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## Assessment Of Impact Of Education On Human Health Behavior In Jhansi, Uttar Pradesh, India

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## Abstract

Education is an important social determinant of health. Knowledge and skills (personal & social) achieved through it can better equip us to get benefitted from maximum health services and incentive programmes. It is a factor responsible to generate more cohesive, safer, healthier and wealthier society. Conversely, the lower level of education provide shelter to increased risk of durable illness and finally to die at younger age.

Jhansi, a globally famed historical district of Bundelkhand is remaining a socio-economically backward area due to political negligence. The education level of the population is not very satisfactory. Therefore, a study was done in the present investigation to explore the health impact of education on the population of Jhansi. The health risk assessment questionnaire (HRAQ) based consented health survey of total 2000 individuals of stated area was done. As a result, the increased incidences of ill health behaviors (87%) were reported among uneducated volunteers while the educated respondents were found comparatively healthy (only 32% unhealthy cases). Interestingly, the number of educated volunteers (n=1419) was more than the uneducated ones (n=581).

## Introduction

Health is not experienced equally by all people [1]. It depends on the interaction of various biotic and abiotic factors at individual, family, community, national and international level [2]. Socio-Economical conditions are one among them which strongly influences the health opportunities of individual to society, though the mechanism is not fully understood [3, 4]. Education, an important social factor is major determinant of human health and financial stability. Extensive research has been done to better understand the multiplicity of ways of its impact on health. Consequently, the large effect is observed in different ways at different stages of life cycle [5] viz. greater impact on mental health in younger age and physical functioning in older people [6]. Since, the education

attainment influences subsequent employment chances and earnings potentials of individual therefore it hugely support in financial stability and economical wealth of one and all [7]. However, the benefits are expanded far beyond the economics only and it can impact by several ways on levels of social engagement to grow healthier society. Interestingly, the adoptability of health behaviors and negligence of unhealthy habits in a high level educated society has been validated [8].

Furthermore, the population health measurements in terms of morbidity, mortality, health behaviors or health knowledge have strengthened the positive association of education and health. This is particularly true in case of physical activity, diet, sexual activity and smoking habits [7]. Research indicates that educated personnel are more likely to be physically active and participate in sports activities [9]. They prefer to consume balanced diet containing more fruits, vegetables and fiber instead of added fat than those with lesser education [10, 11].

Most essentially the educated one practice safer sex and contribute in individual to national growth keeping population clock in arrest. In a study it is shown that the people with lower or no education were more involved in treacherous sex at younger age since they were less aware about contraception and sexually transmitted infections [12]. The fact is evidenced with the common birth in teenagers with lesser or no education [13]. As for as smoking is concern the people with higher levels of education are less likely to smoke and are more successful when attempting to quit [14]. According to Pulkki et al., 2003 [15] peoples with lowest or no education were eight times more anticipated to be smokers than those with better education.

So, now when education is a crucial factor for health determination, a study was done in the present investigation to explore its health impact on the population of Jhansi as well. A Health Risk Assessment Questionnaire (HRAQ) [16] based human health survey of total 2000 individuals was done for the same.

### Description of study area

Jhansi is located in the plateau of central India, an

area dominated by rocky reliefs and minerals underneath the soil. From Population point of view it is 77<sup>th</sup> ranked among most populated cities of India with total district population of 17, 44931 peoples [17]. The socio-economical conditions of district are not very pleasant. Since, as per census 2001, 35% population was reported illiterate while 63%, a very significant fraction of population was of non-workers (shown in Illustration-1).

## Methods

At the outset, a health risk assessment questionnaire (HRAQ) [16] containing all the variables of our interest was prepared to study the present health behavior and possible future health risks of volunteer. Total 58 questions of HRAQ were grouped under the section of Personal history, Environmental status, occupational health status (clinical history, disease history) and socio-economical status. All the variables used advanced analytics to simulate and predict volunteers' health behavior. Taking concern of education level of selected population and for quality of data & better volunteers' response, in the next step of study, the HRAQ was translated in Hindi (mother language of India) from English [16] so that our extrapolated model could be more synchronized to simulate the health risk assessment interventions.

Subsequently, as per potentially affective interventions strategy, the data collection, a central element of the study was carried out. Selection of individuals for survey was random with voluntary participation. Proper consent from every respondent was taken before survey and informed well about liberty to quit the survey at any stage as and when he/she feel inclined. Prior approval from University ethical clearance committee of Bundelkhand University, Jhansi was taken.

Surveyed individuals were categorized further in educated and uneducated groups according to information they provided. Moreover, to check the effect of higher education on human health the educated ones were further cataloged under six set according to level of qualification they have. These were Secondary-High school, Intermediate, Graduate, Post Graduate, Doctorate and Technical Qualification (Illustration-3)

Now the comparative health behavior analysis of educated and uneducated volunteers was done by developed *in-silico* tool [16]. Healthy and unhealthy status was decided as per information they provided. All unhealthy cases were further assessed for the type

of disorder they live with and grouped accordingly in body system named nine groups keeping each in particular group according to disorders they told. The systems considered were Sensory system, Cardio-Vascular system, Teeth & Gums, Gastro-Intestinal system, Musculo-Skeletal system, Nervous system, Genito-Urinary system, Respiratory system and Skin.

## Results

Total 2000 volunteers' data was collected during study. As per education related information provided by respondents, 71% volunteers were reported educated while remain 29% were found unable to read and write (Illustration-2). In qualification based categorization highest 537 volunteers were found possessing intermediate level of education while the people with doctorate were very low (n=125) (Illustration-3). Reduction in volunteers' count from lower to higher education was clearly observed.

In comparative health status analysis, 87% of illiterates were found unhealthy in opposite to just 32% among educated ones. People with good education level were observed health conscious with better health knowledge which is reflected by the considerable drop in health with decreasing education level (Illustration-2).

In body systems related health analysis of all 957 unhealthy volunteers, highest 177 cases were found linked to Sensory system. Cases reported under Respiratory system (148), Cardio-Vascular system (135), Musculo-Skeletal system (113), Nervous system (109) and Gastro-Intestinal system (105) were also considerably high (Illustration-4). Volunteers kept under others category were having more than one system related disorders.

## Discussion

The figure of educated ones among surveyed population was higher because they were found more supportive and could easily understand the aim of study. Conversely, people with less or no education were many times not ready to answer and if convinced then mid survey withdrawals were very frequent. Realistically, the people with higher education are more likely to join the voluntary programs and participate in community activities [18, 19]. They are also more likely to possess healthy social attitudes such as greater understanding of health policies and efforts for equality of opportunities to everyone for

improved health [19, 20, 21]. Moreover, being educated, they better understand their duties for family, society and nation because education ensures their psychological development through enhancing their self-efficacy [22] to become responsible citizen of any country.

Jhansi was always waiting to be facilitated with good institute of higher education. Though, Bundelkhand University was established in the area in 1975 but it raises its wings couple of decades after its existence. However, now including Maharani Laxmi Bai Medical College, Engineering College and few others there are many schools, colleges and private institutions which are offering better junior and higher education in Jhansi. But poorer socio-economical status of the area is major blockade into better higher education attainment. Being major impediment it ruins pre-primary through compulsory schooling to higher education and beyond. Besides, it underlies many other factors like poor health in childhood which can contribute to poorer participation in education. Reports suggested that experiencing ill-health in childhood impacts stronger than poor socio-economical background [23, 24]. Therefore, many people even with apt thirst of education reached up to intermediate level only.

The observation of better health among educated personnel is obvious because the people with higher education experience a greater sense of control over their lives which in turn may lead to better health [25, 26, 27]. More interestingly, the education directs the life in several ways and can have a lifelong impact on life satisfaction. Generally people with better education can allocate more resources to health and can derive greater health benefits from them than those with lesser education [28]. In addition of that, people with more education has more probability to avoid alcoholism and smoking and if trapped anyway can easily quit. Since, these habits might limit earning capacities of individual by causing ill health in the future [29].

As for as specific body system related health disorders are concern they may be determined by several physical, chemical and biological factors' exposure in different doses to human health. Any single factor may not necessarily be responsible always. But education is the social factor which potentiates us to supervise them all and escape from their deleterious effects as and when needed.

## Conclusion(s)

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Conclusively, the health is a fundamental tool to attain everything in life while education is an elementary constraint to attain good health. It influences health in several decisive ways like people with good education pass their life in more scientific way which many times protect them to be trapped in avoidable circumstances. Improved understanding of the relationship between education and health may help to identify where effort is needed and intervention is most appropriate & effective in improving both individual and population health.

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## Illustrations

### Illustration 1

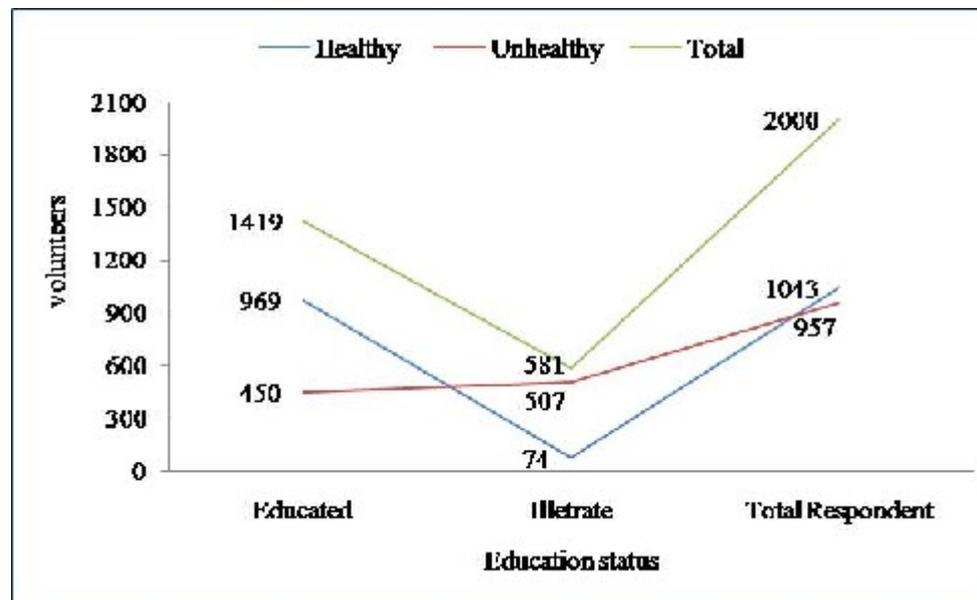
Showing demographic profile of Jhansi

Indicators	Data	Indicators	Data
Area (in sq. km.)	4024	Literacy Rate (%)	65.5
Population	1744931	Male	78.8
Male	932818	Female	50.2
Female	812113	Density of Population (per sq.km.)	348
Illiterates Population	786162	Average Size of Family	6.0
Male	315311	% of Urban Population	40.8
Female	470851	No. of Tehsils	05
Per Capita Income (2000 01)	12131	No. of Blocks	08
Work Participation Rate (%)	37.0	% of Non-Workers	63.0

Source: Census of India (Uttar Pradesh), 2001 and U. P. State Statistical Dairy, 2003

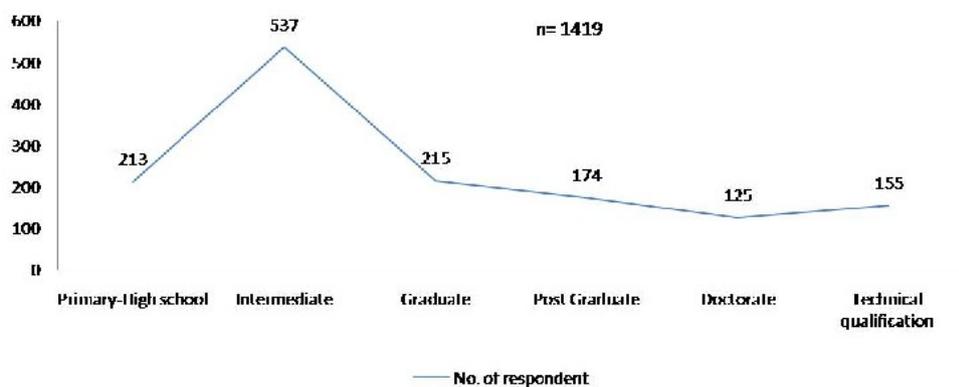
### Illustration 2

Showing comparative health status of educated and uneducated volunteers.



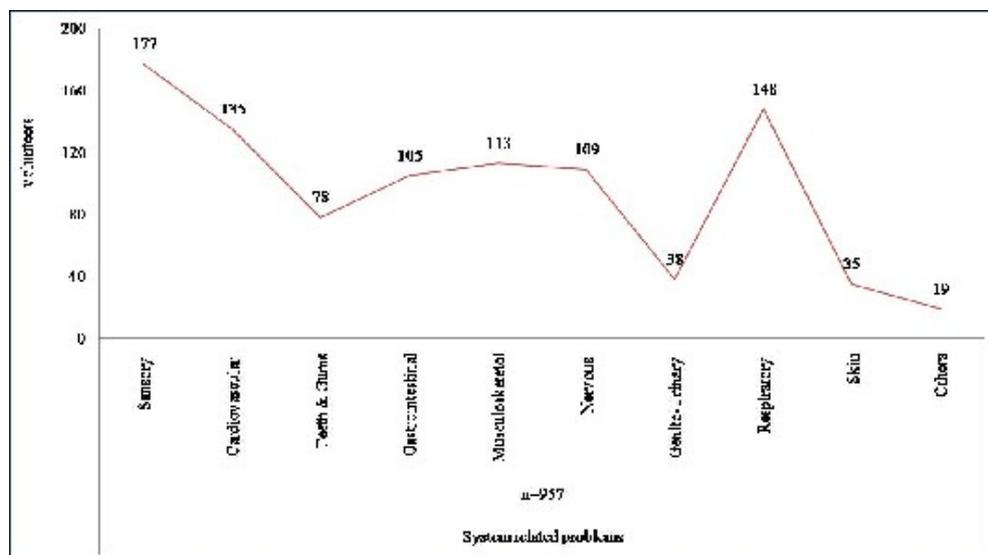
### Illustration 3

Showing different education level of volunteers.



### Illustration 4

Showing volunteers associated with different body systems related health disorders among illiterates.



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