Unsafe Injections: a Potential Source of HCV Spread in Pakistan

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Pakistan has a high prevalence of hepatitis C infection. Sixty percent prevalence among liver cancer patients, 51% among beta thalassaemia major patients, 46% among hemodialysed patients, 43% among chronic liver disease patients, 180% among cirrhotics, 20% among commercial blood donors, 6% among residents of Hafizabad conimunity and 2.4% among first time family blood donors in Karachi is alarming[1,2]. Blood transfusion cannot be considered the only source of spread as at maximum 1% of general population receives blood transfusion a year[3]. High prevalence of endemic transfusion of HCV infection indicates some other possible source of spread of the disease ill the country[4]. Sexual and vertical transmissions are not significant in cases of hepatitis C infections, so they cannot play a major role in the spread of the disease in the country. Four percent prevalence of hepatitis C infection among first time illiterate family blood donors, comparing 0.7% among higher secondary literate blood donors[5] and 5% prevalence of hepatitis C infection among first time family blood donors residing in low socio-economics localities, comparing 1% among first time family blood donors staying in central and more urban part of the city indicate some correlation of hepatitis C infection with low socio-economic conditions and poor health care practices[6]. Strong correlation of hepatitis C infection with injection practice in Hafizabad community suggest that injection practices in Pakistan are not safe and they are a major source of the spread of the disease[7]. In Egyypt. nationwide injection campaign against schistomsomisasis between 1920 and 1980 played a major role in the extensive spread of hepatitis C virus, leading to the high prevalence of hepatitis C infection in the population. Studies conducted in China have also established the risk of transmission of hepatitis C infection through unsafe injection practices[8]. Pakistan has the highest frequency of injections in the world, along with Ecuador and a former Soviet Union republic[8]. Every Pakistani receive 8.5 injections a year on average. Among them 49% receive injections on their first out-patient visit. The major cause of high Iiequency of injections is the belief that injections work faster and they are more powerful in actions. I Heath care providers also promote injection practices because of their financial incentives. Injection multivitamin is one of the most frequently prescribed injection in the country while in standard clinical practice, it has few indications for parenteral use. According to International Marketing Survey Injection Neurobin - a vitamin B complex injection-had estimated market in the year 1999-2000, 23.34 million, comparing estimated market of neurobion tablets, around 31.63 million, suggesting 1:1.3 ratio of parenteral prescription to oral prescriptions[9].

In addition to unnecessary use of injections. injection practices al-c also not safe in the country. A study conducted in Karachi. observing injection practices at 18 clinics in pen-urban areas have reported 94% injections administered were not safe[10]. Similarly India reported more than 93% use of injections unsafe[11]; 60% hepatitis B infection in India and 40% hepatitis C infection in Egypt have been attributed to unsafe injection practices[12]. Risk of transmission of hepatitis C through HCV contaminated needles is around 6%. Ihe 44% prevalence of hepatitis C infection among the recipients of unsafe injection in the country is shocking[10] and warrants investigation of the role of multi dose vials in enhancing this risk. Some published reports have linked transmission of hepatitis B and C infection through the use of contaminated multi dose vials 3 4. Recently government has introduced a ban on the use of multiple dose vials, but veterinary preparation are being used in some clinics for human beings. Lack of awareness regarding the risk associated with unsafe injections, prevalence of quackery and malpractices in health care profession, lack of injection supplies, increased cost and lack of system for the disposal of sharp waste are some of the factors that are promoting unsafe injection

practices in the country.

Injection technology has developed considerably since its beginning in the eighteenth century, moving from glass syringes that require sterilization after each use to plastic disposable syringes designed to be discarded after a single use. More recently. auto disable disposable syringes blocked automatically after one single use have been developed. Nevertheless, most of the patients in the country cannot afford these more advanced technologies which may cost twice as much as standard injection equipment. Pakistan has an estimated market of around 300 million, disposable syringes, but there is no proper waste management system of used syringes. According to a recently conducted study in Karachi 80% of used syringes are discarded in the community waste site without proper decontamination and destruction. Syringes, being a plastic ware, have a demand in the plastic ware industry. Sweepers. cleaners in health care facilities and scavengers at community waste site collect these syringes and sell them in the wholesale market of reusable items. People involved in this business frequently come in contact with contaminated syringes and often receive needle stick injuries. No data is available to know the prevalence of blood transmitted infections among them, but certain lv they are at a high risk. The same study observed the possible opportunity for the resale of used syringes following washing and repacking.

Issue of unnecessary injections. unsafe practices, role of multi dose vials and disposal of used syringes are very complex and relate to the prevalent socio-economic conditions, health care system and moral and ethical values.

It is high time to have an intervention program to control the spread of HCV infection and other blood transmitted diseases through unnecessary and unsafe injection practices in the country. To change the attitude from injection overuse towards oral medications, behavioral changes of patients and health care workers should be encouraged through the combination of supportive measures information, education and communication (lEC) activities. Health infrastructures must be adapted and the issue of negative incentive (e.g. higher fee for services when an injection is prescribed) must be addressed, bearing in mind that oral treatment is less labor intensive (requring less health workers) and often more cost effective (cheaper drugs. less staff involved). In addition, to achieve injection safety, injection supplies and disposal infrastructure must be developed[12].

There is a need to keep disposable syringes at affordable price and all kind of taxes and duties should be exempted. However, promotion of disposable syringes should be complemented with establishment of efficient sharp disposal management system. Lach use of a new disposable syringe generates one more used syringe, offering more opportunity for resale and risking the life of people who come in contact with used syringes in absence of incineration facilities, cutting of needle before their disposal is being promoted to safe guard against it's possible reuse. However, disposal of cut needles sometimes becomes more difficult and hazardous. Cut needles having no resale value remain lying on community waste site. Burial of these cut needles can effectively prevent needles stick injuries to passerbys. In poor socio-economic settings where use of disposable syringes and management of sharp waste is not cost effective, education on proper method of sterilization is needed. Careful supervision of staff and good management can ensure the safety of injections at at fordable price[15].

Because of the complexity of the problem, assistance from different types of professionals are needed (e.g. public health officers, infection control practitioners. epidem iologists, anthropologists, specialists, in behavior development, researchers in administration technology, environmentalists). Because little experience is available regarding integrated programs that link the community with the health system to aim a safe and appropriate use of injections, Safe injection Global Network (SIGN) has been established throughout the world, including Pakistan. It consists of United Nation Organizations and other governmental and non-governmental organizations and donors, sharing a common interest in a safe and appropriate use of injections. The network is supported by a permanent secretariat located within the blood safety and clinical technology (BCT) department of the World Health Oraganizations.

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