HOW SAFE IS YOUR HOSPITAL - DOCTOR?

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ABSTRACT

The use of disposable syringes, needles and other 'disposable' items has gained wide popularity in hospital practice. The supposed advantages are ensuring sterility and preventing the spread of infection from patient to patient. However are these aims really being met? In the present state of awareness and disposal procedures being followed we are not achieving aims and it may even be more prudent to go back to the glass syringes with proper autoclaving facilities. Alternatively there is the need to improve the disposal facilities in hospitals for the disposable articles.

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Use of needles and syringes has revolutionized the medical practice. It is amazing that syringe was used for the first time by Alexander Fleming in 1910 to administer Salvarasan nicknamed '606' for the treatment of syphilis. We have come a long way since. Today we cannot imagine a modern hospital without syringes and needles. Every medical practitioner frequently uses needles and syringes either for drug administration or to obtain a specimen of blood, fluid or tissue for diagnostic tests.

In not so distant past, glass syringes were the norm - the user being responsible for its proper sterilization and maintenance. Some practitioners still use them, though, these are now near extinct species. The plastic age, with the advent of plastic syringes, shifted the onus of sterilization from the user to the manufacturer. Doctors were more than happy to cast off the responsibility of sterilizing the syringes and needles and grabbed the plastic syringes. The genie of "disposable" articles was thus unbottled. The catalog of so called disposables now includes syringes, needles, catheters, cannulae, gloves, intravenous drip sets, blood taking sets, the tiles and tubes used in labs, specimen collection containers, and others. These "disposable" plastic articles have some distinct advantages :

- a) These are easy to store, nonbreakable, have long shelf life and are ready to use. It is common practice among doctors and nurses to carry such ready-to-use articles in their pockets.
- b) The needles accompanying these syringes are very sharp, easy to use and the jab is less painful to the patient. The reusable conventional all - metal hypodermic needles get blunted due to repeated use, and the jabs are distinctly painful.
- c) The cumbersome process of washing and sterilizing the glass syringes is eliminated.
- d) The plastic ware are the "in" thing, are extensively used in Western world, therefore, appear fashionable and glamorous to both, the patients and the medics.

These are some of the obvious reasons why plastic ware have become not only acceptable but almost a necessity in modern medical practice. The manufacturers promote and propagate their use with obvious eyes on the profit margins.

But it all appears too good to be true and benign. Every leisure, every perk is counterbalanced by undeclared responsibility. Often we forget or disregard, sometimes unknowingly but mostly consciously, these coexisting additional responsibilities and the restraints.

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The privilege of use of plasticware thrusts upon us some such responsibilities. These are :

- a) Proper and safe disposal.
- b) Destruction of the "disposable" to prevent recycling.

The ideal way of disposal and destruction of these plastic ware involves following steps :

- a) All these articles after use must be dipped in suitable disinfectant solution for few hours to reduce the load of pathogens.
- b) These must then be shredded or incinerated to destroy the item completely to prevent recycling.

The ideal is defined as conjectural, therefore, unachievable - rightly so. Specially in our circumstances, safe disposal is almost unheard-of. Neither the paramedics are educated and motivated adequately nor are the wherewithal for such safe disposal available.

Let us peep in one of the busy wards of our hospitals and see what really transpires. For the sake of simplicity let us take the case of syringes and needles. On an average, every patient in these wards needs two jabs a day - either to take the specimen or to administer a drug. It means about 100 jabs in a 50 bedded ward - and that many syringes and needles per day, which the ward never ever gets. But our staff is not deterred by such obstacles, the resident doctors and nurses have to be perpetually on syringe hunt - begging, borrowing AND (not or) lifting them from wherever they can - including consultants' lockers or colleagues' pockets. But there is never enough for everyone due to the prohibitive cost and enormous number of these syringes required.

Ingenuity comes in handy in such circumstances. Following are some of the commonly resorted ways. Each patient is allotted a syringe - to be used repeatedly for few days before discarding. Or the patients are "pooled" around a syringe and needle, same needle and syringe being used on a group of them. Sometimes syringes are considered "superfluous" while collecting blood samples - or in dire circumstances the "flush" technique is followed. It is simple - just flush the used syringe with saline - and hopefully out go all those "bad" bugs, the syringe is ready for the next in line. Just pray that it is not you !! That much for the princi-

ples of asepsis and sterilisation. Some patients - the elite educated ones come with their own syringes and needles as a respite - though not often.

After the poor syringe and needle have done their tour of duty through the ward or Out Patient Department (OPD), they go to their resting place - not an antiseptic container but usually a cardboard "khokha". Such a "khokha" gallantly displays its scars and the blood of the victims on its walls. The "khokha" is also the resort of used bandages, dressings, gauze pieces, cotton swabs, used gloves, broken glass pieces of phials, empty vials and waste papers. The venerable Class IV employee, with his bare hands scoops up the contents for their onward journey to - incinerator ? Well you missed it again. It is the garbage dump near the incinerator. It is obvious because the road to incinerator is paved with bramble, broken glass bottles, sharply cut tins etc and in any case - who remembers seeing any embers or smoke in the incinerator? The garbage dump is much easily approachable and magnanimous. In some places these used syringes and needles are returned to the medical store - the all encompassing accounting procedure must be followed before issuing the fresh indent! Despite this small detour, what ever the route may be, the ultimate destination is the garbage dump.

We all believe in rebirth. From the soil unto soil - and from the soil again. In come our rag pickers. They too have their own specializations and hierarchy - some go only for papers, others for polythenes while the ones in higher echelons go only for hard plastic moulded wares - the syringes, the catheters and the like. These are value added items and fetch better returns than other items. But it is hard work - rummaging through these heaps braving the sun and competing the stray dogs, one manages a bagful of these goodies in a day. So what if in the course of such treasure hunt one gets few jabs from unsheathed needles or cuts due to sharp glass pieces? A severe cut is usually dressed with gauze and bandage readily available in the same dump! All that talk about HIV, hepatitis viruses and other germs getting through these pricks and cuts is only figment of someone's imagination. The thought of contracting these diseases is a luxury the rag picker can ill afford. The effort is worth it, as a bagful of syringes and needles fetch handsome Rs 5-10 per kilo - enough for a meal to

pull him through the night.

A number of companies dealing with disposable plastic wares have sprung up in last few years. These are very kind in accepting all these syringes and needles from poor rag pickers. They contribute to the ever increasing industrial "production" by repacking and marketing these items. Since their inputs are minimal, they successfully bag most of the contracts on the basis of lowest quotation. And there comes the old syringe wrapped in stylish labels - "DISPOSABLE HYPODERMIC SYRINGE, STERILE, NONTOXIC, PYROGEN FREE" "Destroy after single use" is normally in the tiniest print and not readable. After all, how many of us can recount the birth and lives our souls have gone through? Why bother about a lowly syringe and needle?

The Nirvana

Florence Nightingale, the acme of nursing care, had cautioned "The first requirement of any hospital is that it does its patients no harm." If we, the health care workers, wish to face the Almighty with a clear conscience on the judgment day - to say "I have not contributed to the spread of HIV, Hepatitis B and the likes by using the contaminated syringes and needles" let us first free the soul of "disposables" from the eternal cycle of re-birth.

Let's face that proper disposal of these items is not practicable due to :

- a) Lack of funds to provide adequate number of syringes and needles for single use.

- b) Lack of awareness and education amongst medics, paramedics and lay people.
- c) Lack of means for safe disposal.
- d) Lack of control on prevention of recycling in hospitals and market.
- e) Lack of control on production and quality of purchased "sterilized" syringes and needles which gives us a false sense of security.

Sometimes it is wiser to retreat than advance though it may appear to be retrograde for a short while. Instead of madly and blindly aping the Western world by pursuing "disposables", it might be wiser to switch back to the autoclavable and reusable glass syringes and needles. These can be safely handled, resterilized and used locally - in hospital wards and OPDs. In the long run, these turn out to be cost effective too.

Certain steps which can be taken and implemented at low or no cost to ensure that dreaded pathogens are not transmitted iatrogenically to the patients as well as the unsuspecting population at large are :

- a) Create awareness amongst medics, paramedics and lay people about menace of improper disposal of the "disposables".
- b) Educate and familiarize medic and paramedics in safe use of syringes and needles. This ongoing process can be undertaken by short refresher courses as well as on-job education.
- c) Provide more than adequate number of recyclable syringes and needles. Certain amount

TABLE I
Are you about to use a disposable article?

Do	Do not
Check the pack for breaches before use.	Don't use when sterility is in doubt.
Look for tell-tale marks of tampering such as stains, cracks blunted needle.	Don't try to recap used needles.
After use destroy needle and syringe by burner if available.	Don't reuse or recycle any component.
For destruction by incineration, store in separate labeled dry container.	Don't discard contaminated articles along with uncontaminated garbage.
Use separate discard containers for contaminated and non-contaminated materials.	
Dip all contaminated articles in hypochlorite/disinfectant and leave overnight pending destruction by means other than incineration.	

of breakage should be anticipated, accepted and condoned to generate enough confidence in matrons to bring the syringes and needles from the locked cupboards to the injection trays. The dread of being blamed for the breakage needs to be exorcised.

- d) Provide adequate washing facilities for washing the syringes and needles.
- e) Cater adequate autoclaving facilities either centrally or locally in wards and OPDs by installing simple pressure cookers.

Conclusion

Single use disposable needles, syringes etc. are not suitable for our environment. Unscrupulous dealers are known to compromise on sterility and

recycle these articles. The assurance of "sterility" which we get from these dealers is as flimsy as the paper on which it is printed. Improper disposal of these used syringes and needles is leading to spread of dreaded infectious agents in the unsuspecting community at large.

There is a strong case for reintroduction of reusable syringes which can be adequately sterilized locally in wards, OPD or in CSSD. One needle for one injection theme even with reusable syringe should be professed and practised. The feasibility of alternative break-resistant, autoclavable, non-toxic, reusable material similar to the one used for petri dishes can be sought for syringes and other plastic ware. Proper disposal protocol must be implemented in all hospitals for non-reusable items.