



Tattooing trend: major cause of HCV transmission among youngsters

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Sir,

In this journal, recently, a very high prevalence of chronic hepatitis C virus (HCV) in people who inject drugs was reported [1] and the authors called for measures to prevent spread by increased awareness of HCV. We here report the increase in transmission of HCV through tattooing. Skin art, tattooing, and body piercing is increasingly common among young adults and adolescents but the risk of viral transmission through this practice has not been adequately addressed in the literature. This trend popular in western countries, is now moving into mainstream culture of developing countries of Asia as well [2]. This trend is currently on rise in Pakistan because of massive influence of media and peer-pressure. 'Unsanitary' tattoo parlors opening up all over urban and rural areas of the country are posing serious health threats to general population.

This skin art involves piercing of the dermal layer of skin by using multiple needles and injections that draw blood by puncturing the skin 80–150 times a second in potentially unsafe conditions [3]. Tattoo ink is also a reservoir of different life-threatening agents because artist dips the needle in it again and again while doing tattoos on different clients and do not use fresh ink for new client because of its high cost [2,3]. Even if the tattoo parlor maintains the highest standards of hygiene, the risk of infection from the use of contaminated ink is still there [4].

Therefore, people getting tattooed are exposed to the risk of different pathogens which are serious and difficult to treat. Accumulating evidence suggest the transmission of hepatitis B and hepatitis C, human immunodeficiency virus, syphilis, non-tuberculous mycobacterial infections, and mycobacterial infections by tattooing [5,6]. In 2012, Iowa, Washington, Colorado, and

New York experienced an outbreak of tattoo related infections that can cause problems ranging from mild rashes, warts, and viral infections to severe abscesses that require antibiotic therapy or surgery [7]. Tattooing must also be considered a screening tool in blood donation [6,8]. A recently published study identified unsafe sex and piercing as major cause of HCV transmission among blood donors [9] likewise, another cross-sectional studied based on high-risk populations who denied the use of injection drugs and/or history of blood transfusion reported sharing of personal care items, tattoo or body piercing, and non-injection drug use as common modes of transmission [10].

We collected complete data regarding possible route of infection among HCV positive patients who attended the Association of Fatima Jinnah Old Graduates (AFJOG) hospital affiliated with our laboratory Genome Centre for Molecular Based Diagnostics and Research (GCMBDR) during recent month. Of total 210 HCV-infected patients, 32 patients were tattooed and denied any other exposure to HCV. We observed that this risk-taking behavior was more prevalent among young males between 14 and 26 years of age (Table 1).

After interviewing patients, we found that amateur tattooing and unprofessionally administered tattooing is common practice in rural areas where people get their names tattooed on arms whereas, in urban areas younger generation usually receive professionally administered tattoos because of frenzy of modernization. Tattooing has become commonplace procedure easily available in streets and barber shops and tattooists have placed the public at increased risk for HCV. We further found that patients were completely oblivious to the long-term consequences and potential health risks of receiving a tattoo. In addition to this we have also observed 87% tattooing trend among HCV infected

Table 1. Laboratory parameters of patients included in the study

Characteristic of total 210 HCV-infected patients		
Characteristic	Classification	Value/Number (Percentage)
Age group	<18 years	44 (20.9%)
	18–30 years	34 (16.1%)
	31–40 years	48 (22.8%)
	41–50 years	49 (23.3%)
	51–60 years	19 (9%)
	>60 years	16 (7.6%)
Gender	Male	144 (79%)
	Female	66 (31.3%)
Risk factors	Unknown	116 (55.2%)
	Surgeries	28 (13.3%)
	Drug abuse	12 (5.7%)
	Sexual transmission	22 (10.4%)
	Tattooing, skin piercing, body art	32 (15.2%)
Characteristics and physical parameters of 32 tattooed patients		
Age group	<26 years	27 (84.3%)
	>26 years	5 (15.6%)
Gender	Male	29 (90.6%)
	Female	3 (9.3%)

patients of a small town named Bagarriyan who get themselves pierced from a local county fair held regularly in their near vicinity. Majority of patients were not aware of the consequences of deadly infections and GCMBDR and AFJOG are currently, conducting free awareness campaigns in both rural and urban areas and providing free-screening and medicine to infected community.

The popularity of tattooing among youth of developing countries has brought with it a storm of viral infections. Despite fast-paced growth in the irrepressible glut of tattooing in developing world, the state governments have been too slow in regulating tattoo industry. Government bodies are neither enforcing any safety practices nor setting any standards of tattooing studios. Proper legislation regarding hygiene code for safe tattooing has become an exigency to prevent future infections.

The findings of our study suggest that professionally administered tattooing, non-professionally administered tattooing, or amateur tattooing in tattoo parlors in urban settings or in streets in rural settings are unsafe for human health and contribute towards the transmission of HCV in the developing countries like Pakistan. In the light of increasing risk of tattooing associated HCV, the developing world must frame guidelines for the enforcement of tattooing safety regulations. Teaching and advocacy strategies should also be implemented to educate public health officials, health care providers, local legislators, media personnels, and consumers regarding potential health risks of tattooing.

Disclosure statement

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