



WATER AND HEALTH : A GEOGRAPHICAL STUDY OF RURAL AREA OF MANDAWA TEHSIL OF JHUNJHUNU DISTRICT

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ABSTRACT:

The Jhunjhunu Tehsil coloration of ground water quality problems. The various water borne diseases spreading in the area Cholera, dysentery Hepatitis and Diarrheal. Water is the basic resource necessary for portative all human activates, so its statute is desired quantity and quality is of supreme importance. Water pollution affects drinking water, rivers, lakes and oceans all over the world, which consequently prejudice human health and the environment. The present Geographical study is focused on drinking water through human health in rural areas of Jhunjhunu Tehsil, Rajasthan and its effects on human health as told by the people living in these areas.

KEYWORDS:

WATER QUALITY, WATER BORNE DISEASE, GEOGRAPHICAL ASSESSMENT, MICROBIOLOGICAL.

INTRODUCTION

It is the fundamental right of every individual to get pollution free water. Water pollution affects drinking water, rivers, lakes and oceans all over the world, which consequently harms human health and the natural environment.

Water pollution may not cause immediate effects on the health of the individual but can prove fatal in the long run. Water pollution can damaging to the economy as it can be expensive to treat and prevent contamination.

Diarrheal diseases represent a major health problem in developing countries and also a high risk to travellers who visit these countries. Conservative estimates please the global death toll from diarrheal diseases at about two million deaths per year, ranking third among all causes of infectious disease deaths worldwide.

Water pollution can be prevented by stopping pollutants from contamination nearby waters. There are a number of water treatments to prevent pollution such as biological filters, chemical additives and sand filters.

These simple techniques cost money to maintain, but prevention is techniques cost money to maintain, but prevention is much cheaper than cleaning up water pollution that has already occurred. Keeping the water quality and health of villages of Jhunjhunu tehsil, rajasthan and its effects on the health of individuals pertaining t water.

METHODOLOGY

A geographical analytical study was carried out in villages Chanderpura, Siryasar Kalan, Durana to assess the health status of the individual pertaining to water borne diseases in the rural areas of Rajasthan.

STUDY TOOL

In total, 150 participants were interviewed with the help

of a self-designed pre-tested semi-structured questionnaire. Prior to the interview, informed consent was obtained from the participants. Questionnaire was designed to elicit descriptive accounts of the informats' everyday life, water usage, water storage habits, personal hygiene habits and experiences with diseases. Data collected was statistically analyzed using Statistical Package for Social Sciences.

STUDY PERIOD

The study was carried out in period of 6 months that is, October 2018 to 2019. The study started with the collection of water samples form the villages, with the help of sterilized test tubes. For the microbiological sampling water samples were brought to the laboratory in clean sterile test tubes and analyzed within 24 h. These samples were taken from common water sources, that is, from where the whole village gets its water supply. So, testing water samples from these common sources like water tank, tube wells, wells, and common water taps, would serve the purpose and save resources.

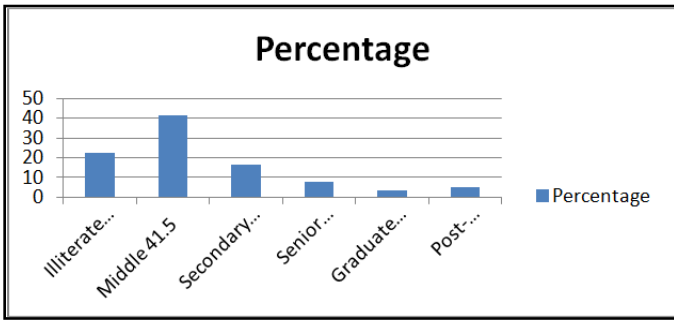
To ascertain microbiological quality of drinking water of the selected villages, a total of water samples were collected, one form the households, one form common taps and one form the water tanks of each village. Microbiological assessment using Nutrient agar and MacConky agar were used for presumptive and confirmed counts, using the colony count and most probable number techniques.

RESULTS

The age distribution of people interviewed is given in Table 2. The education status of the population is given in Figure 1. According to the data collected, most of the subjects were illiterate of below Secondary pass so the level of literacy was very poor among the subjects under

study.

FIGURE: 1 EDUCATION STATES OF THE SUBJECT.



MONTHLY INCOME OF THE SUBJECTS

Majority of the subjects 64% were form lower socio-economic group, earning a monthly salary of 0 to 10,000 rupees only. Mean salary of the studied population was rs 10,575 only.

TABLE: 2 AGE DISTRIBUTION OF THE SUBJECTS.

AGE GROUP	PERCENTAGE
16-20	9.5
21-25	29.5
26-30	16.0
31-35	15.5
36-40	9.0
41-45	6.5
46-50	4.0
51-55	3.5
56-60	6.5

Sources: Pursued field survey, 2018

SOURCES FOR DRINKING WATER

Various sources for drinking water were tap (18.5%), well (10.0%), tube well (9.0%), and community water source supply (62.0%). Methods used for purification of drinking water included boiling (0.0%) and Muslim cloth (4.5%), while 94.5% did not use any method for purification of drinking water.

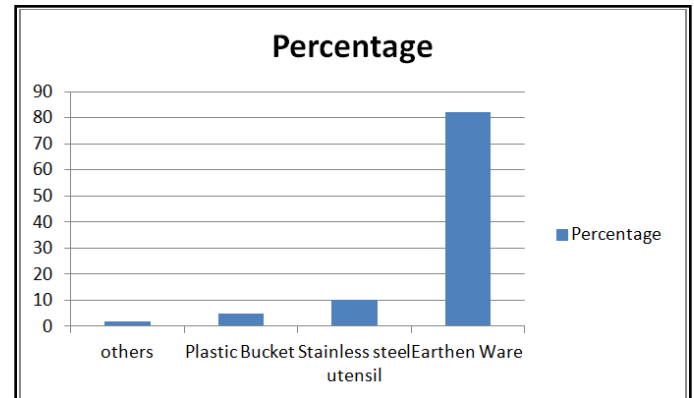
STORAGE OF DRINKING WATER

During storage of drinking water also, they did not use any precaution particularly. About 82.5% stored water in earthenware pots. 11.5% in stainless steel containers, 60% in plastic buckets as indicated in Figure 3. Most of them did not use any separate glass for taking out water from the containers in which water was stored. Inhabitants of the village, especially children, did not use basic hygiene measures like washing hands before taking out water from the storage container. Most of the villagers informed that they wash their water-storage utensil once a month while some of them washed it once every 3 to 4 months.

Most of them were not aware of various precautions to be

taken before and after storing water and to prevent water-borne diseases.

FIGURE: 2 STORAGE OF DRINKING WATER



MEDICAL ILLNESS OF THE SUBJECTS

About 30% suffered form medical illnesses like diarrhea, vomiting, headache, stomach ache, dizziness, fever etc. while 70% did not have any such symptoms as shown in Figure 2.

MICROBIOLOGICAL ASSESSMENT OF GROUND WATER

Microbiological test results are shown in Table 3. Most probable numbers (MPN) is a suitable and widely used method to determine the extent of microbiological quality of water. Most of the villages showed infinite number of microbial content, with the worst being Siriyasar Kalan village.

TABLE: 3 MICROBIOLOGICAL ASSESSMENT OF GROUND WATER

S.No.	Village	Samples 100 ml MPN
1	Siriyasar Kalan	63
2	Chandrapura	17
3	Duran	16

FINDINGS / CONCLUSION

The village's chandrapura, siriyasar kalan and durana have around 146, 587 and 162 households, respectively. Majority of the rural population approximately 75% does not use any method of water disinfection. According to the above study also, majority o villagers (94.5%) did not use any method for purification of drinking water and had poor knowledge about the need and availability of safe drinking water. Educating people and mass media campaigning can be used to popularize these methods. However, sustainability of these methods over long periods or cost-effectiveness in rural is still questionable. In the present study, use of chlorine form water purification was not prevalent. The study villages had no organized sewage system, open drains were common site and there was localized collections of waste water. Animal faecal matter was interspersed around houses (where animals were tethered), and on the streets. Also at certain

points, faeces were visible in the sewage drains and around the localized waste water collection spots.

REFERENCES

1. Clasen T, Roberts 1, Rabie T, Schmidt W, Cairncross S (2006). Interventions to improve water quality for preventing diarrhea. Cochrane database Syst. Rev. 3: CD004794.
2. Government of Rajasthan (2009). Environmental Management Guidelines and action Plan of SWRPD for Water Sector in Rajasthan. Rajasthan, India.
3. Ministry of Water Resources, Government of India (2008). Ground Water Brochure. Jhunjhunu District, Rajasthan. India.
4. Water Pollution Guide. Retrieved from <http://www.waterpollution.org.uk/economy.html>
5. World Health Organization: Guidelines for drinking water quality vol. I. Guidelines for drinking water quality vole. I. Geneva (1983)
6. World Health Organization (2012). Diarrhoeal Diseases. Who, Geneva. Retrieved from: http://www.who.int/vaccine_research/documents/diarrhoeal_Diseases_20091122.pdf