Knowledge, Attitude, Practices on Needle Stick Injuries in Emergency Management Technicians

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Introduction:

- Needle stick injuries (NSI) are wounds caused by sharps such as hypodermic needles, blood collection needles etc.

- Paramedics, the most highly trained Emergency Medical Technicians (EMTs), can be exposed to blood because they treat trauma victims and perform advanced life support procedures using needles and other sharp instruments.

- These NSIs carry the risk of infection from blood borne pathogens such as Hepatitis B virus (HBV), Hepatitis C virus (HCV), and human immunodeficiency virus (HIV), which causes AIDS.

- Surveys of healthcare personnel indicate that 50% or more do not report their occupational percutaneous injuries.

Rationale:

- Emergency Medical System (EMS) workers frequently use sharp devices in injury prone circumstances that involve limited visibility, confined spaces, rapidly moving vehicles, and uncooperative victims.

- Of most concern to emergency service personnel is the risk of acquisition of blood-borne viruses such as HIV, hepatitis B and hepatitis C. The highest risk of transmission is usually from a needle stick injury.

- Irrespective of awareness levels of the risk associated with recapping of used syringe needles, injuries due to recapping used syringe needles were observed constantly and comparatively more throughout the worldwide.

Research Question:

- What is the Knowledge, Attitude and Practices (KAP) of EMTs on needle stick injuries?

Objectives:

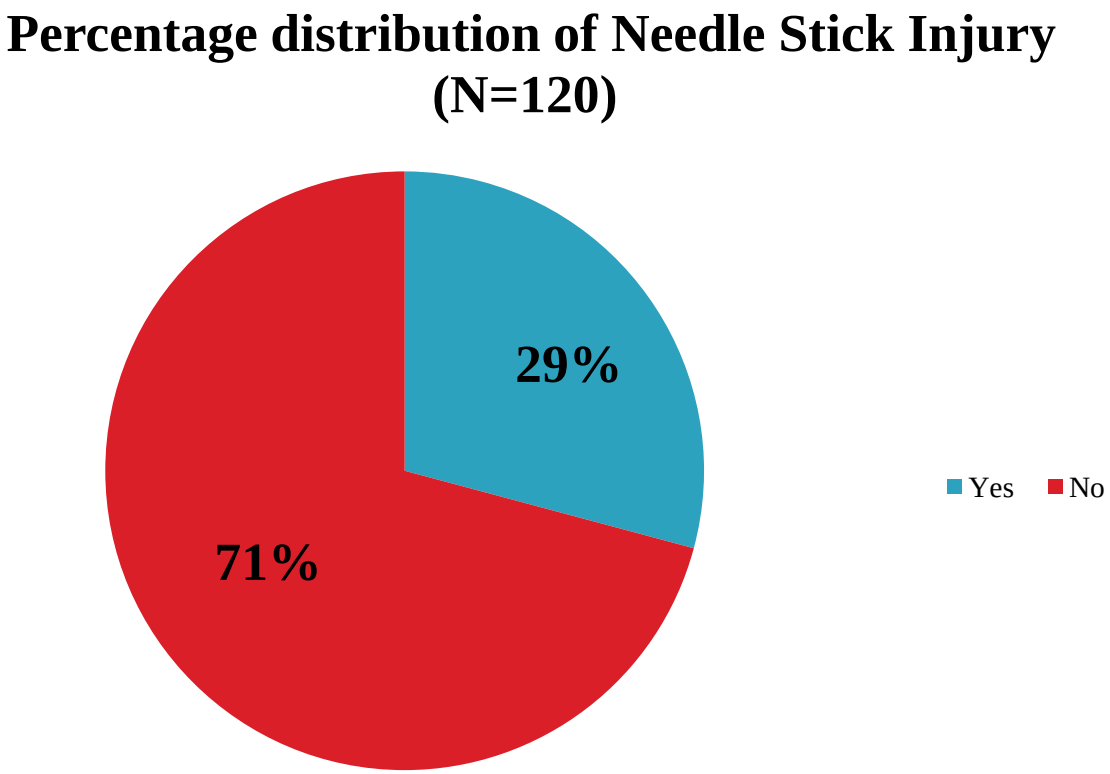
- To study the proportion of needle stick injuries among EMTs.
- To assess the Knowledge, Attitude and Practices of EMTs on needle stick injuries

Methodology:

- **Type of Study:** Cross sectional study
- **Study population:** EMTs working in GVK EMRI ambulances in the state of Telangana.
- **Sampling Technique:** Non probability sampling (Purposive sampling)
- **Sample Size:** 120 EMTs of GVK EMRI ambulances in Telangana State.
- **Data Collection Techniques:** Face to face interview and telephonic interview of EMTs
- **Data Collection Tool:** Structured questionnaire

Results

Proportion of EMTs with Needle Stick Injury



Mechanism of Needle Stick Injury among victims

Table 1: Percent distribution of EMTs by Mechanism of NSI (n=35)

S.No	Mechanism	Number	Percentage
1	Recapping	08	23%
2	Insertion / Removal	13	37%
3	Disposal	14	40%

Type of case during NSI

Table 2:Percent distribution of Type of case during NSI (n=35)

S. No	Type of Case	Number	Percentage
1	Trauma	11	32%
2	Medical	19	54%
3	Others (Alcoholic, Poisoning)	05	14%

Reporting of NSI

Table3:Percent distribution of EMTs by Reporting about incidence of NSI (n=35)

S.No	Reporting	Number	Percentage
1	Yes	13	37%
2	No	22	63%

Reasons for Under Reporting

Table4:Percent distribution of EMTs by Reasons for not reporting (n=22)

S.No	Reasons	Number	Percentage
1	No significant injury	11	50%
2	Don’t know where to report	09	41%
3	Don’t know the risk associated	02	9%

Willingness on reporting of NSI

Table5:Percent distribution of willingness of NSI reporting (n=120)

S.No	Willingness	Number	Percentage
1	Yes	93	77%
2	No	27	23%

Gloves while handling patient

Table6:Percent distribution of EMTs using Gloves while handling patients (n=120)

S.No	Response	Number	Percentage
1	Yes	113	94%
2	No	07	06%

Practice of destroying used Needles

Table7:Percent distribution of EMTs by their Practice of destroying needles (n=120)

S.No	Response	Number	Percentage
1	Yes	89	74%
2	No	31	26%

Recapping of used needle

Table8: Percent distribution of EMTs by Recapping used needles (n=120)

SNo	Response	Number	Percentage
1	Yes	108	90%
2	No	12	10%

Method of Recapping

Table9: Percent distribution of EMTs by Methods Recapping used needles (n=108)

S.No	Method	Number	Percentage
1	Both hands	80	74%
2	One hand/ Scoop up	28	26%

Gloves while handling sharp bin and bio hazard waste

Table10:Percent distribution of Respondents using gloves while handling sharp bin and bio hazard waste (n=120)

S.No	Response	Number	Percentage
1	Yes	115	96%
2	No	05	04%

Knowledge of Hepatitis B , Hepatitis C and HIV transmission by NSI

Table11:Percent distribution of EMTs by Hepatitis B, C and HIV transmission by NSI (n=120)

S.No	Yes	No	Did Not Know
Hepatitis B	78 (65%)	6 (5%)	36 (30%)
Hepatitis C	50 (42%)	7 (6%)	63 (52%)
HIV	112 (93%)	5 (4%)	3 (3%)

Immediate reaction of respondents after NSI

Table12 Immediate reaction of respondents after NSI (n=120)

S.No	Response	Number	Percentage
1	Squeeze	44	37%
2	Wash with water and soap	22	18%
3	Apply spirit	54	45%

Knowledge of PEP:

Table13:Percent distribution of EMTs by their Knowledge about PEP (n=120)

S.No	Response	Number	Percentage
1	Yes	16	13%
2	No	104	87%

Ideal time for PEP:

Table14:Knowledge about Ideal time for PEP (n=120)

S.No	Ideal time	Number	Percentage
1	Within 1 hr	1	1%
2	Within 2 hrs	3	2%
3	Within 72 hrs	6	5%
4	Don't know	110	92%

Conclusion:

- Wearing gloves is one of most important Personal Protective Equipment while handling patient and it was found that most of the EMTs practice that.
- Majority of EMTs Practice of destroying needles after use.
- All most all EMTs practice recapping of needle after use but majority among these recap by using both hands which is not recommended practice.
- It was interesting to know that Most of the EMT's were aware of transmission of HIV by NSI but just only half of them knew about the transmission of Hepatitis B and C.
- Just 1/5 th of the EMTs had knowledge regarding recommended immediate action followed by NSI i.e wash with water and soap.
- Only 13% (16) of EMTs were aware of PEP (Post Exposure Prophylaxis) and 2% (3) have knowledge on ideal time for PEP which is 2hrs from the time of NSI.

Recommendations:

- Emphasis on NSIs during refresher training sessions of EMTs.
- Exclusive curriculum on NSIs which can be distributed in the field and can be used in the training of new EMTs.
- Proper follow up on status of vaccination of EMTs.
- Awareness on PEP needs to be developed.
- Good practices such as scoop up recapping, needle destroying and PPE needs to be encouraged.
- Support to the EMTs from field level for reporting, in case of NSI.
- Standard guide lines from Head Office for the proper line approach in case of NSI.

Limitations :

- Study cannot be generalized to the whole population since the all causes of NSIs are not considered.
- Biases can be present due to purposive sampling.
- Communication errors as most of the interviews were conducted telephonically.


Thank
you!