

## Original Research Article

# Perception and lived experience on health effects of natural hot spring water bath

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### ABSTRACT

**Background:** Natural hot spring bath has enormous health benefits. The water found in natural hot springs contains a variety of different minerals which shows positive benefits on rheumatism, skin diseases, gastritis, sinusitis, cardiac diseases, joint pain and many more. The healing effect is mostly from mineral composition.

**Methods:** Phenomenological study was conducted on twenty-one participants who were taking natural hot spring water bath in Singha tatopani, Myagdi. Each participant was randomly selected. Eight In-depth interview and two focus group discussion were used for collecting information. People who have immediate bath experience were included in the study and those who were ill and not able to response the question due to illness were excluded from the study. Informed consent was taken from each participant before participation. Afterwards transcripts were transcribe and translated in English and analyzed using thematic analysis was done with the means of Ms. Excel.

**Results:** Participants perceived natural hot spring water bath has positive effects on health and experience large sweating and excretion of urine while bathing. It helps to run their digestive system smoothly, improve blood circulation, and prevent skin problem, relief uric acid, sinusitis, pneumonia, tonsillitis, nose allergy, chest allergy, bronchitis and insomnia. Hot spring foment their pain organ and promote health of accidental victims, physically handicapped people, minimized uterine problem of women, eye itching and epiphora (watery eye).

**Conclusions:** Common diseases Gastritis, rheumatism, skin disease, uric acid can be relieved by taking natural hot spring water bath as well as it help to promote and improve their health status. That's why natural hot spring water bath can be a beneficial for improvement of public health.

**Keywords:** Hot spring bath, Lived experience, Perception

### INTRODUCTION

Natural hot spring can form in several ways, but most commonly occur when rainwater or groundwater is heated by magma underneath Earth's surface. Hot spring water of Nepal contains different essential minerals like boron, calcium, chloride, sodium, sulfate, lithium, potassium, magnesium, manganese, iron, silica, zinc, fluoride, phosphate and nitrogen—each one possessing unique healing qualities which can promote feelings of

physical and psychological wellbeing.<sup>1,2</sup> The word Tatopani, in the Nepali language, means "hot water", About 29 geothermal springs has been identified in Nepal mostly located in the banks of Mahakali, Karnali, Tila, Kaligandaki, Myagdi, Marshyangdi, Trishuli, and Bhotekoshi rivers. Twenty three of them are officially recognized by the Nepal government. The source of heat is the Main Central Thrust.<sup>3</sup> The main aim of this research is to identify the perception, lived experience and practice through the use of natural hot and

mineral spring so as to forecast its beneficial role in our health.

## METHODS

Qualitative and phenomenological study was carried for this study using eight in-depth interview and two focus group discussions. The inclusion criteria for the study was people who had immediate bath experienced at Myagdi, Singa, Tatopani from August to December 2018 and people who were not able to response the question due to illness or other reason were excluded from the study. The sample size was eight for indepth interview (IDI) and thirteen for focus group discussion (FGD) by evaluating the saturation of data. The sampling technique was phenomenological and data collection techniques applied was an in-depth interview and focus group discussions. Data collection tools were In-depth interview guideline, focus group discussion guideline and voice recorder. Permission was taken from NHRC, from the DHO Myagdi, from Singha hot spring water management committee and written Informed consent was obtained from the participants. Data Processing and Analysis was done after a key focus group discussion and the in-depth interview was conducted. The transcripts were transcribed and translated into English. The transcripts were analyzed using thematic analysis using means software (MS Excel version 2013).

## RESULTS

### *Perception*

Participants mentioned that the hot spring is natural. They have the misbelieves that underneath the very land there is the formation of the volcano which helped to form this hot spring, which has smell and test of calcium carbonate, soda, sulfur, and mostly black salt. They take this hot spring as a major center for naturopathy. "It is made from the big elements of the earth; its origin is below the surface of cold water of the earth and it pours from the gorges of two hills (Malika Mountain and Kamala Mountain). These hills collided long ago due to which there was the formation of gaseous elements. Hence this hot spring water was originated "(I3: 65 years male). Long ago, the people who have their physiological dysfunction, deregulation of their system and organ i.e. having nervous system related problem get relief from this natural curing process by applying warmth and moisture to the part of the body to get relieve from pain an act of fomenting. People with blood pressure, diabetes, jaundice, COPD, eyes infection, skin infection, women with menstruation, pregnant and children are not allowed to take bath in these hot spring pond. "During the menstruation period, women are restricted to come at this hot spring for seven days. Except for that time, all the people can take bath" (I1:40 years female). Participants believe, hot spring water gives warmth and heats their body which helps to increase perspiration rate and urination. They believed this helps to remove excess toxic

from their body and remove illness. The water pressure from the spring acts as natural spa. They mentioned that hot spring water bath is far better than hospital allopathic treatment because the cost compare with hospital cost is also cheap; their stay is also comfortable it helps in the improvement of public health because this helps to cure all above the medical patient."I had backache problem. It used to give me a lot of pain at the time of sleep. However, this problem is solved after taking baths regularly in this spring water. I also visit this spring water once every year" (I1:40 years female). "My chronic gastritis has been cured. I was diagnosed with elevated uric acid but I did not get any symptoms of being cured so I went to a hot spring water bath. And after taking a hot spring water bath, my uric acid problem has been solved. I wasn't able to move my hand at that time which is cured now. I wore glasses for 4/5 years. I went to the Himalaya Eye Hospital in Pokhara, also I showed this problem in Baglung but the problem of redness in my eyes was not minimized. However, after taking the bath in this hot spring water the problem seen in my eyes are solved. Now I don't have to wear glasses" (I2:45 years female). "I had an injury in my neck due to an accident and I spent 6-7 days in Bir Hospital, Kathmandu. Finally, I got complete remedy after soaking in hot spring water in tatopani. It's a natural boon" (I3:62 years male). "I was a patient of peripheral neuritis. I went to many experts but they didn't do the right diagnosis. I was recommended by my close friend for bathe and it helped me a lot" (I4: 30 years female). Despite of many benefits some participants have experienced weakness, common cold, sneezing, coughing, diarrhea, joint pain after returning home. Weak people generally experience dizziness and faint. Likewise, participants mentioned that they bath several times approximately 5-10 times a day. Most of them visit once in a year and take generally 10 to 15 minutes time for each sinking and sweating, and take bath for 1 week to 15 days making an odd number. Similarly, participants favor appropriate season during Baishak, Bhadra, Ashwin, Kartik, Mangsir, Poush, Magh, Phalgun and Chaitra however Ashwin as the most promising month to maintain their body temperature (hotness and coldness) and they consider other months as most crowded months.

### *Practice*

Early-morning, following strict body hygiene participants need to wash themselves, need to rinse soap lather off outside the pond whole body with hot tap water tap to adjust the warmth of the hot spring pond, they wear clean stripper while entering in the hot spring, then directly come to the pond, sit down without hesitation, immerse leg at the pond, dip their body up to the neck.; they stay suffocating for 5-10 minutes and again repeat the same up to 6-8 times, suffocating is done by covering the body with a blanket As soon as perspiration starts participants wrap themselves with blanket for 5-10 mins and repeat the process as per the convinency. Also if they have particular organ problem do fomentation to reduce pain.

**Table 1: Data Source triangulation.**

<b>Perception</b>		
<b>Concept</b>	<b>IDI</b>	<b>FGD</b>
Meaning of natural hot spring water	Natural formation with having different mineral like calcium carbonate, soda, sulfur	Natural formation
Natural hot spring water bath	The culture of bathing is from a long time ago,(ancient time)	The culture of bathing is formed a long time
Who can take a natural hot spring water bath	Gastritis, arthritis, joint pain, muscular pain, strain, sprain, dermatological diseases, etc. can take bath but pressure, sugar, jaundice, measured women and child cant.	Gastritis, ulcer, sinusitis, muscular pain, arthritis, joint pain, strain, sprain, fallen down, skin allergy, can take bath but blood pressure, sugar, jaundice, lungs diseases can't.
benefits of natural hot spring water bath	Cure gastritis, arthritis, sinusitis, headache, strain, sprain, wound, muscular pain i.e. knee pain, strain, sprain, wound, a cancerous cell, skin allergy, increase in digestion and make the swift body.	Water act as massaging our body. the body becomes light, removal of internal disease
The disadvantage of natural hot spring	The feeling of weakness and dizziness	The feeling of weakness due to loss of energy
Frequency of bathing	Come once a year ; spend 10 to 15 minutes for sinking and sweating.	Take bath 5-7 times in a day, come ones in a year
Season of bathing	Bhadra Magh	a good season is from Ashwin to Magh
Reason for bathing	For the treatment of accidents and diseases and religious purpose too	People came to cure their illness
Method of taking bathing	Bath, sink, suffocating, sweating up to 5-30 minutes as their body ability with wearing vest and shorts.	The method includes bath, sink, suffocating, sweating then bath.
<b>Practice</b>		
Method of taking bath, frequency, duration, clothing	Take bath once in a year, stay 7 days to 15 days in one time, sinking and sweating time is 10 to 20 minutes, wear shorts and vest same dress for male and female	The method includes bath, sink, suffocating, sweating then bath, people take bath up to 7 days in one stay, wear shorts and vest.
Precaution of bathing	Don't make noise, don't disturb other, don't sink head, do not jump it may slip to the river	Precaution include there may be slips in the river, don't make a crowd, take bath turn by turn
Season of bathing	Ashwin, Kartic, Magh	Ashwin to Magh
<b>Lived experience</b>		
Time of bathing	Come ones in a year	Come ones in a year
Method of taking bathing	Bathing, sinking, suffocating, sweating with wear vest and shorts	Bathing, sinking, suffocating, sweating, & repeated same procedure, wear the same dress for ladies and gents i.e. vest and shorts
Benefits of bathing	Cured gastritis, uric acid, strain, sprain, muscular pain i.e. waist pain, knee pain backache, injuries, wound, hypothermia, sinusitis, uric acid, skin allergy, scars, stonitis, chest allergy. Increase in daily activity, a free gain of energy, increase in social participation	Curing gastritis, sinusitis, skin problem and digestion of food.
Side effects of bathing	Weakness, BP, fall down, doubt of communicability of skin diseases but not suffered yet	Feeling of weakness

Regarding time of bathing participants mention that they took bath 2-23 times and stay for a week to a month once in a year. "At the time of taking bath, we should wear a handkerchief on our head, wear shorts and vest and then sink in the pond as per your physical ability. When the

body starts to sweat, go outside the pond and stay suffocating for 5-10 minutes with the help of clothes, after that body becomes cool, and again repeat the same process 6-8 times"(I6:30 years female). "First of all, we take bath at the pond and then we can apply to foment to

the affected organ to lessen the pain. I had a backache and skin problem so that I had applied to foment procedure" (f2p2: 33yers male).

Participant took precaution before taking bath. For examples, conscious at the riverside, do not make a crowd, bathe turn by turn, don't sink mouth at the pond, do not disturb others at the pond, took precaution for falling of hair, the head should not sink into the pond, take care of sensitive organs too. Do not use soap and oil while taking bath, it prevents & blocks the way of sweating from pores. Drink a large quantity of water. Regarding appropriate season, Bhadra, Ashwin, Kartik, Poush and Magh are considered good, but people can have a bath in all seasons. Most of the participants come in Ashwin and stayed for 7-8 days in this hot spring making an odds days, once in a year. Furthermore, participants wear shorts and vest. It is the same as the dress wear at the time of running. It should be strictly followed both by male and female. Long woolen clothes are prohibited.

### **Lived experience**

Hot spring bath improve digestion, relief uric acid, gastritis and dental and oral health problems. After bathing the body becomes light, abdomen becomes clean, body becomes thin from thick, prevents cold and sinusitis. Firstly, drinking and taking hot water simultaneously gave energy to the participant and creates frequent urination which helps to remove gall bladder stone, it foment pain organ, when HCL of our body is in increasing amount there is need of base that is balanced by this hot spring water as it contains those ingredients so that it helps to cure gastritis, bronchitis, hypothermia and pneumonia ,tonsillitis problem, nose allergy, chest allergy, sprain, strain, gastritis, uric acid, unmovable hand, eye problem, cancer, swelling of uterine, curing illness and cure almost all wounds. Secondly, it also cures differently able, physically handicapped, paralyzed persons; damaging of outermost cell like skin diseases, mark scars, white scar, skin allergy pimples, wounds and rashes is cured and body have swift glowing skin. Thirdly, backache, waist ache, eye problem, indigestion, headache, knee ache etc are also cured. Accidental victims were easily treated for instance: treat injured organs, sprain, painful organs, tear falling, shoulder pain, wrist pain, neck pain, It helps to decrease in level of blood pressure and finally energetic and active in physical activities energetic which leads to increased social participation. At last participant having health problem such as: blood pressure, asthma, lungs disease, sugar and jaundice experience some side effects of taking natural hot spring bath. "Our one and only daughter had chronic tonsillitis, thus we have had a surgery date of tonsillectomy operation-at renowned hospital in pokhara. At the same time we decided to go to the hot spring water and after taking bath at hot spring water her tonsillitis problem is also cured. In my face there was too much pimple before, this is also cured" (I2: 45 years female).

"Many Indian also visit this place. I remember a Indian guy who had serious rashes and black spots in first visit healed so well in next arrival" (I3:62 years local male). "Water bath cured my headache, tear falling, shoulder pain, wrist pain, neck pain, and burning of the stomach (Mutu Dhar Dhar hune) etc problems"(I4: 30 years female). "I was suffering from sinusitis and I went to Bhaktapur Tuberculosis center in 2045 for a checkup. The doctor gave me an injection to cure sinusitis; it works only for a while. Sneeze came regularly and again I went to Pokhara for a checkup with (ENT) physician. But my problems are solved only after taking bath in the hot spring water" (I7:49 years male). "I had too much Gastritis. I went to the Kathmandu, Narayanghat, Pokhara and went all the places I could take medicine but I felt relief only at the time of taking medicine. One of the people who had suffered from gunshot also had been cured here, but was not cured when he went to Delhi" (f2p6: 31 years male). "I had a gallbladder problem. I went to Korea too as it was not cured in Nepal. I came here after doing a checkup with different doctors. But now I have my gallbladder stone gone" (f2p1: 45 years male). "I have an allergy of walking in the dust, smoke, but now I feel normal" f2p4:48 years male. "The day before yesterday one of the people who weren't able to move on his foot was able to move after 7 days of the bath" (f1p5: 43 years female).

### **DISCUSSION**

In this study participants mention that by bathing in warmth of natural hot spring helps to open the path of blood circulation and dilution of vein and improved digestion and cure gastritis which is similar to the study "the healing water"<sup>4</sup> and study "Hungary's physicians believe in hot mineral water therapy."<sup>5</sup> In this study participants mention that everybody can take bathe excluding high and low blood pressure, sugar, jaundice, lungs diseases i.e. fast breathing, eye ripe, weak, women during menstruation period, pregnant women and children which is similar to the Study "Balneotherapy and Balneology the science and art of mineral therapy"<sup>6</sup>, "water, mineral waters and health"<sup>7</sup> and "healing springs: the ultimate guide to taking the waters".<sup>8</sup> In this study participants mention that hot spring water bath can take mostly who suffer from gastritis, ulcer, muscular pain, joint pain, backache problem, shoulder pain, wrist pain, neck pain, pain during sleeping, accidental victims, arthritis, sprain, strain, collapse, backache, sinusitis, hypothermia, arthritis, headache, uric acid and swelling related problem etc which is similar to the study "Medicinal Hot Waters", "Factors Affecting Cerebral blood flow-experimental review" "modern hydrotherapy for the massage therapist", "benefits of hot springs spas", "health benefits of geologic materials and geologic processes", "the role of spa therapy in various rheumatic diseases."<sup>11-15</sup> "Balneotherapy in elderly patients: effect on pain from degenerative knee and spine conditions and on quality of life".<sup>16</sup> In this study participant mention that they take bath 5-10 times a day and generally 10 to 15

minutes time for each sinking and sweating and take bath for 1 week to 15 days making an odd number which is quite similar to the study on “clinical usefulness of long term hydrotherapy” and “immunomodulatory effect of Balneotherapy”.<sup>17,18</sup>

In these study participants bathing method is similar to the study “onsen”, how to take bath?”, “enjoying natural hot spring to promote health” shows (take off all your clothes in the changing room.<sup>19-21</sup> It is the custom to bring a small towel into the bathing area), (before entering the bath, rinse your body with water from either a tap or the bath using a washbowl provided in the bathing area), (enter the bath and soak for a while, try to enter very slowly and move as little as possible), (after soaking for a while, get out of the bath and wash your body with soap at a water tap. re-enter the bath and soak some more).

In this study participants mention that hot spring water acts as massaging their body and frequent urination helps to remove their gall bladder stone and feel relaxation on hot spring water bath which is similar to the study “Balneotherapy in dermatology” “The ancient healing powers of natural hot springs”.<sup>11,22</sup> In this study participant mention that they had cure Damaging of outermost cell, itching, skin allergy, pimples, skin diseases, mark scar, white scar, almost all wounds and rashes, remove nodular cells and become soft glowing skin which is similar with the study “the ancient healing powers of natural hot springs”, “Balneotherapy in dermatology” “benefits of hot spring spa”, “luxurious time soaking in hot springs in an elegant hideaway”.<sup>21-24</sup> In this study participants mention that hot spring water bath cure their sinusitis, pneumonia, tonsillitis problem, nose allergy, chest allergy, bronchitis problem which is likely similar to the study “effective physical therapy for chronic obstructive pulmonary disease”.<sup>25</sup> In this study, the participant feels weak due to heavy sweating which results in loss of energy which is similar to the study “enjoying natural hot spring”.<sup>21</sup>

## CONCLUSION

People perceive natural hot spring water bath has positive effects on health. I had positive effects on digestive system, urinary system, musculoskeletal system, circulatory system and diseases related to skin, pulmonary and different kinds of accidents, injuries and rheumatoid arthritis. The practice and experience natural hot spring bath of people are needed to verify by conducting different research like a cohort, and experimental study. So that it can be a big market of naturopathy in Nepal.

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