Knowledge on Bio-Medical Waste Management among Axillary Nurse Midwives – Determining Factors

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ABSTRACT *Biomedical waste management has become a important section in medical services. All the health professional including ANMs working in hospital sector be awarded and work towards effective management of biomedical waste. This study intended to assess the knowledge and explore associated factors for appropriate knowledge among ANMs. The study was conducted at a medical college hospital, Bhubaneswar. Sample sizes of 30 ANMs were selected conveniently. A self-structured questioner was prepared to assess their knowledge and factors associated for this. The mean knowledge score was 45.36. Age and experience found not to be the associated factors rather qualification was associated with level of knowledge. Like other health workers, we must strengthen ANMs to function effectively & contribute significantly to the health profession.*

Introduction

Like other sciences Medical Science is galloping rapidly in the path of advancement. Hospitals are increasing day by day. But management of biomedical waste is creating an important problem and therefore is a great concern for one and all in the field of medical science.

Management of biomedical waste has become a worldwide humanitarian topic today. Hazards of poor management of biomedical waste have arosed the concern world over, which presents occupational risks to both the generator and exposure (Shalini Sharma and SVC Chauhan, 2008).

Inappropriate handling of biomedical waste may have serious public health consequences (Surjit S Katoch, 2007).

Correct procedure of handling, treatment and disposal of biomedical waste will help to protect health care workers, patients and local community (Veda Hegde, RD Kulkani, GS Ajantha, 2007).

Safe disposal and subsequent destruction of medical waste is the key step in the reduction of illness or injury through contact of this material and in the prevention of environment contamination (Blenkham J I, 2006)

Training and motivation must be given paramount importance to meet the current needs and standards of bio-medical waste management (Srivastav Shalini,Mahajan Harsh,& Mathur B P,2012).

Methods & materials

The study adopted non experimental descriptive design to assess the knowledge of ANMs working in the hospital and its' correlating factors. Sample sizes of 30 ANMs were selected by convenient sampling method. The self-structured questioneir was prepared on meaning of BMW, division of waste, colour coding, segregation, transportation and disinfection of waste material. Associated factors are presented in form of baseline data of subjects. The data were collected and analyzed through SPSS version 17. Reliability of the tool was assessed through chronbach alpha correlation coefficient (r= 0.86) formula.

The socio-demographic variables shows 60% of ANMs were of age 21-24 years, 50% were having graduation qualification, no one had 4-6 years of experience and 53.3 % had information on BMWM from working place.

Table.1
Distribution as per baseline data

Characteristics	N =30	%
Age (Yr)		
17-20	03	10
21-24	18	60
25-28	04	13.4
29 and above	05	16.6
Education		
High school	09	30
Intermediate	04	13.4
Graduation	15	50
Post-Graduation	02	6.6
Experience (Yr)		
0-1	16	53.3
2-3	10	33.3
4-6	00	00
7 and above	04	13.4

They had good (70%) knowledge on concept of biomedical waste, but very poor knowledge (10%) on hazards of BMW. They had very little knowledge (20%) on division of BMW as per state board.

Table. 2
Knowledge on colour coding of bin

Sl. No	Items	N = 30	%
1.	Bin which collect body parts	14	47
2.	Bin collect infected waste	7	23
3.	Bin collect sharp instruments	15	50
4.	Bin collect infected plastics	14	47
5.	Gin collect general waste	11	37

Table. 2 show the percentage of correct knowledge on coloured bins that collect various types of waste. Also they had

poor response (27%) on type solution required to disinfect sharp instruments and where body parts are disposed (43 %).

Table. 3
Mean score on various aspects

Aspects	Mean score	SD	Total score
Concept of BMW	1.466		03
Division of BMW	02.8		05
Colour coding segregation	2.033		05
Transporation & disposal	04.9		12

The mean score of the items on reveals very poor knowledge & understanding of biomedical waste management by the ANMs.

Figure.1
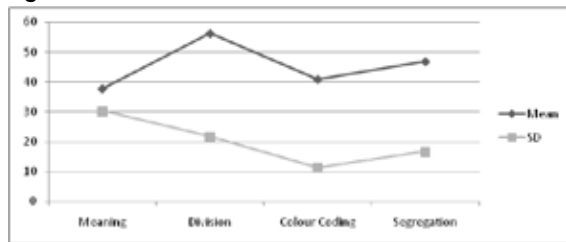
The line diagram depicts the ANMs knowledge base which is far from the excepted values.

Table.4
Associated factors for level of knowledge

Factors	(f)	χ^2	P value
Age 17-20 21-24 25-28 29 & more	03 18 04 05	0.84	0.05
Education	(f)		P value
Matric Intermediate Graduation Post-gradu-ation	09 04 15 02	11.02	0.05*
Experience (Yr) 6-1 2-3 4-6 7 & above	16 10 00 04	3.09	0.05

The above table shows the association between various demographic characteristics with the knowledge score. Educational qualifications have greater impact on knowledge score.

Discussion
The study explored the knowledge level of ANMs working in a medical college hospital. The hospital has standard policy and protocol for biomedical waste management and regular training programes are conducted on this aspect. The present study highlights, that the educational background of ANMs have improved. Most (50%) of them have completed graduation & very few (13-4%) are experienced. Though many (53.3 %) revealed that they are getting experiences from working set up still knowledge on colour coding shows poor score. Also in all the aspects poor to average mean score was obtained. The significant associating factor found was the background education.

Conclusion
In many hospitals, medical waste is burnt at dumpsites in an open environment. The waste is mostly dumped in the open space enabling rag pickers to collect syringes, cotton, plastics etc. (Nema and Ganesh Prasad, 2002). It is a concern for all levels of health professionals to save ourselves and our environment. The basic knowledge on BMWM and it's utilization in a safe way is a challenge for us. The ANMs are required to update themselves and take intrest to practice the same so that they can contribute to the prevention of BMW related hazards and adverse effect on the human health and environment.

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