

## Evaluation of Nurses' Interventions for Adult Patients with Thrombocytopenia at Baghdad City

Alaa Jawad Kadhim, MSc. \*, Haider M. Majeed MSc \*\*,  
Khalida M. Khudur PhD \*\*\*

\* (Assistant instructor, Department of Adult Nursing, College of Nursing, University of Baghdad, Baghdad, Iraq)

\*\* (Assistant instructor, Department of Fundamental of Nursing, College of Nursing, University of Baghdad, Baghdad, Iraq)

\*\*\* (Assistant Professor, Department of Adult Nursing, College of Nursing, University of Baghdad, Baghdad, Iraq)

---

**Abstract:** The most common blood disorders is low platelete count, characterized by count of platelets of abnormally .

**Objectives:** The aimsof study to evaluate nurses' interventions for patients with thrombocytopenia in hematology ward and to find out the relationship between nurses' interventions for patients and certain variables e.g. (gender, age, educational level, years of experience in hematology wards, years of experience in hospital, and sharing in training sessions).

**Methods:** A descriptive study design was conducted in 3<sup>rd</sup> march 2016 to 4<sup>th</sup> April 2017, for (40) nurses who were employee in hematology wards in four Baghdad Teaching Hospitals.

**Results:** The majority of the study sample' ages were (28 – 37) Yrs old that were (32.5%), Most of samples (55%) were female, the education level that most of sample (40%) were graduated from college of nursing. Majority of them (35%) were employee (1-5) Yrs were employment in nursing, also most of participated(45%) were have experience in hematology ward (1-5) years, more than half (60%) of them have training session in hematology wards.

**Conclusions:** The studies conclude that nurses have moderate level about patient management with thrombocytopenia and there was strong association between nurses' interventions with gender and level of education for the study samples.

**Keywords:** Nurses' Interventions, Patients, Thrombocytopenia, Hematology ward.

---

Date of Submission: 10-11-2017

Date of acceptance: 25-11-2017

---

### I. Introduction

A platelet number below from the  $150 \times 10^9 /L$ , the 2.5<sup>th</sup> lower than normal platelet count distribution is defined as thrombocytopenia [1]. most aspect of reduce platelet number is concomitant use of interfering treatment with purpose of platelet and coagulation factor in a growing of patients with heart, vascular and thrombo-embolic disorders. Else blood adequate from platelet counts in the patients can contributed by stop bleeding, such as the patients take drugs non-steroid anti-inflammatory drugs, as warfarin, it is one of most common inhibitor function of platelet. Drugs of aspirin inhibits cyclo-oxygenase platelet and work blocks release thromboxane A2, an contributor important to platelet counts aggregation [2]. The medications list of countent interfere with function of platelet includes nitrates, beta-lactam antibiotics, tricyclic antidepressants, beta-blockers, and serotonin selective reuptake inhibitor, most of list only in labrotary test, having not clear clinical significance [3]. The three main causes for thrombocytopenia: platelets ineffective production at marrow of bone, accelerated destroy of platelets shape, the failure syndromes in bone marrow to production of thrombocytes such as myelodysplastic syndrome, aplastic anemia such as metastases, lymphoma, multiple myeloma leukemia and granulomas bone marrow, whereas more destruction at this conditions as immune thrombocytopenia, thrombotic microangiopath, and disseminated intravascular coagulation. Costody of the Platelet is present in cases congestive splenomegaly related to portal elevate blood presure that caused by heart failure, liver vein thrombosis or vena-cava thrombosis, cirrhosis such as chronic viral hepatitis or alcoholic liver disorder. thrombocytopenia sequestration is qualities by return of blood platelets from blood circulating to the pool of splenic organ .Low platelet in the blood can result from reduced platelets production in the content bone marrow or from elevate high destruction or exhaustion of platelets. causes include reduce of blood platelet output as a result of certain septicemia, anemia, and cytotoxic drugs; increased destruction process of idiopathic low blood platelet, lupus erythematous, tumor, drugs, lymphoma, and post viral infections, and elevate

utilization, such as results from DIC. In adult patients, count of platelet normal is from (150,000 to 450,000) platelet per/ microliter of the blood. If the result of CBC finds for patient have less than 150,000 platelets per/ microliter, the patient have decrease number of blood platelet [6]. may not be helpful in causes, such as in ITP, heparin and aspirin-induced thrombotic thrombocytopenic purpura and thrombocytopenia. Therefore, Transfusions platelet is important to recognize the patient subjectives and objectives of these structure.

## II. Methodology and Materials

The descriptive study design was carry out to put in order to obtain the study goals. The study was begin from 3rd march 2016 to 4th April 2017. The study setting has been elaboration to investigated nurses intervention for patients with thrombocytopenia in blood diseases' ward at (4) Hospitals: these hospital include Al-yarmouk, Al-Kadhimiya, Baghdad Teaching Hospital, and Hospital of private nursing. Non-probability study sample for forty nurses who was working in blood disease wards at four Teaching Hospitals in Baghdad city. The methods of data collection: The data were summed from (4th) April to (4th) June 2016. Study Instrument: An organization interview questionnaire that was developed and arranged by the researchers according to reviewer of literatures. It include (28) items, split to two parts. Part one: Nurses' demographic characteristic information paper (six questions). Part two: item medical information nurses intervention for patients with platelet disorder (22 questions). The validity of tools were identified by a specific team of 10 experts. All element responses on the likert scale were spotted from three points: never (1), sometime (2), always (3), and the health behavior level of protection was ranked into (3) standared levels; (1 - 1.69) are level of poor, (1.7-2.39) are moderate level, and (2.4-3) are high level .Statistical data analysis: The analysed of data through Statistical Package for Social Sciences (SPSS V18.0).

## III. Results

**Table (1): Distribution of the study Sample (40) According to Nurses' Demographical Characteristics Variables .**

No	Varibles	(Groups)	Frequency	Percent
1.	Gender	Male	18	45.0
		Female	22	55.0
2.	Age	18 – 27	10	25.0
		28 – 37	13	32.5
		38 – 47	7	17.5
		48 – 57	4	10.0
		>58	6	15.0
3.	Education level	School of Nursing Graduate	7	17.5
		Secondary Nursing School Graduate	6	15.0
		Nursing Institute Graduate	11	27.5
		College of Nursing Graduate	16	40.0
4.	Years of employment in hospital	1 – 5	14	35.0
		6 – 10	7	17.5
		11 – 15	7	17.5
		16 – 20	3	7.5
		21 >	9	22.5
5.	Years of experience in hematology wards	1 – 5	18	45.0
		6 – 10	8	20.0
		11 – 15	7	17.5
		16 – 20	4	10.0
		21 >	3	7.5
6.	Training sessions	Yes	24	60.0
		No	16	40.0

### Frequency, Percentage

This study revealed that the majority were females representing (55%) while the form of males (45%) of the nurses complex. Most of the participants in the study (33.5%) aged (28-37 years). Study participants' has diploma graduate in nursing (35%). Most were (35) employees (1-5) years working in nursing, (45%) have experience in the wing of blood diseases (1-5) years, and (60%) of them have a training course.

**Table 2: The Mean of Score of Nurses' Interventions Domain.**

No	Items	Always	Some time	Never	M.S	ASS.
		F	F	F		
1.	Avoid giving aspirin & other drugs contribute to inhibition of functional platelets	26	6	8	2.45	M
2.	Intramuscular injection is contraindication for pt with platelets disorder	25	7	8	2.42	M
3.	Insert a foley catheter may be cause bleeding to pt	4	9	27	1.42	P
4.	Avoid take temperature rectal can lead to bleeding	15	6	19	1.90	M
5.	Give anal suppositories for pt with platelets disorder is risk for bleeding	16	5	19	1.92	M
6.	Use laxatives may be preventing constipation.	35	3	2	2.82	H
7.	Use smallest possible needles when performing venipuncture.	28	3	9	2.48	M
8.	Apply pressure on vein sites for 5 minutes or until bleeding stops	25	2	13	2.30	M
9.	Pt teaching to using a soft toothbrush for oral care.	19	3	18	2.02	M
10.	Use soft sponge with foam cleaning to take care of the mouth if the number of blood platelets less than 10,000 cubic mm.	24	5	11	2.32	M
11.	Use only teeth to care for the mouth if the number of platelets is <10,000 / mm <sup>3</sup>	15	2	23	1.80	M
12.	Discourage vigorous coughing or blowing of the nose.	20	8	12	2.20	M
13.	Use only electric razor for shaving.	28	6	6	2.55	H
14.	Elevated side rail of bed to maintain patient safety	29	5	6	2.58	H
15.	Patient advises snapped caution when walking to prevent falls.	26	10	4	2.55	H
16.	Monitoring vital signs	27	7	6	2.52	H
17.	Monitors the platelet ratio.	30	8	2	2.70	H
18.	The necessary decisions and measure in the event of bleeding the patient.	29	7	4	2.62	H
19.	Know the signs and symptoms of internal bleeding of the patient.	9	11	20	1.72	M
20.	The giving blood or plasma, according to the doctor's prescription.	26	8	6	2.50	M
21.	Give the medication to the patient on time and according to doctor's prescription.	30	5	5	2.62	H
22.	Notify the physician about any complications	38	2	0	2.95	H

Ass, M.S=Mean of Score ( 1 -1.69= Poor, 1.7-2.39= Moderate, 2.4-3= High)

The data was conducted on 22 items of the questionnaire that evaluate of intervention of the nurses that should be followed in hematology wards based on a rating scale, which had been reported and manifested out of the mean of scores of these items. This result showed that the mean average of 22 of the studied materials was 2.33 with moderate average. The results showed a high and moderate means of score on items (21) but except at items (3) that there was low severity.

**Table (3): Association between demographic characteristics (gender) studied sample (N=100)**

Demographic Variables		F	t -values	df	Sig (2-tailed)
Gender groups	Male	12	19.457	39	.000
	Female	18			

Sum of squares, Degree of freedom, t- values, Significant \*: P ≤ 0.05

The table showed that there is no significant correlation between gender and nurses' intervention.

**Table (4): Association Between nurses Intervention Score & Various Factors (gender, Education level, Yrs of employee in hospital, Yrs of experience in haematology ward and Training Sessions courses).**

Demographic		Sum of Squares	df <sup>a</sup>	Mean Square	F	Sig.
Age Groups	Between Groups	1.481	2	.740	.379	.687
	Within Groups	72.294	37	1.954		
	Total	73.775	39			
Level of education	Between Groups	11.075	2	5.537	5.318	.009
	Within Groups	38.525	37	3.197		
	Total	49.600	39			
Years of employment in hospital	Between Groups	13.869	2	6.935	3.083	.058
	Within Groups	83.231	37	2.249		
	Total	97.100	39			
Years of experience in hematology wards	Between Groups	6.190	2	3.095	1.880	.167
	Within Groups	60.910	37	1.533		
	Total	67.100	39			
Training Sessions	Between Groups	.121	2	.060	.256	.791

	Within Groups	9.479	37	.012		
	Total	9.600	39			

**Sum of squares, Degree of freedom, Mean squares, Significant \*:  $P \leq 0.05$**

The table shows that there is a significant correlation between the degree of intervention nurses and educational level.

#### IV. Discussion

Throughout the data from the current study analysis of the course, the study findings show that (55%) female of the total participants while the male form (45%). The majority of respondents (32.5%) of the age group (28-37) years, regarding to educational level subjects, the majority of studied samples indicate 16(40%) were nursing college graduate, most of the studied samples showed that 14(35%) of them had (1-5) years of employment in hospital and also 18(45%) of them had (1-5) years of experience in hematology wards. The finally finding of the study indicated that more than half of the samples 24(60%) have training sessions of unconscious patients in hematology wards.

These discoveries are consistent with the study carried out by another researcher who stated that, of all things, (64.7%) nurses were female age group between( 30-39 )years and (47.1%) of them hold a diploma in nursing. (41.2%) nurses working in the hospital [7].

The results of the study are agree with the results obtained from another study, who showed that most of study sample(78%) is males and (42%) at age between (31 and more ) years old. Most of the nurses (60%) graduated from nursing institute and around (38%) of them have (1-5) years of experiences in their job as a nurse while (42%) of them have (1-5) years of experiences in blood diseases wards. The (68%) of the sample had no opportunity to be involved in training courses [8].

These results are in line with a study conducted by another researcher who notify that (88%) of the nurses who participated in the study, there was individuals predominance of over 26 yrs old, women (100%), with graduate (nursing specialization, master or PhD) (100%) graduated time more than 7 yrs with 4 (50%) and work time with the institution graduated  $\geq 5$  yrs with 6 (75%) [9].

Table (II) Showed that all mean of score points for (22) items was (2.33) with moderate level. The data analysis for all (22) points of the questionnaire reported that item (6, 13, 14, 15, 16, 17, 18, 21, and 22) were at high severity mean of score. Related to items (1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 19, and 20), the result indicated that around of half items of the questionnaire were at moderate severity mean of score. Regarding item (3) "Insert a urinary catheter cause bleeding of the patient" , the finding indicated that (27) of nurses' shows " Unacceptable "level for nurses intervention with patients.

This conclusion was in good agreement with those obtained from another researcher reported, in clinical practice, physician often encounter by the patient presenting with the onset of severe new low blood platelete counts, the cause of which is mysterious. The most challenging issue is finding the cause in the shortest time and treating the patient accordingly. Ideally, appropriate treatment should be given regarding the causes, but in the real world, especially if the patient presents with severe bleeding, it is not possible to collect all think the necessary information of data that would allow the physician to weigh all the pros and cons of different treatments, To be given immediately. In those cases, the treatment that has a quick start of the effect is minimal and the damage is reasonable [10].

These findings were in agreement with the obtain of other researcher who reported , frequent clinical challenge increasingly is patient and intensive care unit with moderate thrombocytopenia, which also requires treatment with drugs antiplatelet drugs (eg, aspirin, Klopargrel, and Prasgrel) recently after insertion of the stent coronary artery. Platelet count is still high enough to stroke complications arteriosus, while at the same time is enhanced risk of bleeding. Guidelines and other gaves except anti-platelet drugs do not exist in the case of symptoms of bleeding and blood transfusions of platelets concentrated in the state of severe bleeding [11].

This finding of study can be supported with finding obtain from other study It should educate patients with low blood platelete inherited and their families about their diagnosis to avoid investigations unnecessary and private medical / surgical treatment potential for serious ITB. In the past, patients who have been suffering from a littile of inherited platelets with platelets transfer treatment (reserved for cases of bleeding or prevention, etc. before the operative). While fear of awareness dominates the restriction of platelet transport, leukorduction has significantly reduced this risk [12].

There are significant association between nurses' intervention score with (gender level of education) at p value 0.05 and also illustrate that no significant association with rest of studied remain variables at p value 0.05 tables (3,4).

## V. Conclusions

The conclusion of study that hematologic wards nurse interventions for nurses with regard to patients with thrombocytopenia have a moderate level of management.. There was strong positive relationship between nurses' intervention and level of education for the study samples .The researcher recommends that nurses participate in continuing education programs to enhance their knowledge and improve nurses management to prevent complication and also the study recommends to A booklet should be designated and distributed to all nurses who working in hematology wards including Nursing management for thrombocytopenic patient to improve quality of nursing care and to prevention complication.

## Acknowledgements

This research was funded by the author. In addition, we would like to thank the participants in the study and the data collectors for their full participation and the collection of responsible data.

## References

- [1] Lab Tests online UK: Platelet count aka thrombocyte count. [http:// www.labtestsonline.org.uk.2015. /understanding /analytes/platelet/tab/test].
- [2] Patrono C, Rocca B: Aspirin and Other COX-1 inhibitors. *Handb Exp Pharmacol* 2012:137-64.
- [3] Konkle BA: Acquired disorders of platelet function. *Hematology Am Soc Hematol Educ Program* 2011, 2011:391-6.
- [4] Aster RH: Pooling of platelets in the spleen: role in the pathogenesis of "hypersplenic" thrombocytopenia. *J Clin Invest* 1966, 45:645-57.
- [5] Abrams CS. Low blood platelet. In: Goldman L, Schafer AI, eds. *Goldman's Cecil Medicine*. 24th d. Philadelphia, Pa: Elsevier Saunders; 2011, Pp. 175.
- [6] Mayo c, *Diseases and Conditions Low blood platelet*, 2015, Mayo Clinic Family Health Book, 4th Edition, p. 1.
- [7] Oday F. Assessment Nurses' Practices About Hemophilia for Children attending Heredity Blood Disease Center in Al-Nasiriya City ,2017:6(3):1
- [8] Yousif A. The Perspective of the Pediatric Nurses toward Hemophilia in the Teaching Hospitals of Kirkuk city, *KUFA JOURNAL FOR NURSING SCIENCES*,2014: 4(3) :203- 194.
- [9] Vitoria, N. Nurses' Knowledge of Hemophilia Clinics of on Systemization Nursing Care *J Nurs*,2016: 1658.
- [10] Marina I , James B. Management of thrombocytopenia, *F1000Prime Reports* 2014: 6(45):10-1.
- [11] Andreas G, Kathleen S. **Thrombocytopenia in the Intensive Care Unit Patient**, *American Society of Hematology*, 2010:143-135.
- [12] Pecci A, Gresele P, Klersy C, Savoia A, Noris P, Fierro T ,et al. : Eltrombopag for the Treatment of the Inherited Thrombocytopenia Deriving from MYH9 Mutations. *Blood* 2010, 116:5832-7.