

# Effectiveness of Community Based Education Program in Terms of Knowledge of Males Regarding Prostate Cancer

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## Abstract

**Introduction:** CBEP is an important part of public health awareness and cost effective strategy to promote the health especially for non- communicable diseases like prostate cancer in males. The function of Prostate gland is to produce fluid for semen, which helps in nourishment and transportation of sperm cells. Over time, some prostate cells become cancerous which leads to prostate cancer. Prostate cancer is one of the most commonly observed cancer types in old age. Prostate cancer (PCa) is the second most common cause of cancer and the sixth leading cause of cancer death among men worldwide. Incidence of Prostate Cancer in India is 19,095 and Mortality is 12,231 according to Globacon, 2012.

**Material and Methods:** A quasi-experimental one group pre-test post-test design was used. There were 63 males selected using total enumerative sampling technique. Research tool (Structured knowledge questionnaire) was developed and submitted to 9 experts from various specialists for validity. Reliability was calculated by Kuder Richardson (KR20) method and it was 0.71 to assess knowledge of males regarding prostate cancer. Data collection was done in January 2017. The obtained data was analyzed and interpreted in terms of objectives and research hypotheses. Analysis was done by using descriptive and inferential statistics.

**Results:** Majority of males (96%) were educated till primary level, and majority of (76%) were married. Majority (78%) of males had habit of smoking. The mean post-test knowledge scores with standard deviation of males ( $19.04 \pm 4.3$ , was significantly higher than mean pre-test knowledge ( $10.76 \pm 4.5$ ). Weak positive significant correlation ( $r=0.60$ ) was found between post-test knowledge scores of males regarding prostate cancer. A significant association was found between level of post-test knowledge with educational status.

**Conclusion:** Community based education program was an effective strategy to enhance the knowledge of males regarding prostate cancer.

**Keywords:** Knowledge; Attitude; Effectiveness; Community based education program; Males; Prostate cancer

## Introduction

Cancer is spreading worldwide in many forms. Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. Cancer is a name given to a collection of related diseases. In all types of cancer, some of the body's cells begin to divide without stopping and spreads into surrounding tissues. One in three persons will develop some form of cancer during their lifetime [1]. Many a time people wonder how cancer is caused. Studies have shown that cancer is caused by many reasons in human body. Some are chemical, exercise, diet, radiations, infections, hormones, physical agents and genetic changes [2]. There were 8.7 million deaths due to cancer and around 17.5 million of cancer cases worldwide. Between 2005 and 2015, cancer cases increased by 33% with factors like population aging 16%, population growth 13% and changes in age-specific rates contributing 4%. Cancers of trachea, lung and bronchus were the one of the leading causes of cancer deaths and DALYs in males (1.2 million deaths and 25.9 million DALYs) [3].

The prostate gland resembles the walnut in size. It is located below the bladder and in front of the rectum in the male reproductive system. It is surrounded the urethra, whose function is to carry urine from the bladder to outside the body. The function of Prostate gland is to produce fluid for semen, which helps in transportation of sperm cells and its nourishment. Over time, some prostate cells become cancerous which leads to prostate cancer [4]. Prostate cancer is one of the most commonly observed cancer types in old age (prostate cancer Foundation, 2010). The worldwide PCa burden is expected to grow to

1.7 million new cases and 4,99,000 new deaths by 2030 simply due to the growth and aging of the global population [5].

According to the official census published by American Cancer Society, prostate cancer was reported as the second most leading cause of cancer death among American males after lung cancer and its incidence ranked the first among all cancers in 2013 [3]. Further according to WCRFI (World cancer research fund international). Tables show the top second most leading prostate cancer contributed nearly 15% of all cancers [6]. The incidence of prostate cancer in India is 19,095 and Mortality is 12,231 according to Globacon, 2012. According to WHO report on Cancer control health education and promotion should be an integral part of any national cancer control program. Health education regarding knowledge regarding prostate cancer which includes awareness of risk factors, symptoms, importance of screening may help in reducing the barriers and change the screening attitude among males [7].

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## Methods

By using Quasi Experimental: One group pre-test post-test design, the study was conducted in rural village Simbla, Ambala, Haryana. Through total enumerative sampling technique 63 males were selected for the study (Table 1).

### Inclusion criteria

The study included males who were:

- Available throughout the study period and willing to participate
- Able to speak and understand Hindi

### Exclusion criteria

The study excluded males who:

- Had undergone Prostatectomy
- Were already diagnosed with prostate cancer or any other type of cancer
- Had already attended educational program regarding prostate cancer

### Procedure for Data Collection

Ethical approval to conduct the study was obtained from the Institutional Ethical Committee of MM University, Mullana. Formal administrative approval was obtained from Sarpanch of Simbla village, Ambala dist. Haryana to conduct the final study in the month of December 2017 and January 2017.

### Development and description of data collection tools

The tools for the study were developed and prepared by undertaking following steps (Figure 1):

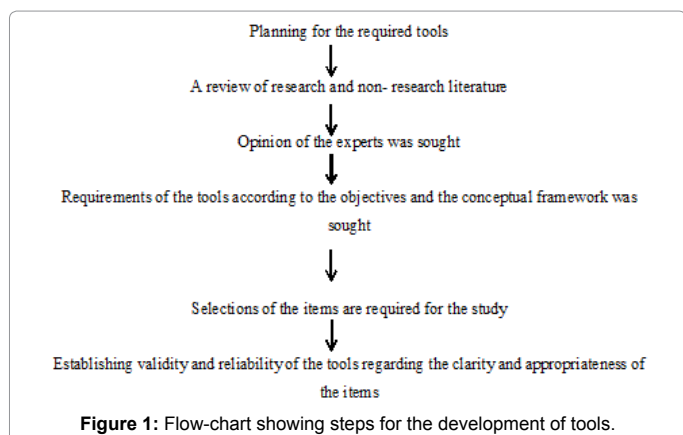
### Development and description of tools

#### Section I: Selected demographic variables

This section consists of 9 items such as age, religion, education

Group	Day1	Day 2	Day 14
Males aged >50 years residing in selected rural areas of Haryana divided in 11 groups of 3-6 persons in each group	Pre-test of Knowledge and attitude of males regarding prostate cancer	Administration of Community based education program	Post-test of Knowledge and attitude of males regarding prostate cancer

Table 1: Schematic representation of research design.



status, employment status, family income, dietary pattern, marital status, history of prostate cancer, previous knowledge for prostate cancer.

### Section II: Structured knowledge questionnaire for prostate cancer

A structured knowledge questionnaire was developed to assess knowledge of males regarding Anatomy and concept of prostate gland, risk factors, sign and symptoms of prostate cancer, screening and prevention and treatment of prostate cancer.

A preliminary list of 30 items on knowledge was prepared under the following headings:

- Anatomy and concept of prostate cancer
- Risk factors of prostate cancer
- Sign and symptoms of prostate cancer
- Screening of prostate cancer
- Prevention and treatment of prostate cancer

### Results and Analysis

The data was analyzed using descriptive statistics and inferential statistics.

#### Descriptive statistics

Frequency, percentage distribution was used to describe selected variables. The findings revealed that:

- 39.7% of males were in the age group of 50-60 years, followed by 36.5% in age group 71-80, 20.6% in the age group of 61-70 years.
- Findings revealed that nearly half of the males (46.0%) had primary education, followed by 33.3% of males had secondary education, 9.5% had higher secondary education, 7.9% were non-literate and very few 3.2% were graduates and above.
- Most of males (73.0%) were married. Maximum of males (69.8%) were Hindu and about 30.2% were Sikh.
- More than half (50.8%) of males were living in joint family, less than half (39.7%) were living in nuclear family whereas 9.5% were living in extended family. Nearly half (50.8%) of males were vegetarian. Majority (95.2%) of males had no family history of prostate cancer, whereas few (4.8%) had family history of prostate cancer.
- Most of (66.7%) of males had smoking habit. Majority (73.0%) of males had no previous knowledge regarding prostate cancer (Table 2).

#### Inferential statistics

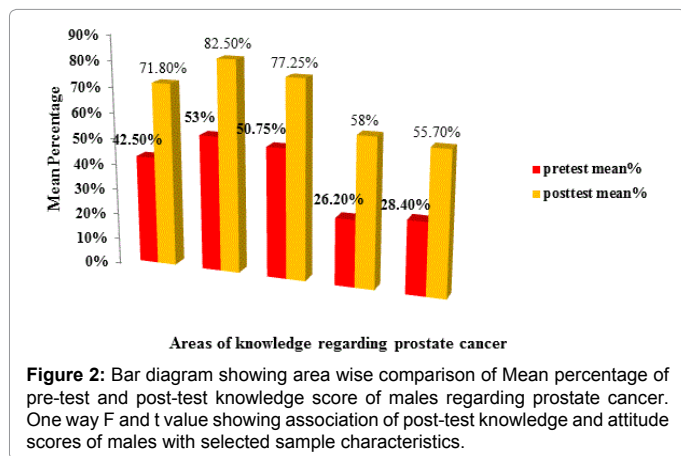
Independent t-test/ANOVA was used to assess the association between knowledge score with their selected variables (Figure 2).

Thus knowledge and attitude score of males regarding prostate

Knowledge	Mean	MD	SDD	SEMD	t value	P value
Pre-test	10.76					
		8.65	4.77	0.6	14.38	0.001*
Post-test	19.4					

df=62, table value-3.37 \*significance (p<0.05)

Table 2: Mean, Mean difference, Standard Deviation Difference, Standard Error of Mean Difference and 't' value of mean pre-test and post- test knowledge score of males regarding prostate cancer (N=63).



Selected variables Education status	Mean Difference	Standard Error	P value
Non-literate vs. Primary	0.02	1.88	1
Non-literate vs. Secondary	-1.6	1.93	0.92
Non-literate vs. Higher secondary	-6.4	2.35	0.06
Non-literate vs. Graduate or above	3.9	3.25	0.75
Primary vs. Secondary	-1.6	1.11	0.59
Primary vs. Higher secondary	-6.45	1.74	0.04*
Primary vs. Graduate or above	3.87	2.84	0.65
Secondary vs. Non-literate	1.6	0.922	0.92
Secondary vs. Higher	-4.8	0.069	0.06
Secondary vs. Graduate or above	5.5	0.324	0.32
Higher secondary vs. Graduate or above	10.33	3.17	0.01*

**Table 3:** Post Hoc value showing difference mean score of knowledge score among selected sample characteristics (N=63).

cancer were independent of these sample characteristics except education status (4.41) in knowledge score denotes that these have association with knowledge scores. There was significant association of post-test knowledge scores of males with education status at 0.05 level of significance. Post Hoc test was applied to further isolate the differences between mean knowledge scores with education status that are responsible for significant among values. (Table 3) presents that post hoc test showing significant difference in education status up to higher secondary (p=0.05). It showed that males who had higher knowledge level had higher education status.

## Discussion

In the present study, none of the male had the very good knowledge regarding prostate cancer and 92% had poor knowledge before the community based education program whereas 33.3% had average knowledge while only 17% had poor knowledge regarding prostate cancer after administration of prostate cancer. Similar findings were reported in a study conducted to evaluate the effectiveness of a brief educational seminar to assess knowledge regarding prostate cancer of retired males, where the findings revealed that before the intervention, only 26% questions were answered and after educational seminar it increased to 73.3% [8].

In the present study, (53%) males were having highest pre-test mean percentage score obtained in the area of risk factors of prostate cancer, (50.75%) obtained in sign and symptoms, (42.5%) in anatomy and concepts, (28.4%) in prevention and treatment and rest (26.2%) in screening

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