Recommendations

IAP Workshop on Safe Injection Practices: Recommendations and IAP Plan of Action

Background and Rationale

The World Health Organization estimates that annually over 12 billion injections are given in the world most of which are given for therapeutic purposes(1,2). According to WHO estimates, worldwide every year unsafe injections result in 80,000-160,000 new HIV-1 infections, 8-16 million Hepatitis B infections, 2.3-4.7 million Hepatitis C infections(3).

A recent nationwide comprehensive study 'Assessment of Injection Practices in India'– by the IndiaCLEN Program Evaluation Network (IPEN) for Department of Family Welfare, Ministry of Health & Family Welfare indicates that a very large number (3-6 billion) of injections are administered in India every year. Almost every second patient in an outpatient clinic in the country gets prescription for an injection irrespective of the illness. Also, nearly two-thirds of these injections are unsafe (62.9%) and use of glass syringes is consistently associated with higher unsafety(4).

In view of frequent and often irrational prescriptions for injections, wide variation in the training and background of injection givers in the country and field realities of inadequate sterilization coupled with reuse and improper disposal of injection waste, the need to explore appropriate ways to make injections safe in this country assumes urgency.

A two-day IAP workshop was held in New Delhi on 12th-13th June, 2004 with the objective of bringing out recommendations and guidelines for all its members on safe injection practices. The workshop was held in collaboration with India Injection Safety Coalition Network (ISCN) and other key stakeholders concerned with improving injection practices in the country. The participants were professional organizations like IMA, Nursing Association, IndiaCLEN; NGOs like Shrishti, PATH, *etc*. and experts from IAP (list of participants appended at the end). A total of nine sessions were held which comprised of 20 presentations, two demonstrations and three breakout sessions. The breakout groups deliberated on: best injection practices including safety and best technique; risk of disease transmission and needle stick injuries; post exposure prophylaxis of Hepatitis B and HIV; rational prescription of drugs; misuse and overuse of injections; waste disposal and government policy; development of integrated communication and social mobilization strategy and IAP's plan of action.

Discussions in the Meeting

Injection is an essential but grossly overused method of therapy(2). In majority of the situations, prescriber decides/pushes, convinces the patients to get an injection(5,6). Hence, rational injection practices need to be widely disseminated.

A major proportion of injections administered in India are unsafe. Unsafety is due to two factors: (1) steps that are associated with increased risk of spread of blood borne viruses (use of syringes and needles that are of doubtful sterility and/or reuse of plastic injection equipment) and (2) errors related to

technique of injection and faulty habits.

Sterilization of glass syringes is a cumbersome process and constraints at the field level mean that these are often inadequately sterilized. Another problem is frequent reuse of disposables and its attendant risks(7).

Needle stick injuries (NSI) to injection givers is a common problem. Most health workers are not trained in prevention of needle stick injuries (NSI). There is a need to take steps to disseminate information about NSI, risk of disease transmission, importance of reporting NSI among health workers and community at large, need of post exposure prophylaxis (PEP), and ensuring PEP availability at all health care centers.

According to recent IndiaCLEN study, over 3/4th of all injections administered in the country are given by plastic syringes. Currently, there are no uniform and clear guidelines available for the management of this waste. The participants agreed that locally feasible and practical solutions would need to be found(4).

In the background of above discussions, the following recommendations emerged during the workshop.

Recommendations

Equipment related

- Universal introduction of AD (auto-disabled) syringes/reuse preventable syringes in all institutions and outreach sessions across the country is the first choice.
- If phasing is required for want of resources, priority to be given to the areas where risk of unsafe injection is maximum (*i.e.*, for outreach immunization sessions across the country).

Safe injection practices

- The subject of safe injection practices (including use of newer technologies) should be part of nursing and medical curriculum. The stress should be on skill transfer through a mix of lectures and hands-on training. There should be pre-service and in-service training for all health care providers in public as well as private sectors.
- This training should be imparted through a coalition comprising of professional organization like IAP, IMA, IPEN, NGOs like PATH and MoHFW.
- For management of adverse reactions, recommended drugs/equipment should be made available at all immunization centers and health workers should be trained in their use.
- For immunization at all levels, newer technologies like auto-disable (AD) syringes is recommended to obviate the need for cumbersome sterilization process and prevent reuse.
- For therapeutic purposes, disposable syringes and needles (of BIS certified quality) should replace glass syringes and metal reusable needles till such time that "single use/reuse prevented syringes" in appropriate sizes are widely available.

Best injection techniques

- Recommended guidelines on injection techniques by WHO/ACIP are acceptable (8-10).
- Recommended intramuscular (IM) injection site for immunization in children is antero-lateral aspect of thigh (vastus lateralis muscle), with 23G or 25G needle.
- No immunization injection should be

given in gluteal region since it retards absorption; results in reduced immune response and may lead to sciatic nerve damage.

- For sub-cutaneous injections (Measles and MMR, Varicella) use 25G or 26G needles. The site is lateral aspect of thigh or back of the arm on the triceps.
- For intradermal BCG vaccine, left deltoid (upper arm) is recommended.
- Establish standard operating procedures (SOP) for safe injections through Model Training Centers set up in teaching and tertiary care hospitals.
- IAP should make efforts to widely disseminate best practices in injection safety in partnership with various agencies/ organizations. IAP should come out with a "Guideline Book" on safe injection practices.

Rational injection practices

There is need to promote rational drug/ injection therapy among all prescribers. This can be achieved through:

- Defining effective and safe treatment protocols.
- Promoting minimal essential injection practices.
- Promoting rational drug/injection therapy.
- Reduction in procurement of injectable drugs at health facilities.
- Encouraging prescription-auditing at all health facilities in both public and private health facilities.
- Community awareness on harmful effects of injections.

Prevention of needle stick injuries (NSI) and reducing disease transmission

- Follow WHO definition of a safe injection: safety to recipient, safety to provider and safety to community.
- Educate health care workers regarding safe injection practices and prevention of needle stick injuries (*e.g*., preparation of injection near the patient, do not recap or bend the needle).
- Establish surveillance mechanism to collect data on NSI in the country and widely disseminate the data for awareness.
- Information regarding reporting of NSI, getting counseling and treatment should be widely disseminated.

Recommendations for HIV-PEP (post exposure prophylaxis)

- IAP endorses NACO guidelines(11). These should be implemented in all health care facilities in India.
- If any health worker or citizen reports with NSI to causality/emergency services in a public health facility, it is recommended that immediate guidance, counseling, free testing and free PEP medicines should be provided.
- A nodal contact person should be in place in all health facilities with 24 hours access to deal with immediate management of NSI.
- Health care workers should ensure that a start up pack of PEP medication is available in their place of work.

Recommendations for HBV-PEP (post-exposure prophylaxis)

- All health care workers should be immunized with Hepatitis B vaccine.
- If NSI occurs with risk of HBV exposure,

all health care set-ups should have the availability of Hepatitis B vaccine and Hepatitis B immune globulin.

- The following protocol is recommended for such exposure:

  (*a*) Send blood of source person for HBsAg status.

  (*b*) Inquire immunization status of exposed health care person.

Action

(1) No prophylaxis is needed if source blood is HBsAg negative.

(2) No prophylaxis is needed if exposed person is immunized even if source person is HBsAg positive.

(3) Administer HBIG (0.06 ml/kg/body wt) and initiate Hepatitis B vaccine series if exposed person is unimmunized and source person is HBsAg positive.

Disposal of syringes and sharps

The existing law of the land on health care waste management should be followed. Hence, the waste disposal strategies must conform to central pollution control board guidelines. The existing guidelines provided by WHO/PATH/ UNICEF/voluntary agencies *etc.* are practical and need-based(12). These should be fine-tuned to suit local needs in different settings and resources should be pooled to effectively enforce the guidelines. The logistical difficulties faced by ANMs and health care workers at sub-district levels should be kept into consideration. 'Think globally and Act locally' should be the objective in implementing these guidelines. Following recommendations are made:

- Containment of the injection waste especially sharps at the point of use (by using a method best suited for the health care setup) is essential. This should be followed by terminal disposal using methods, which are most feasible, economical, legal and environment friendly.
- On-site or off-site cutting of the needle-hubs and disinfecting in hypochlorite solution.
- Exploring the possibility of recycling the sharps periodically (as it is very good quality steel); if not possible, then burying in pits.
- Returning the mutilated syringe to the PHC for onwards collection at the district for recycling.
- Involvement of voluntary sector, technical institutions like IITs and commercial waste management companies including existing networks of waste collectors in both rural and urban areas to identify locally feasible solutions.
- IAP endorses WHO check list on safe disposa(l9). IAP should come out with a action plan

Integrated communication and social mobilization strategy for safe injection practices

- Communication strategy for promoting injection safety should target both the health service providers as well as the community.
- At least 15-20% of the total program budget for injection safety should be kept for communication and social mobilization campaigns.
- To be effective the communication strategy would need to take into account socio-cultural beliefs and local sensitivities. Hence, it will be necessary to work with NGOs, community, and local influencers.

- The objective of developing communication strategy will be to establish product branding. This can be done as a partnership exercise. Medical professionals should give technical inputs/contents. Communication/media experts should develop and design strategy and implementation. Audience research methods need to be employed.

Operational recommendation for outreach immunization clinics under public sector

- Vaccine should be delivered at the session site. Alternative delivery arrangements (through NGOs, Panchayat, courier, *etc*.) for this would need to be put in place. This is recommended to minimize the burden of health workers and ensure bundling principle. It also helps in getting back the unused, unopened vaccine vials back to the PHC the same day. The same person could also cut the needles and separate metal scraps and polyurethane.

District CMO office should set up a mechanism for collection and recycling of plastic collected at health facilities located in both rural and urban areas. Local NGOs/PRI/ traders involved in waste handling can become partners in this exercise.

Implications of introduction of AD syringes for immunization in India

The group also discussed the financial and human resource implications of introducing AD syringes for Universal Immunization Program. There was a unanimous view that government must ensure ready availability of AD syringes for use in both public and private sector. The participants stressed the need to undertake proper costing studies of various strategies recommended during the workshop.

IAP plan of action on safe injection practices

- IAP to form a National Task Force on safe injection practices.
- Take up advocacy for dissemination of safe injection practices among the health care providers and the community.
- Bring out IAP Policy Statement and a guideline booklet on safe injection practices.
- Organise workshops to train members of the Academy in Safe Injection practices.
- Work in partnership with central and state governments, NGOs and other professional organizations to promote safe injection practices with the over all aim of ensuring that every injection given in this country is rational and safe and injection related waste is appropriately disposed.

Recommendation compiled and finalized by (*in alphabetical order*)

Arora N.K., Professor, Department of Pediatrics, Division of Gastroenterology, Hepatology and Nutrition, AIIMS, New Delhi.

Bhave Swati, Visiting Consultant, Indraprastha Apollo Hospital, New Delhi.

***Kamath S.S.,** IAP Co-ordinator, Welcare Hospital, Cochin, Kerala.

Nair M.K.C., President, IAP.

Shah Raju, Chairman, National Task Force, IAP

*Correspondence:
Dr. S.S.Kamath,
Consultant Pediatrician,
Welcare Hospital, Vyttila,
Kochi 682 019,
India.
E-mail: sskamath@vsnl.net

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List of Participants

Ex officio of IAP

Arun Kumar Agrawal, Ghaziabad
Bharat R. Agarwal, Mumbai
H.P.S. Sachdev, New Delhi
M.K.C. Nair, Thiruvananthapuram
* Nitin K. Shah, Mumbai
Raju C. Shah, Ahmedabad
S.S. Kamath, Kochi

Represenatives from various chapters of IAP

A.Parthasarathy, Chennai
A.P. Dubey, New Delhi
Ashish R. Bavdekar, Pune
Ashok S. Kapse, Surat
Ashok. K. Dutta, New Delhi
*C.P. Bansal, Gwalior
Panna Choudhury, New Delhi
Surendra Kumar Yachha, Lucknow
Surjit Singh, Chandigarh
Swati Bhave, New Delhi
*Tapan Kumar Ghosh, Kolkata
Y.C. Mathur, Hyderabad

IAP Members

*Anupam Sibbal, New Delhi
Anupam Sachdeva, New Delhi
A.D. Tewari, Rohtak
K.S.H. Chourjit Singh, Imphal
Narendra Kumar Arora, IndiaCLEN, New Delhi
R.K. Marwaha, Chandigarh
*S.K. Mittal, New Delhi
Shivananda, Bangalore
*Tripti Pense, New Delhi

Government of India

P.K.Hota, Secretary, Dept. of Family Welfare, New Delhi
P. Biswal, Dept. of Family Welfare, New Delhi
Pradeep Halder, Dept. of Family Welfare, New Delhi

World Health Organization (SEARO)

*Alex Von Hildebrand
*Stephan Guichard, New Delhi
Brent Bucklander

World Health Organization (INDIA)

A.K. Sengupta, New Delhi
R.K. Pal, New Delhi
Sobhan Sarkar, New Delhi
S.J. Habayeb, New Delhi

USAID

Meenakshi, USAID, New Delhi

UNICEF

*Marzio Babille, New Delhi
K. Suresh, New Delhi
Achyut Pranita, New Delhi
Sutapa Niyogi, New Delhi

PATH

Balaji, New Delhi
Divya Jolly, New Delhi
Raj Kumar, Hyderabad
Kalyani, Hyderabad
Satish B. Kaipilyawar, Hyderabad
Sridharan R., New Delhi

TNAI

Jyoti Sarin, New Delhi
Nanthini Subbiah, New Delhi
Sheila Seda, New Delhi
*T. Dilip Kumar, New Delhi

IndiaCLEN

Moumita Biswas, New Delhi

European Commission

*Karan B. Singh, New Delhi

SHRISTI

Ratna Singh, New Delhi
Ravi Agarwal, New Delhi

INC

*Shashi Chugh, New Delhi

DFID

*Ranjana Kumar, New Delhi

IMA

P. V. George, National President, New Delhi

DSRD

*Usha Gupta

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*Could not attend.