

# Emergency of skin diseases during flood

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Climate change is severely affecting the weather pattern as established by many studies on the subject and Pakistan is facing a grave challenge from this. The southern parts of the country especially south Punjab, Balochistan and Sindh have faced devastating floods due to record breaking rainfall which was witnessed after a hundred years. The hill torrents swept away villages upon villages causing loss of life as well as property. The livelihood of flood victims also eroded away thus pushing them towards poverty.

The loss of infrastructure has also compounded the problem. These areas were less developed and lagged in socio-economic indicators. The destruction of infrastructure will adversely affect the service delivery. The exact amount of damage is yet to be ascertained but conservative estimates put it between 30-40 billion US dollars.

On the public health side, this flood has brought many problems and diseases which range from disruption in provision of health services to the people because of submergence of roads leading to the health facilities and or the submergence of facilities themselves. Contact with contaminated water/ flood water also gave rise to skin diseases. Some of the diseases have been discussed in the succeeding paragraphs.

In the event of floods, many residents and emergency personal are exposed to unclean

water which can result in several different types of skin conditions.

Major causes of skin conditions during flood are:

- Pathogens in flood water.
- Chemicals in flood water including household waste, chemicals, industrial waste and agricultural fertilizers and pesticides.<sup>1</sup>

Dermatological manifestations include infections disease/ communicable diseases including bacterial and fungal infections.<sup>2</sup> Risk of infections is increasing with traumatic injury to the skin and in people with underlying conditions such as diabetes mellitus, chronic venous insufficiency and immunosuppression.<sup>3</sup> Important bacterial infections are Streptococcal, Staphylococcal<sup>4</sup> and some atypical bacteria such as *Vibrio vulnificus*, *Mycobacterium marinum* and *Aeromonas*.<sup>5</sup>

Most common fungal infections reported are Tinea pedis, Tinea aruris, Tinea manuum, Tinea corporis. 2<sup>nd</sup> important dermatological manifestation is contact dermatitis, which occurs when skin comes in contact with chemicals that can cause a reaction with resultant redness, swelling, itching. Chemicals contained in flood water like pesticides, bleach, detergents from industries or households that can cause such a reaction.<sup>7</sup>

Flood water can increase potential risk for traumatic injuries from concealed objects picked in water. These include sharp objects like

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metals, glass sticks, rocks, electrical hazards (like broken power lines) and animals that can be displaced from the flood water.<sup>6</sup>

Psychological stress associated with flooding event can lead to psycho-emotional aggravated primary skin diseases such as atopic dermatitis, alopecia areata and psoriasis.<sup>8</sup>

Some rashes can also be caused by vector born disease e.g. petechial, ulcers etc. The potential morbidity associated with skin infections or reactions can be life threatening and is preventable with limited exposure if safety measures are taken.

Centers for disease control and preventions recommendations<sup>9</sup> include avoiding contact with flood waters if one has open wounds, covering clean open wounds with a water proof bandage to reduce the chance of infection and keeping open wounds as clean as possible by washing well with soap and clean water. If a wound develops redness, swelling or oozing, one should seek immediate medical care. Remind patients and staff about importance of hand washing with soap frequently.

Provision of medicines to flood affected areas is of great importance. Teledermatology can play an important part in diagnosis and management of a patient in for flung areas during flood.

The flooding in Pakistan in year 2022 caused massive destruction in the southern part of the country and resulted in loss of life as well as property. Economic losses are believed to be in billions of dollars. Apart from this, many diseases are also on the rises which are caused due to contact with contaminated water and other factors as discussed in the above paragraphs. There is need for awareness among the affected people to save them from these

diseases and a requirement to provide medical treatment to them.

The provision of medical facilities is also hampered by the flooding as many primary health care facilities are under water while in some areas, accessibility to them is restricted due to submergence of roads and villages.

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