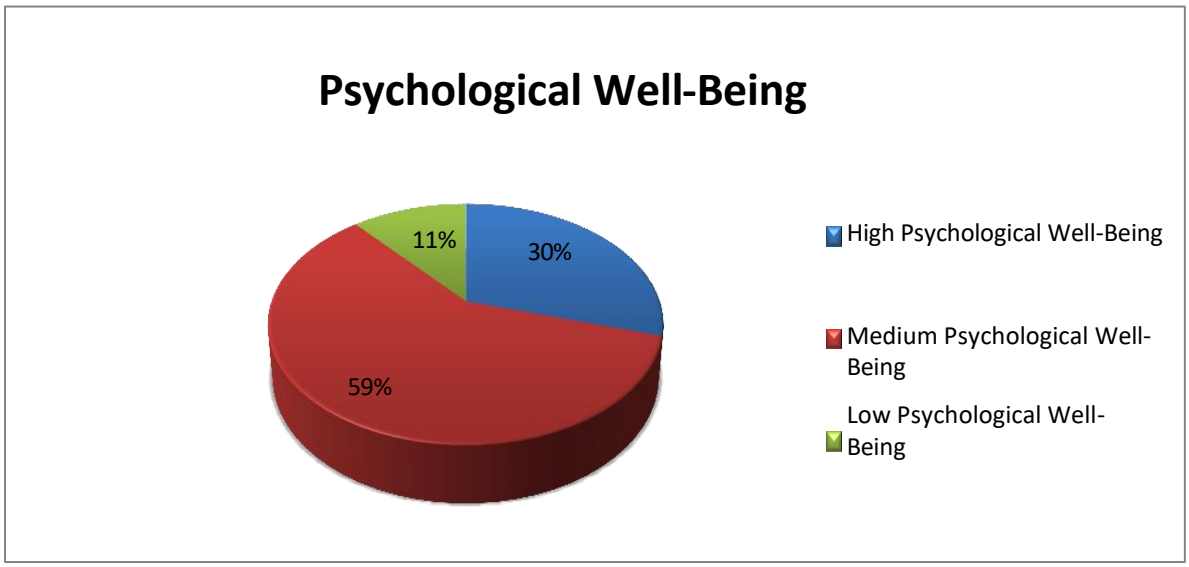

The findings show that the psychological well-being of the participants had been significantly improved after the nurse-led counseling intervention. The overall pre-interventional score was 72.11 (SD = 6.60), and the post-intervention was reduced to 60.58 (SD = 5.79). The statistical significance of the mean difference (11.54 points) was significant ($t = 11.308$, $df = 70$, $p < 0.001$) which shows the effectiveness of the intervention. The 95 percent confidence interval of the mean difference was between 9.50 and 13.57 and it proved that there was a steady decrease in the level of distress. These results indicate the beneficial effect of organized counseling on maternal psycho-health.

Table 3 Mean Difference Between Pre- and Post-Interventional Psychological Well-Being Scores

Paired Samples			**Mean**	**N**	**Std. Deviation**	**Std. Error Mean**	
Pre-Interventional Psychological Well-Being			72.11	71	6.602	0.784	
Post-Interventional Psychological Well-Being			60.58	71	5.788	0.687	
Paired Differences	**Mean**	**Std. Deviation**	**Std. Error Mean**	**95% CI of Difference**	**t**	**df**	**p (2-tailed)**
Pre – Post	11.535	8.505	1.020	9.501 – 13.570	11.308	70	0.000

The Chi-square test was employed to provide the association between psychological well-being and demographic variables. There were no considerable correlations between the psychological wellbeing and age, gestational age, religion, education, family type and occupation ($p > 0.05$). The

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Online ISSN 3007-2387
Print ISSN 3007-2379

majority of the participants with or without demographic factors indicated medium to low psychological well-being. Such results indicate that the maternal psychological distress was widely spread among all demographic layers of the research.

Table 4: Association of Psychological Well-Being with Demographic Profile (n = 71)

Variable	Category	High Psy Well-Being (n)	Medium Psy Well-Being (n)	Low Psy Well-Being (n)	Total (n)	p-value
Age	Less than 25 Years	7	11	11	29	0.595
	25–35 Years	2	13	11	26	
	More than 35 Years	3	7	6	16	
Gestational Age	Less than 30 Weeks	2	11	14	27	0.128
	More than 30 Weeks	10	20	14	44	
Religion	Muslim	12	31	26	69	0.206
	Christian	0	0	2	2	
Education	Illiterate	7	14	9	30	0.443
	Primary	1	6	10	17	
	Secondary	3	5	4	12	
	Graduate and above	1	6	5	12	
Family Type	Nuclear family	1	3	2	6	0.941
	Joint family	11	28	26	65	
Occupation	Housewife	9	27	27	63	0.135
	Government employee	3	4	1	8	

Discussion

The aim of the current study is to evaluate the effectiveness of nurse-led counseling sessions on psychological well-being of mothers with preterm infants at tertiary care hospitals in swat. A total of 71 participants were employed in this study and interventions were arranged. The study showed that those below 25 years were 40.8 % while 25–35 years were 36.6% and above 35 years 22.5%. Dispersed closely with this available research parts which indicate younger mothers may encounter other psychological problems, especially if they are below 25 years of age.

Gomez et al, opine that young mothers are not well equipped to manage the stresses of having a preterm child and to compete with the developmental changes the baby might be undergoing. This tally with the findings of this research work indicating that young mothers may require psychological intervention in order to boost up on their coping style.17It was noted that majority of the preterm infants were born at or after thirty weeks gestational age, constituting 62 % and the remaining 38% born before reaching the thirty weeks' period of gestation. This discovery is important because the gestational age of preterm infants plays a major role in identifying the medical and psychological problems which both the mother and the infant tends to develop.

Studies showed that mothers of extremely preterm infants (less than 30 weeks) are more likely to experience psychological distress because of the medical complexity of the infants, long length of stay and future outcomes.[18, 19, 20] It explained that these mothers experience higher levels of anxiety and depression that need specific psychological targeting, including nurse-led consultancy.

A social status of participants reveals that 42.3% of the participants did not even know how to read or write, 23.9% studied in primary school, and 12% had secondary education. This interaction is a common theme demonstrated where lower levels of education are associated with increased levels of psychological distress among mothers of preterm infants. Montemor et al, have mentioned that mothers with a low educational achievement may lack adequate information on health care and services that perhaps increases helplessness and anxiety. [21] These findings showed that mothers may not comprehend much of the medical information provided to them in the hospitals, thus, it may be challenging for them to cater for a preterm infant. This underlines the necessity of development of individually related counseling and educational programs targeted at mothers, who have lower levels of education.

The findings of the current study, where the majority of mothers (44%) reported medium psychological well-being, followed by low psychological well-being (39%) and high psychological well-being (17%), align with existing literature on the psychological challenges faced by mothers of preterm infants. [22] The psychological well-being of mothers in this group is often influenced by several factors, including the emotional strain of having a preterm infant, the uncertainties related to the infant's health, and the mother's own coping mechanisms. [23]

In this study, 39% of the mothers considered low level of psychological well-being. Different studies highlighted that most of the mothers with preterm infants are at the risk of psychological disorders such as PTSD, Anxiety and Depression[17, 24.] This may be due to the long hospital stay that parents have to endure with their preterm infants, the concern about complications, or those prospective developmental problems their child may have. Closely related, study also establish that the prevalence of emotional burnout is high among mothers with preterm infants, especially when admitting the infant to the NICU and that it results to low levels of psychological well-being. [25]

The impact of the nurse-led counseling sessions was analyzed and compared with the test group's pre- and post-intervention psychological well-being scores with the help of a paired t-test. The study findings showed a statistically significant difference of the psychological well-being scores between the pre- and post-intervention, P = 0.000. This suggests that the counseling sessions had a significant positive relationship on psychological well-being of the mothers with preterm infants. These findings were supported by another similar study which reported that nursing led intervention have significant impact in improving psychological wellbeing of mothers. [22]

Other studies also supported the current findings and revealed that the programs of the nurse-led counseling led to the improvement of other psychological factors decreasing anxiety and depressive symptoms of mothers. [23, 25, 26] The results of this study indicate the possibility of achieving a significant positive impact on the psychological state of mothers of preterm infants only through organized and targeted interventions involving counseling by staff nurses working in hospitals.

Conclusion

This study concludes that psychosocial support plays a significant role in enhancing maternal mental health during such an unstable period. The nurse-led interventions in this study revealed a positive influence on psychological well-being particularly in scores before and after intervention. As per the present context of the research, the result points to the need for offering mental health services in neonatal care since mothers of preterm infants experience increased levels of emotional and psychological stress.

Recommendations

Education Recommendations

- Training interventions that focus on enhancing counseling skills and stress management should be provided to nurses. This preparation will enable them to better meet the psychological needs of postnatal mothers of preterm newborns.
- Capacity building for nurses through funding should be prioritized to support the development of nurse-led mental health interventions in maternal care settings.

Research Recommendations

- Further research should be conducted to assess the long-term effects of nurse-led counseling sessions on the psychological well-being of mothers.
- Studies should also evaluate the impact of these interventions on infant development, as well as on the mother-infant relationship and the family unit, to gain a broader understanding of maternal care dynamics.

Practice Recommendations

- Nurses should provide structured mental health interventions, such as counseling sessions, specifically for postnatal mothers of preterm infants to support their mental well-being.
- Hospitals and healthcare facilities should incorporate counseling services into maternal care programs, recognizing the psychological stress often associated with preterm deliveries.
- The nurse-led counseling program should be scaled up and tested in additional settings, particularly in regions with similar socio-cultural and healthcare contexts.

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