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RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT SAFE INJECTION PRACTICES AMONG MEDICAL STUDENTS: A CROSS SECTIONAL STUDY

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Abstract

According to WHO, a safe injection is one which is prepared with clean hands in a clean area, medication drawn from a sterile administered with a sterile needle and syringe, which are discarded after use in a puncture proof container for appropriate disposal. Safe injection practices are intended to prevent transmission of infectious diseases between one patient and another, or between a patient and health care personnel during preparation and injection of medications. This cross-sectional study was conducted during May-June 2021 among interns and questionnaire with 25 questions regarding the awareness of safe injection practices were used to assess the levels of awareness. Data was entered in Microsoft Excel sheet. Analysis is done using SPSS software. Data was analysed using percentages. Result shows all 72 interns filled out the questionnaire. Out of the 72 interns, 56 (77.8%) had good knowledge and 16 (22.2%) had poor knowledge about safe injection practices. 54 (75%) students had good attitude and 18 (25%) had poor attitude safe injection practices. 50 (69.4%) had good practice in administering safe injection whereas 22 students (30.6%) had poor practice. The present study shows that 77.8% has good knowledge, 75% has good attitude and 69.4% has good practice in safe injections among the Interns. The present study also shows that the practices of safe injection are less than that of knowledge and attitude towards it. So, there is a need for proper practical training in safe injection practices.

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Introduction:-

Unsafe injection practices and injection overuse are widespread in developing countries harming the patient and inviting risks to the health care workers.¹ Unsafe injection practices have been implicated in the worldwide spread of hepatitis B, hepatitis C, HIV or any parasitic disease with a blood phase, such as malaria, filaria and syphilis. Review of injection safety in India also revealed that use of injection is often inappropriate, injections are administered with unreliable safety measures. Studies in India have documented the association of injection use and spread of hepatitis C and kala-azar also.² No adherence of safe injection policies remains a major challenge, and, worldwide, annually, it leads to 21 million new hepatitis B cases and 260,000 HIV infection cases.³ Injection safety is an integral component of infection prevention and control; an element of standard precautions; key element of patient and healthcare worker safety; supported by infection prevention and control policies and procedures such as

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hand hygiene, housekeeping and waste management.⁴Risks and hazards associated with healthcare waste include: needle stick injuries; transmission of infections or diseases; re-use of some types of waste (accidental or intentional); environmental pollution or degradation; exposure to radiation; fires and public nuisance (Offensive smells, unsightly debris). Of the total amount of waste generated by health-care activities, about 85% is general, non-hazardous waste. The remaining 15% is considered hazardous material that may be infectious, toxic or radioactive of which 1% is sharps waste. Sharps waste include syringes, needles, disposable scalpels and blades, etc.⁵

Safe injection practices are of paramount importance because it ensures safety for both patient and health care professionals. So, it plays an essential part in medical training.

Hence this study is conducted in order to assess the current level of knowledge & practice among the trainee interns in a private medical college hospital in Kanyakumari district. The aim of the study is to find out the knowledge, attitude and practices about safe injection practices among interns of Sree Mookambika Institute of Medical Sciences, Kulasekharam.

Methodology:-

Study Design:

Cross sectional study.

Study Setting:

Sree Mookambika Institute of Medical Science, Kulasekharam.

Study Duration:

1 month (May 16 – June 14 of 2021)

Study Population:

CRR1 of 2015 batch of Sree Mookambika Institute of Medical Science, Kulasekharam.

Sample Size Calculation:

Using the formula, $N = 4pq/d^2$

Based on the study conducted by ObajiEtabaAkp⁴ to assess the baseline knowledge and practices of injection safety among primary health care workers,

$p=58.8$ $q=41.2$ ($100-P$) $d=11.76$ (20% of p)

$N = 4 \times 58.8 \times 41.2 / (11.6)^2 = 72.014 \approx 72$

SAMPLING TECHNIQUE: Convenient sampling

SAMPLE SIZE: 72

METHOD OF SELECTION: Convenient sampling.

PARAMETERS MEASURED: Knowledge, Attitude and Practice about Safe Injection Practices

TOOL OF MEASUREMENT: Pretested, Self-administered Questionnaire.

SOFTWARE USED FOR DATA ENTRY: Microsoft Excel 2019.

SOFTWARE USED FOR DATA ANALYSIS: SPSS Trial version 20

Procedure:-

Semi structured questionnaires were administered to 72 Interns of Sree Mookambika Institute of Medical Sciences, Kulasekharam. Questions were to assess the knowledge, attitude and practice of administering safe injection and its importance. The present study consisted of 25 questions which is based on the knowledge about safe injection practices, to assess the attitude of Interns on the importance of safe injection practices, and to assess the practice of safely administering injections and handling of needles among the Interns. The collected results were entered into Microsoft Excel and the results were elicited using SPSS. The scores of each student on knowledge, attitude and practice were obtained using SPSS. The mean score obtained for knowledge, attitude and practice was taken as cut off. Based on the mean scores obtained in knowledge, attitude and practice, interns were categorised as good and poor in each.

Result:-

This study was done among the interns of Sree Mookambika Institute of Medical Sciences, Kulasekharam. 72 interns participated in this study.

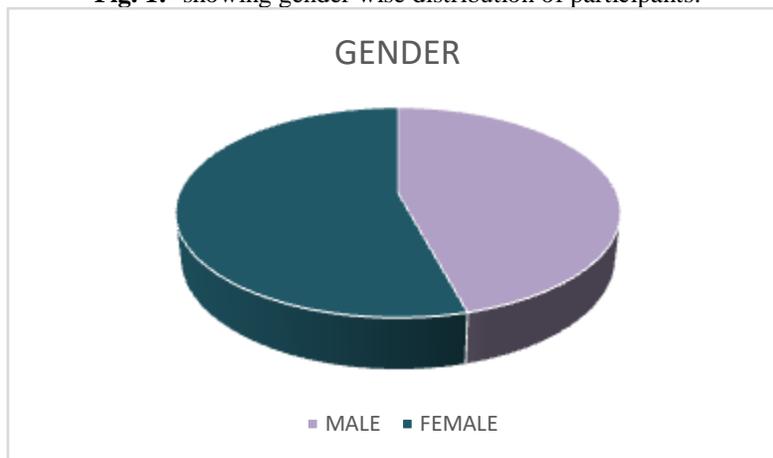
The average age of the participants of this study is 24. Age of interns ranging from 22 to 26 participated in the study.

Table 1:- Showing gender wise distribution of participants.

	Frequency	Percentage
Male	33	45.8
Female	39	54.2

Most of the participated Interns were Females(n=39).

Fig. 1:- showing gender wise distribution of participants.



	KNOWLEDGE		ATTITUDE		PRACTICES	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
GOOD	56	77.8	54	75	50	69.4
POOR	16	22.2	18	25	22	30.6

Table 2:- Knowledge, Attitude and Practices about Safe Injection Practices.

Knowledge About Safe Injection Practices

Fig. 2:- Showing knowledge distribution among participated interns.



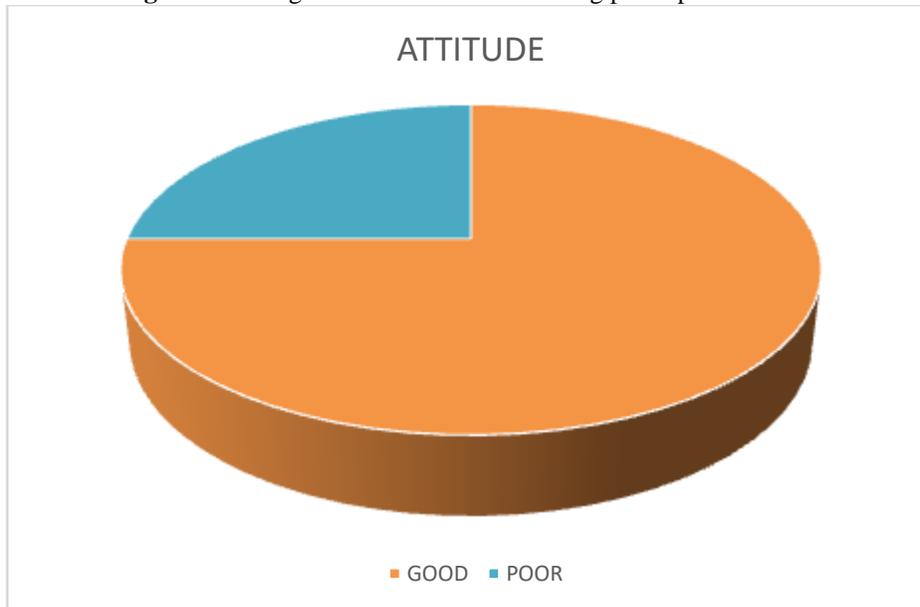
Among the 72 participated interns 56 (77.8%) had good knowledge about first aid techniques and 16(22.2%) had poor knowledge about first aid techniques

Table 3:- Showing frequency and percentage of question on knowledge.

	Frequency	Percentage
Disinfection of skin	72	100
Safer option for vaccine injection	66	91.7
Recapping the needles	30	41.7
Using the same needle	79	100
Reinserting used needle	70	88.6
Mass immunization programs	77	97.5
Occurrence of needle stick injuries	72	100
Commonest disease transmitted	61	84.7

Attitude About Safe Injection Practices

Fig. 3:- Showing Attitude distribution among participated interns.



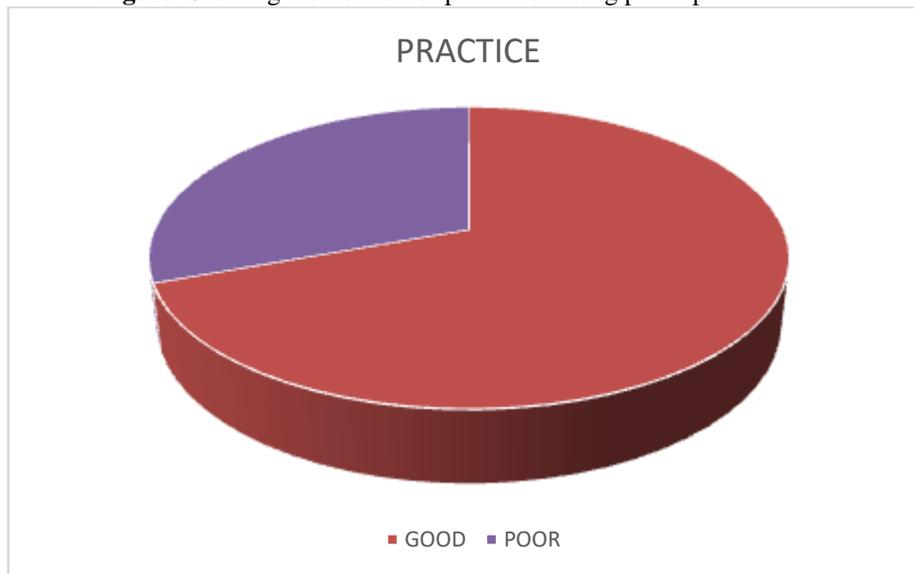
The attitude of the participated interns were good among 54(75%) and poor among 18 (25%).

Table 4:- Showing frequency and percentage of attitude about first aid.

	Frequency	Percentage
Frequent therapeutic injections	58	80.6
Safer syringe	68	94.4
Repackaging of used syringes	66	91.7
Leaving needle on top of vial	49	68.1
Shredding the needle	64	88.9
Syringe causing more needle stick injuries	54	75
Recapping of needles	51	70.8
Reporting to higher authorities	67	93.1
Benefits of safe injection practices	58	80.6

Practices On Safe Injection Practices

Fig. 2:- Showing distribution of practices among participated interns.



The practice of safe injection practices in the participated interns were good among 50(59.4%) and poor among 22 (30.6%)

Table 4:- Showing frequency and percentage of practices about safe injection practices.

	Frequency	Percentage
Washing the hands	65	90.3
Using gloves	56	77.8
Cleaning the injection site	71	98.6
Recapping needles	22	30.6
Discarding the syringe	69	95.8
Place of discarding the needle	68	94.4
Measures for needle stick injuries	62	86.1

Discussion:-

The present study shows that out of 72 interns, 56(77.8%) had good knowledge and 16(22.2%) had poor knowledge, 54(75%) had good attitude and 18(25%) had poor attitude, 50(69.4%) had good practices and 22(30.6%) had poor practices in administering safe injections. In the study conducted by ObajiEtabaAkpet, et al., in 2020 to assess the baseline knowledge and practices of injection safety among primary health care workers, 58.8% had good baseline knowledge about safe injection practices and 33.1% had good practice in administering safe injections. This indicates that, the knowledge and practice are both higher in the present study than that of the study conducted by ObajiEtabaAkpet, et al., though their sample size(n=160) is higher than that of present study(n=72).⁴

The present study also shows that the knowledge and attitude towards safe injections are higher than the practice of administering safe injections. This signifies the need for practical training of interns for a better practice. Conducting these practical training sessions can help for the reproduction of gained knowledge about safe injections into practice and action.

Also, regarding recapping of needles after usage, 58.3% of the participants feel that it is a safe procedure and 69.4% of the participants do that in clinical practice. So, knowledge and awareness is needed among them about the hazards of recapping of needles after use. WHO recommends avoiding of recapping of needles, as it is associated with increased incidence of needle stick injuries.

In the study conducted by ObajiEtabaAkpet, et al., 86.9% of the participants were females and 13.1% were males.⁴ Also, males had relatively better knowledge and practice than females. In the present study 54.2% of the participants

are females and 45.8% are males. But here, 87.2% of the females and 66.7% of the males had good knowledge, 82% of the females and 66.7% of the males had good attitude and 74.3% of the females and 63.6% of the males had good practices on administering safe injections. This shows that female interns have better knowledge, attitude and practice in safe injections than male interns.

This study implies that knowledge and attitude on administering safe injections should be reflected on the practice by conducting series of practical training programs. These trainings can be started in the teaching curriculum of MBBS students and should be continued till internship. These measures can significantly improve the knowledge, attitude and practice of safe injections in medical students and interns.

Conclusion:-

The present study shows that 77.8% has good knowledge, 75% has good practice and 69.4% has good practice in administering safe injections among the Interns of Sree Mookambika Institute of Medical Sciences. The level of knowledge is better than the level of attitude which in turn is better than the level of practice. This shows the need for application of knowledge and attitude of safe injections into practice and action. The present study also shows the key areas where the interns were lacking awareness in safe injection practices. Conducting practical training programs on safe injection practices can improve the awareness and practice of interns.

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