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RESEARCH ARTICLE

KNOWLEDGE AND PRACTICES REGARDING DRUG ADMINISTRATION

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ABSTRACT

Administration of medication is the most important nursing responsibility. The need for accuracy in preparing and giving medications to children is greater than that of adults. Since the paediatric dose is often relatively small in comparison with the adult dose, a slight mistake in the amount of administration of drug represents a greater error. Due to insufficient knowledge about dosage given to the children, it can create severe problems. So, the researchers felt a need to assess knowledge & practices of staff nurses regarding drug administration. To assess the knowledge and practices regarding drug administration among staff nurses working in paediatric unit. A descriptive research design was used and a sample of 60 staff nurses of paediatric unit of DMC & Hospital, Ludhiana were selected by convenience sampling technique. The structured knowledge questionnaire and checklist was used to assess the knowledge and practices regarding drug administration among staff nurses. Analysis was done by descriptive and inferential statistics. More than half of the staff nurses i.e. 37(51.7%) had excellent level of knowledge, 24(40%) had good knowledge and only 5(08.3%) staff nurses had average knowledge regarding drug administration. All of the staff nurses (100%) had average practices regarding I/V drug administration. The correlation of knowledge and practices was found to be weak positive(r=0.36, p=0.004).The association of knowledge and practices of staff nurses regarding drug administration with selected socio-demographic variables was found to be statically non- significant. This study concluded that majority of staff nurses had an excellent knowledge regarding drug administration. The practices of staff nurses regarding drug administration were found to be average. The correlation of knowledge and practices was found to be weak positive.

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INTRODUCTION

A medication/drug is a substance used in the diagnosis, treatment, cure, relief or prevention of health alterations (Niederhauser, 1997) In fact, medications are the primary treatment which client associate with restoration of health. Medicines have proven to be very beneficial for treating illness and preventing disease (Zosangkimi Rosie, 2018). This success has resulted in a dramatic increase in medication use in recent times (Datta, 2009). There are various routes of drug administration including oral, sublingual, rectal, topical, parenteral – intravenous, intramuscular and subcutaneous. All the routes of drug administration have their even implications for the effectiveness of the drug therapy and the patient's experience of drug treatment (Patanwala, 2018).

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Nurses should be aware of ten rights of drug administration that is 'Right patient, Right drug, Right dose, Right route, Right time, Right client education, Right documentation, Right to refuse, Right assessment and Right evaluation (Selbst, 1999). The need for accuracy in preparing and giving medications to children is greater than that of adult (Paul, 2013). Since the pediatric dose is often relatively small in comparison with the adult dose, a slight mistake in the amount of administration represents a greater error (Darlene, 2006).To administer medication safely to clients certain cognitive skills are essential. Nurse must have an understanding of the safe doses of medication they administer to children, as well as the expected actions and side effects and signs of toxicity (Nancy, 2001). Intravenous medication is most significant to cure the diseases by the use of I/V medication. The safe and accurate administration of the medicine is the nurse's most important and prime responsibility (Taylor, 2018). If the physician's perception appears unreasonable or wrong, the nurse should clarify with the doctor who prescribed the drug and get it

clarified before administrating (Selbst, 2018). A study conducted in Andhra Pradesh reveled 46.7% of nurses had inadequate knowledge and 53.3% had moderately adequate knowledge whereas among nursing students 53.3% had inadequate knowledge, 40% had moderately adequate knowledge, whereas 6.7% had adequate knowledge about I/V drug administration (Roberts, 2017)

Problem Statement: A study to assess the knowledge and practices regarding drug administration among staff nurses working in paediatric unit of a tertiary care hospital, Ludhiana, Punjab.

Aim: To assess the knowledge and practices regarding drug administration among staffnurses working in paediatric unit.

Objectives

- To assess the knowledge and practices regarding drug administration among staff nurses working in paediatric unit.
- To determine the correlation between knowledge and practices regarding drug administration among staff nurses working in paedatric unit.
- To find out the association ofknowledge and practices of drug administration with selected socio demographic variables.

MATERIALS AND METHODS

Quantitative research approach with descriptive research design was used to assess the knowledge and practices regarding drug administration among staff nurses working in paediatric unit. The research setting was paediatric units i.e. paediatric medicine, paediatric surgery, thalassemia, NICU, PICU, paediatric emergency, family ward of the DMC & hospital, Ludhiana. The sample size comprised of 60 staff nurses working in paediatric wards of DMC & hospital, Ludhiana, Punjab. Convenience sampling technique was used for sampling. Tool consisted ofthree parts:

Part A: (i) Socio- demographic profile (ii) Professional profile

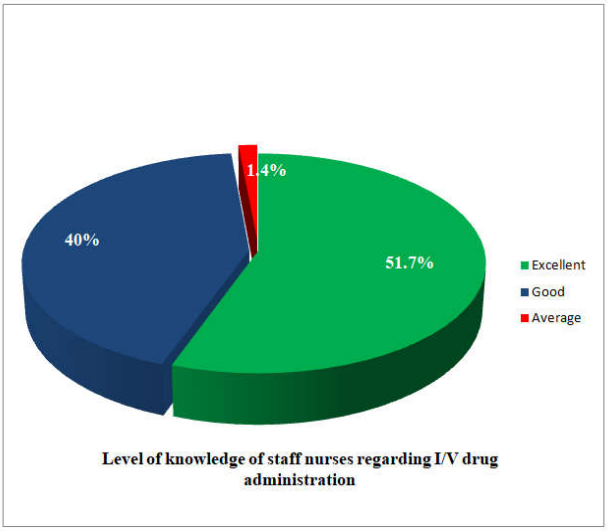
Part B: Structured questionnaire to assess the level of knowledge ofstaffnurses regarding drug administration.

Part C: Structured checklist to assess the level ofpractices of staff nurses regarding drug administration. Validity and reliability ofthe tool was established.

RESULT AND DISCUSSION

The analysis of socio-demographic profile of staff nurses revealed that majority ofstaffnurses i.e. 43.3% were in the age group of 31-40 years, the mean age of staff nurses was 32.38±7.102 years, Majority 95% of staffnurse were females, and only 5% were males. 51.7% of the staff nurses were married, 43.3% were unmarried, 76.7% of the staff nurses were Sikh, 70% of staff nurses belongs to nuclear families, 80% belong to upper middle class families (Table 1).

In professional profile, 56.7% of staff nurses were diploma holder i.e. GNM, 60% ofstaffnurses had experience between 1-10 years, 39.3% of staff nurses had peadiatric work experience between 1-10 years, 51.7% of staff nurses had attended I/V class regarding drug administration (Table 2). Similarly, a study conducted by Marco Di Muzio (2016) to assess the knowledge, attitude, behaviour and training needs of ICU nurses on medication error in the use of I/V drugs revealed that mean age ofthe staffnurses was 37.6±9.2 years and 4.9% had work experience of<1year, 23.6% had 1-5years, 22.8% had 6-10 years and 48.8% had work experience of >10years (Kraus, 2018). The present study finding revealed that out of60 staffnurses, 31(51.7%) had excellent knowledge, 24(40.0%) had good level of knowledge & 5(08.0%) staff nurses had average level of knowledge regarding drug administration (Table 3, Figure 1).



On contrary, a study conducted by Padma. K, Saritha, S. Indira (2016) to assess the level of knowledge on paediatric drug calculation among staffnurses and student nurses in Narayana medical college and hospital Andhra Pradesh revealed that 46.7% of nurses had inadequate knowledge and 53.3% had moderately adequate knowledge (Sentinel, 2008). In the present study mean practices score regarding drug administration was found to be 23.21±1.92 (Table 4). In the present study the association of knowledge of staff nurses regarding I/V drug administration with selected socio-demographic variables such as age, gender, marital status, religion, type of family, socio-economic status, habitat, professional profile like professional qualification, work experience, work experience in paediatric units, in-service education regarding I/Vdrug administration was found to be satistically non-significant (p>0.05). In the present study the association of practices of staff nurses regarding I/V drug administration with selected socio-demographic variables such as age, gender, marital status, religion, type of family, socio-economic status, habitat, professional profile like professional qualification, work experience, work experience in paediatric units, in-service education regarding I/Vdrug administration was found to be satistically non-significant (p>0.05).

Similarly, a study conducted by Sheuli Sen (2017) to assess the existing practices & factors related to intravenous medication administration among staff nurses in selected hospital of Kolkata, West Bengal revealed that the mean score ofpractices was found to be 24.25 (Niharika, 2017). In present study there was a weak positive correlation (r=0.368) between knowledge and practices regarding drug administration. It was statistically non significant p=0.004 (Table 5).

Table 1. Distribution of staff nurses as per their socio-demographic variables

Socio-demographic variables	f	%
Age (in yrs)		
21-30	24	40.0
31-40	26	43.3
41-50	09	15.0
51-60	01	01.7
Gender		
Male	03	05.0
Female	57	95.0
Marital status		
Unmarried	26	43.3
Married	31	51.7
Widow	01	01.7
Divorced	02	03.3
Religion		
Sikh	46	76.7
Muslim	02	03.3
Christian	02	03.3
Hindu	10	16.7
Type of family		
Nuclear	42	70.0
Joint	18	30.0
Habitat		
Rural	27	45.0
Urban	33	55.0

Mean age (in years) ± SD=32.38±7.102

Table 2. Distribution of staff nurses as per their professional profile

Professional Profile of staff nurses	f	%
Professional qualification		
GNM	34	56.67
B.Sc	26	43.33
Total work experience (in years)		
01-10	36	60.00
11-20	21	35.00
21-30	03	05.00
Work experience in paediatric units(in years)		
01-10	46	76.67
11-20	12	20.00
21-30	02	03.33
In service education regarding I/V drug administration		
Yes	31	51.70
No	29	48.30

Table 3. Distribution of staff nurses as per their level of knowledge regarding I/V drug administration

Level of knowledge	Score	f (%)	Mean ± SD	Mean%
Excellent	16-20	31(51.7)	17.300±1.055	86.5
Good	11-15	24(40.0)	13.480±1.59	67.4
Average	0-10	05(08.3)	9.500±0.577	47.5

Mean knowledge score± SD = 15.06±2.68

Table 4. Distribution of staff nurses as per their level of practices regarding I/V drug administration

Level of practices	Score	f	%	Mean±SD	Mean%
Above Average	≥35	0	0	23.21±1.92	59.51
Average	<35	60	100		

Mean score of practices ± SD = 23.21±1.92

Table 5. Correlation of knowledge and practices regarding I/V drug administration among staff nurses

Variables	Mean ± SD	Mean %	r	p
Knowledge	15.066±2.686	75.33	0.368	.004*
Practices	23.216±1.923	59.52		

**significant p <0.05*

Table 6. Association of knowledge of staff nurses regarding I/V drugs administration with their selected socio-demographic variables

Socio- demographic Variables	n	Knowledge Mean ± SD	F/t value	p value
Age (in years)				
21-30	24	15.20±2.283	1.495 df=59	0.226^{NS}
31-40	26	14.88±3.128		
41-50	09	15.77±1.922		
51-60	01	10.00		
Gender				
Male	03	12.66±2.081	.605 df=58	1.609^{NS}
Female	57	15.19±2.668		
Marital status				
Unmarried	26	15.00±2.481	2.448 df=59	0.073^{NS}
Married	31	15.06±2.719		
Widow	01	10.00		
Divorced	02	18.50±.7071		
Religion				
Sikh	46	15.34±2.531	1.349 df=59	0.268^{NS}
Muslim	02	15.50±2.121		
Christian	02	12.00±2.828		
Hindu	10	14.30±3.267		
Type of family				
Nuclear	42	15.16±2.546	1.91 df=58	0.268^{NS}
Joint	18	14.83±3.053		
Socioeconomic status				
Upper class	08	15.50±3.207	1.349 df=59	0.268^{NS}
Upper middle class	48	15.02±2.717		
Lower middle class	04	14.75±2.258		
Habitat				
Rural	27	15.11±2.679	.036 df=58	0.850^{NS}
Urban	33	15.05±2.732		

NS Non significant p≥0.05

Table 7. Association of knowledge of staff nurses regarding I/V drug administration with their professional profile

Professional Profile	n	Knowledge Mean ± SD	F /t value	p value
Professional qualification				
GNM	34	15.14±2.86	0.069 df=58	0.793^{NS}
B.Sc	26	14.96±2.489		
Total work experience (in years)				
1-10	36	14.69±2.73	2.197 df=59	0.120^{NS}
11-20	21	15.95±2.33		
21-30	03	13.33±3.51		
Work experience in paediatric units(in years)				
1-10	46	15.00±2.735	2.499 df=59	0.091^{NS}
11-20	12	15.91±2.151		
21-30	02	11.50±2.121		
In service education regarding I/V drug administration				
Yes	31	15.22±2.985	1.579 df=58	0.214^{NS}
No	29	14.89±2.365		

NS Non Significant p≥0.05

Similarly, a study conducted by Sheuli Sen (2017) to assess the existing practices & factors related to intravenous medication administration among staff nurses in selected hospital of Kolkata, West Bengal revealed that there was no significant association of practices regarding I/V medication with selected socio-economic variables such as age, gender, marital status, religion, type of family, socio-economic status, habitat, professional profile likewise professional qualification, work experience, work experience in paediatric Units, service education I/V drug administration (Schneider, 1998).

Conclusion

The present study concluded that majority of staff nurses had excellent level of knowledge regarding I/V drug administration. All of the staff nurses had Average practices.

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