



# Relation with Knowledge and Attitude on Health Promotion Activities among Adults with Lifestyle Disease—A Cohort Study

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## Abstract

**Introduction** The World Health Organization (2010) reported that, in India, the estimated mortality rate due to noncommunicable diseases among males is 61.8% and 55% among females, indicating that lifestyle diseases are a significant challenge to public health. Thus, the study aimed to find the correlation between knowledge and attitude of health promotion activities among patients with lifestyle diseases.

**Materials and Methods** One hundred adults with lifestyle diseases were selected purposively with predetermined inclusion criteria for the study. The knowledge and attitude scores on health promotion activities were assessed using demographic proforma, knowledge questionnaire on lifestyle diseases, and a five-point Likert scale on attitude on health promotional activities.

**Results** The results highlighted that the majority 51% had inadequate knowledge on health promotion activities of lifestyle diseases, and 58% of the subjects had an unfavorable attitude toward health promotion activities. The study found that there is a significant association between the key demographic variables with knowledge and attitude toward lifestyle diseases with  $p < 0.05$ .

**Conclusion** Lifestyle diseases contribute to major disease burden toward any society as well as it increases mortality and morbidity rates. Current study's result evidences that the increase in knowledge on lifestyle diseases influences the attitude toward health promotional activities.

## Keywords

- ▶ knowledge
- ▶ attitude
- ▶ health promotion
- ▶ patient
- ▶ lifestyle

## Introduction

Noncommunicable diseases (NCDs) or lifestyle diseases are imposing a massive challenge to the public health sector of the world's second-most populous country, India. Around 2.4 million Indians are deceased every year due to lifestyle diseases, which is a worst-case scenario in consideration of global death ratio.<sup>1</sup>

Lifestyle disease occurrence purely depends on the living habits of people, and it is a resultant of incompatible relation

exhibited by humans with the environment. The wrong food habits, smoking and alcohol addiction, can be attributed to lifestyle disorders. Apart from this, physical inactivity, increased blood glucose level, increased cholesterol, disturbed sleep cycle, and improper body mechanics can also result in lifestyle diseases.

The global health statistics released in 2012 by the World Health Organization showed that in India, 22.6% of women and 23.1% men older than 25 years were suffering from hypertension. In India, 25 to 35 million patients have

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diabetes, 45% of deaths are due to coronary artery disease, and 51% are as a result of a stroke.<sup>2</sup>

In developed countries, lifestyle diseases typically have been seen in the individual aged 55 years or older, but in India, their onset occurs a decade earlier ( $\geq 45$  years of age). The estimated range of deaths as a result of NCDs has augmented from 37.1% (1990) to 61.8% (2016). The burden of death due to lifestyle diseases is estimated to increase three-fourth times by 2030. It is an extremely challenging task for the nation to minimize the prevalence of mortality and morbidity occurring due to lifestyle diseases.<sup>3</sup> Considering the fact that there is limited awareness regarding lifestyle diseases among people in the Indian scenario, the authors felt the need for assessing the knowledge regarding health promotion activities among people with lifestyle diseases. The aims and objectives of the study were to assess the knowledge and attitude of health promotion activities among patients with lifestyle diseases, find out the correlation between knowledge and attitude of health promotion activities among patients with lifestyle diseases, and find out the association of the knowledge and attitude of health promotion activities with selected demographic variables of the patients with lifestyle diseases.

## Materials and Methods

The present cross-sectional study conducted in two tertiary care hospitals in Mangaluru, from December 3, 2019, to December 31, 2019. The study was conducted in outpatient department and inpatient department of two hospitals after obtaining permission from the institutional ethics committee (NUINS/CON/NU/IEC/2019-20/1474 dated April 10, 2019). The researchers considered four lifestyle diseases for the sample selection, which included diabetes mellitus, hypertension, myocardial infarction, and peripheral vascular disease. One hundred study participants selected purposively by the presence of any one of the chosen lifestyle diseases who was older than 30 years. Participant's health history and diagnosis were verified with the hospital clinical register data. Patients suffering from a physical and mental disability which restricts them from participating in the study were excluded from the study. The purpose of the study was explained to the participants in their vernacular language and informed consent was obtained.

### Data Collection Methods

Sociodemographic data, namely, age, gender, educational status, religion, nature of the job, monthly income, type of family, and diet, and clinical characteristics of the data, namely, personal habits, history of lifestyle diseases, family history of the illness, and source of information on lifestyle disease were collected using baseline proforma. A structured knowledge questionnaire on lifestyle diseases and attitude scale on health promotional activities were utilized to assess the knowledge and attitude, respectively. All the tools were validated by 11 experts from the subjected and established content validity. The pilot study was conducted, and the tools

were found reliable using Cronbach's  $\alpha$  value ( $r=0.774$ ). Knowledge questionnaire had 24 questions from various aspects of lifestyle disease emphasizing the management and health promotional activities. The data on knowledge were categorized as adequate knowledge level and inadequate based on the mean value.

The attitude on health promotional activities was measured using five points Likert scale. Cutoff scores considered based on the mean score of the participants, mean and above mean are considered as the favorable attitude, and below mean is considered as the unfavorable attitude.

### Statistical Analysis

The collected data were recorded systematically and analyzed with descriptive and inferential statistics at a 5% level of significance using IBM SPSS version 23 software. The knowledge and attitude of health promotion activities were analyzed using frequency and percentage. The relationship between knowledge and attitude was assessed by using Karl Pearson's correlation coefficient. The association of the knowledge and attitude of health promotion activities with selected demographic variables was analyzed using the chi-square test.

## Results

### Baseline Characteristics

A large portion (45%) of the subjects belonged to the age group between 45 and 60 years, and most of the subjects were male; 48% of the subjects have completed only primary school education. Nearly one-third (35%) of the subjects was on daily wages, and 43% were having monthly income of <5,000 rupees. High portion (61%) of the subjects was taking a mixed diet.

Clinical characteristics of the subjects revealed that 15% of them had the habit of alcohol intake, and 18% had the habit of smoking; 46% of subjects had diabetes mellitus. In this study, it is evident that a majority (66%) had a family history of lifestyle disease, and 55% of the subjects were not having the information on lifestyle diseases.

The mean knowledge score on health promotion activities was  $11.98 \pm 4.597$ , and the mean attitude score was  $71.11 \pm 7.493$ . Out of 100 subjects, 51% had inadequate knowledge of health promotional activities of lifestyle disease. In the current study, it is evident that the majority of the subjects (58%) had an unfavorable attitude.

The results indicated that there was a weak positive correlation between knowledge and attitude regarding health promotion activities as the  $r$  value is 0.176, whereas it is statistically insignificant ( $p=0.08$ ).

There was a significant association between selected demographic variables nature of the job ( $p=0.028$ ), monthly income ( $p=0.005$ ), family history of lifestyle disease ( $p=0.049$ ), information on lifestyle diseases ( $p=0.001$ ) with the knowledge score on health promotion activities, and monthly income ( $p=0.012$ ) and information on lifestyle disease ( $p=0.016$ ) with the attitude scale on health promotion activities of lifestyle disease.

## Discussion

In the present study, a notable (18%) portion of the subjects exhibited a smoking habit, while 15% engaged in alcoholism. Comparable figures in previous research indicated a smoking prevalence of 17.6%, with a higher incidence of 52.9% for alcoholism.<sup>4</sup>

The current study showed that the majority of the subjects (51%) had inadequate knowledge, and 49% had adequate knowledge regarding health promotion activities. Similar findings were reported in other studies.<sup>5</sup>

The study disclosed that 58% of participants held an unfavorable attitude, contrasting with 42% who had a favorable attitude toward health promotion activities. Similar trends were observed in previous research.<sup>6</sup>

No significant correlation ( $p$ -value of 0.08) emerged between knowledge and attitude regarding health promotion activities, in contrast to findings in other studies.<sup>7,8</sup>

The results indicated a significant association between knowledge and demographic variables such as job nature, monthly income, history of hypertension, and information on lifestyle diseases. This aligns with similar findings in another study.<sup>9</sup>

## Conclusion

Despite all the major health threats to emerge, none has challenged the foundations of public health so intensely as the rise of chronic NCDs. Heart disease, diabetes, chronic respiratory diseases, and cancer, once linked only to affluent societies, are now global, and the poor suffers the most. Multiple chronic conditions are exacerbating this problem of lifestyle disease, and the fact remains undiagnosed due to the lack of awareness and insufficient health care access. Hence, here is a need to develop educational policies and programs to create awareness and knowledge. The community should be educated on lifestyle disease causes and prevention to reduce the risk of developing diseases.

## Note

Nitte Usha Institute of Nursing Sciences, a constituent college of Nitte (Deemed to be University).

## Conflict of Interest

None declared.

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