

Bana Bushes Movement and Seul Rich Diet in Vaccine Preventable Diseases in Hills of Himachal Pradesh: A Community Belief and Barrier

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We have investigated and documented multiple vaccine preventable outbreaks of measles, rubella and chickenpox; singly with one virus or in combination with two viruses in outbreak settings in hilly and mountainous districts of Himachal Pradesh since 2007 to 2013. It is matter of common observation that the local people opt for faith healers and traditional beliefs while they are down with vaccine preventable diseases. Although traditional beliefs and barriers about german measles, measles and chickenpox do not foster healthy behaviors, yet they form the mainstay of the treatment part. Due to the prevailing community beliefs and barriers, the diet intake has too been found to be reduced to the minimum in the form of (i) Seul rich diet (ii) and Bana bushes movement (*Vitex negundo* Linn) on the chest and abdomen of the patients as part of help seeking behavior by the local villagers before or with modern medicines later on.[1] The said plant *Vitex* is supposed to possess the medicinal properties and is used by the local faith healers in alleviation of communicable diseases like measles, chickenpox etc.[1] The diet rich in *seul* (A herbal plant with small granules, thought to be hot in nature by the local community members and these granules are supposed to facilitate the eruption of measles. These tiny granules are also roasted for eating as well as

smoked fumes are placed underneath the cot of the ailing patients. We are referencing a few of the documented studies in support of our findings:

In 2006, in “Two highly immunized hilly areas versus double measles outbreak[2]”, we identified a total of 69 confirmed cases of measles (53/69 clinically confirmed and 16/69 laboratory confirmed case patients from the study population). Out of the 69 patients, 15 (21%) opted for the traditional treatment of Bana bushes (medicinal herbal plant) for three to five days, as to and fro movement upon the chest and face of the case patients by the traditional healers (traditional healers *vs.* modern medicine, $P < .049$), and diet rich in *seul*, more so in Kutharna and Nauli areas (restricted diet *vs.* nutritious diet, $P < .005$); while 23 (33%) chose the modern system of medicine. Still, the majority of the case patients, i.e., 32 (46%) of the 69 patients, preferred both the treatment modes - traditional conservative one, first; and then, subsequently, switched over to modern medicine.

In the second set of mixed outbreak of measles and chickenpox in 2007, twin outbreak struck three hilly villages of Northern Himachal. Initially, we investigated this propagated outbreak-“Epidemiological

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investigation of mixed outbreaks of measles/varicella[3].....” on the suspicion of measles but the epidemiologically linked sporadic confirmed case patients of varicella were also examined concurrently on the symptoms of maculopapulovesicular rash. We identified 29/35 measles and 6/35 were confirmed as epidemiologically linked unvaccinated chickenpox case patients. 6/35 (18%) of the cases chose for the traditional treatment of *Bana bushes movements* from nearby local *chelas/faith healers* (Traditional healers Vs. modern medicine, $p < 0.05$) and diet rich in *seul*, more so in Gujrair areas (Restricted diet Vs. Nutritious diet, $p < 0.005$) while 14/35 (41%) had their treatment of choice to the modern system of medicine. Still majorities of the case patients, i.e., 15/35 (42%) believed the treatment in both ways.

In the third set of outbreak in 2007, “German measles outbreak bursts in two unvaccinated border[4].....”, we identified 116 cases in eight villages (112/116 clinically and 04/116 laboratory confirmed) Majority of cases were immunized against measles, but only minor cases for rubella. Twenty three percent (27/116) of the cases went for the traditional treatment of *bana bushes* which included repeated movements of the bushes upon the chest and face of the patients from nearby local *chelas/faith healers* (Traditional healers Vs modern medicine, $P < 0.049$) and diet rich in *seul* (a herbal plant with small granules, more so in Bengali slum area, Sperrah and Gargoon villages and [restricted diet Vs Nutritious diet, $P < 0.005$]), while 33% (38/116) had their treatment of choice to the modern system of medicine. Still majorities of the case patients, i.e., 44% (51/116), believed the treatment in both ways; traditional conservative one first and then later on switched onto the modern one.

In the fourth set of outbreak in 2009, “Concurrent multiple outbreaks of varicella/rubeola/ german measles in unvaccinated children of co-educational Mount Carmel Senior Secondary School[5].....” we identified 505 case patients from mixed outbreaks of varicella, measles and german

measles (30/505 clinically, 467/505 epidemiologically linked and 8/505 laboratory confirmed case patients from a study population of 3280. We investigated the suspected outbreak with case definition of varicella but measles 20/3280 (0.60%) and rubella 34/3280 (1.03%) cases were also observed. On account of prevailing community belief, still the sufferers and their attendants believe in traditional healers. 17% (85/505) of the cases went for the traditional treatment of *bana bushes* which included repeated movements of the bushes upon the chest and face of the patients from nearby local *chelas/faith healers* (Traditional healers Vs modern medicine, $p < 0.001$) and diet rich in *seul* while 63% (318/505) had their treatment of choice to the modern system of medicine. Still many of the case patients, i.e., 20% (101/505) believed the treatment in both ways; traditional conservative one first and then later on switched onto the modern one, or some times, both the system operating together.

It is safely concluded that those study areas[2,3,4] fall more to the faith healers which have poor socioeconomic strata, conservative nature of older generation for the long prevailing beliefs in the family, high situation on the hills and mountains and less access to better availability of health services. The point of debate stands between older and younger generation about the scientific line of treatment in Vaccine Preventable Diseases in hills of Himachal Pradesh in the families and communities of the study areas.[3,5] In spite of debates amongst the communities, Bana bushes movements over the body undisputably is first line of treatment for the communicable diseases.

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