CHAPTER-I

INTRODUCTION

"Gold agers are our worthy blessing

Value and assist them to live with dignity"

Aging is a natural unrestrictive and irreversible process. In this there are changes in various dimensions which include physiological, mental, social, and ideological. Elders are generally defined as individuals 60 years and older and the process of aging not only affects the older persons, but it also has a remarkable effect on families as well as on society.

According to the Indian Aging Report (2017) globally, the elderly residents constitute about 12% of the total population of 7.3 billion. National statistical office (NSO)'s Elderly in India 2021, reported that India's gold agers population is projected to reach 194 million in 2031 and also their dependency ratio will raise from 15.7% to 20.1%. The number of elderlies will increase twice by 2050, and approximately will be up to 2 billion and will contribute to about 22% of the global population, outnumbering those under the age of 15 for the first time in history.[1,2] This shift in distribution of a country's population is towards older age is identified as population aging.

"Normal" aging is very different from diseases, but yes with age, there is a decrement in various systems of the body.[2] Each individual is unique in their physical and mental aging processes. And as per the biological school of thought of aging, there is a loss in the number of cells along with changes in enzymatic activities going in a cell. Age is not a speedy activity. It usually goes by its own flow and rhythm but ultimately affects all cardiovascular, respiratory, musculoskeletal, gastrointestinal, endocrine, genitourinary, sensory, and immune systems.[3]

Cognition simply means the psychological processes and activities related to understanding things, making judgments, memory, and reasoning in comparison to emotional and volitional processes.[4] As the person grows, loss in number and functioning of neurons begins, which is correlated with the lessening in brain weight to about 10 percent in the 90 years of age. Not only there is loss in brain weight but also there is a decrease or decline in memory, intellectual functioning, and learning ability. Therefore, it is said that aging is not a curse but it makes a person physically, psychologically, socially, and economically weak. Old age is the age of cognitive impairment. Some of the cognitive changes found in elderly are:

- Most common is loss of memory, which generally gets identified by near ones
- Trouble in communication process, specifically finding correct words
- Trouble in problem-solving and reasoning, puzzled and disorientation with time, place, person
- Trouble while doing complex work and issues in planning as well in organizing
- Troubled coordination and motor abilities

Background of the Study

Normally cognitive function starts to decline from 50 years of age and speeds up after the 65 years of age. The decrement of this cognitive functions (attention, memory, orientation, and executive function) is known as a cognitive impairment which changes the overall personality of the individual. Diminishing of cognitive functions affects the activities and daily life of the person. Gold agers with declined cognitive ability and dementia, are not only affected, their families, relatives, and friends are also affected at personal, economical, emotional, and social levels.[5] Cognitive impairment in senior citizens has a number of causes. These causes may encompass medication side effects, hypertension, endocrine/metabolic derangement, depression, delirium due to intercurrent illness, depression, and dementia with neurodegenerative disorders, and some idiopathic or unknown causes.[6]

Prevalence of decline in cognitive functioning is found to be increasing with age, and Alzheimer's dementia being the most common cognitive impairment in elderly has a number of signs and symptoms.[7] India has excessive load of cognitive impairment due to vascular disease.[8]These patients face difficulty in holding attention both divided and selected, decrease in processing speed, difficulty in organizing tasks, decrease in the ability of decision-making skills, memory problems, difficulty in finding right words to express oneself, losing thinking ability and thought processes, and even social withdrawal which eventually affects the pattern of their daily routine activities. Cognitive impairment is classified into various categories such as mild, moderate, and severe, based on the amount of

impairment.[9]

Cognitive dysfunction may vary from serious or severe category to the relatively benign mild cognitive impairment (MCI), to dementia. If severe, cognitive impairment may worsen the life of both gold agers and their families. It is not possible to ignore this variation in the level of elderly's attention, memory, or overall personality or to consider it a result of normal aging. The prevention and treatment of cognitive impairment in senior citizens have been an important need and responsibility of the health sector area. Currently approved medication for neurodegenerative disorders has a discouragingly small effect on cognition and on disease progression.[10]

Apart from the pharmacotherapy, there are other approaches and programs like occupational therapy, environmental approach, brain training, dietary plan, executive cognitive structuring program, and cognitive stimulation therapy counted as worthwhile in improving cognitive functions.[11]

Cognitive stimulation is considered as "involvement in a number of activities as well as discussion (generally in a batch or group) which target at basic building up of the level of cognition and social abilities." This therapy has been popular, cost-effective, and successful in improving memory function. It is a themed-based multi-component therapy that focuses on cognitive abilities and can be given by the professional nurses, occupational-therapists, or a care giver. Each session in it will cover a unique theme and topic.[7,8]

National institute for health and clinical excellence of London advocated the

cognitive stimulation therapy as it is a non-pharmacological approach as well as it is a group-based intervention that can be easily carried out in nursing homes, old age homes or in the community.[8,12]

A testing has been done in twenty-three homes and daycare settings and the result proved that cognitive stimulation therapy is fruitful to restructure and build the intellectual power and memory ability. This is comparable to medicinal treatment given for loss or for treating the symptoms related to loss of memory.[13,14]

Cognitive stimulation therapy significantly improves both standard of life and mental ability in senior residents having dementia. Enhancement in cognition by cognitive stimulation therapy was similar to those seen in studies using acetyl cholinesterase inhibitors.[15]

Aging residents are growing at a very fast rate in all over the world and as according to the 2020 projection of gold agers in India for the period 2021 to 2051 their number is only getting larger. The present demographic changes likely to present a number of challenges includes increased dependency and poor quality of life. The proportion of this population that directly needs care is increasing, as is the load on community and country. Thus, it becomes very important to assess the cognitive fall in gold agers, and to identify the problem they facing related to this. This will provide the proper direction to plan cognitive stimulation programs and progressive strategies for gold agers thereby improving and boosting their mental health and overall standard of living in community.

Need for Study

The Indian community is facing a remarkable jump in elderly occupants. Our country is assumed to have more than 19% of a senior person by 2050.[1,2] According to the census report of 2011, a total of 25,351,462 people reside in the state of Haryana, India among which 9.9.% population belongs to elderly aged 60 years and above. Total 12,02,811 people belong to district Panipat (Haryana) among which majority 53.6% were of male and 46.3 were of female and 6.6% is only population of elderly. Further 53% population of district Panipat mainly living in rural areas. The number of elderlies has been increased from 2001 to 2011 in Haryana the growth rate during the period was 17.06% which was almost double to that of national average rate. Not only the number of 60 plus population increased but the age expectancy has also improved. People are living even longer and are confronted with disability and fragility.[16]

Gold agers involves a number of issues which are physical, psychological, economical, and social. Poor health diminishes the quality of life and wellbeing of gold agers. Cognitive impairment as well as dementia are booming internationally and are assumed to speed up proportionately more in growing nations.[17] Giri et al. reported that prevalence rate of the decline in cognitive function is very high in old age. Intellectual decline has become more common for an increase number of people, and also in old agers, which causes constraints on daily function and wellbeing.[18]

Decline in cognitive functioning has been related to age and is considered as a precursor to more severe conditions like depression and dementia. Looking at the trend and worldwide pressure of this decline in cognitive functioning, WHO and World Bank, share an information that declining cognitive ability and dementia accounts for 4.1% of all the difficult or compromised life years.[19] Rates of prevalence vary from region to region in our country.[20] The rate may possibly change with the variation in methods, screening tools, defining criteria, race, and with diverse cultural and geographical factors. The prevalence of declining cognitive functioning may vary from rural populations to those living in an urban-ones. The prevalence also shows variation from South to North India from 3.39 to 0.84 percent respectively.[21] Investigation done by Sengupta et al. showed that the prevalence rate of decline in cognitive function is 8.8% in North India, and recommended that a focus on geriatric health services and boosting of cognitive status should be added as prior care within the normal primary health care structure.[22] As a result, the physical and social pressure of cognitive impairment and dementia will speed up fiercely in the developing nations.[23]

Elliott et al. reported that assessment of cognitive impairment for diagnosis of this potentially reversible condition and initiation of treatment intervention is needed. There are a number of psychological tests and inventory which are useful in identifying this condition. Trained health care workers and professional nurses that give care to vulnerable persons in a number of settings are found to be in central

positions enabling them to notice and discover variation in cognitional changes in gold agers.[24]

Elderly care is the accomplishment of special needs and requirements that are unique to senior citizens. The government needs to give importance/priority regarding security, livelihood, and better QOL for gold agers.[2] Additionally, there is a need that mental health of the gold agers can be brushed up by promoting active and healthy ageing. It is also a need of the hour to boost their mental health and incorporate successful cognitive ageing by refining their cognitive functioning. Many studies have shown evidence and supported cognitive stimulation therapy which is a multicomponent scheme based on certain principles for improving the cognitive abilities and functions.[25,26] It is one of the finest innovative and cost-efficient practice approaches for elderly's victorious cognitive aging.[27,28]

Psychotherapies are one of the kinds of non-pharmacologic therapies which do not involve any kind of medication. For an individual with a reduction in cognition these therapies may often be utilized for the purpose of maintaining or building cognitive functions, and also to improve the capability to execute activities of daily living or overall quality of life.[29] Cognitive stimulation therapy is one kind of such therapy. Research has shown that it is most economical and cost-effective. It has measurable benefits on the thinking ability and memory power of the individuals who received it.[30]

Cognitive stimulation is a kind of therapy or intervention for a person with a

decline or fall in cognitive status. In a community set up or area, with minimum number of persons, cognitive stimulation utilizes various types of congenial activities which provides basic stimulation in ability to think, to concentrate and to remember generally. Its history can be traced back to orientation of reality programs, observed as an answer to confusion and disorientation among elderly admitted in wards of USA based hospitals, in late 1950. This therapy is also popular in normal growing or aging process for managing decline in cognitive ability. This presents a simple fact that lack of cognitive processing accelerates cognitive decline. For elderly having poor cognitive ability it stimulates the chance to build positive impact of reality orientation also it ensures that the therapy is provided in a comfortable, respectful and client- centered way.[31]

According to clinical observation by investigator, it was assumed that there is requirement to provide care in the geriatric area to gold agers to strengthen their ability mentally as well as physically. Therefore, it was planned to develop a cognitive stimulation program of certain activities which are also enjoyable for participants.[32]

The aim of this Nurse Led Cognitive Stimulation Program (Non-Pharmacological Intervention) is to:

1) Stimulate the cognitive functions (Attention, concentration, memory, and executive functioning) in elderly
2) To refine the quality of life in elderly
3) To build up and strengthen the mental health of the elderly
4) To develop a self-help group for the elderly

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of Nurse Led Cognitive Stimulation Program (NLCSP) on cognitive functions and quality of life among elderly in the selected rural community of Panipat, Haryana.

AIMS OF THE STUDY

1. To gain understanding about the cognitive functions and quality of life among elderly population.

2. To promote and strengthen the cognitive functioning and quality of life among elderly.

STUDY OBJECTIVES

PRIMARY OBJECTIVES

1. To explore problems related to the decline cognitive functions among elderly and their caregivers

2. To develop and implement Nurse Led Cognitive Stimulation Program (NLCSP)

3. To assess the effectiveness of Nurse Led Cognitive Stimulation Program (NLCSP) on cognitive functions and quality of life among elderly.

SECONDARY OBJECTIVES

4. To determine a correlation between cognitive functions and quality of life among elderly in the selected rural community

5. To find out the association between cognitive functions, quality of life and selected- demographic variables among elderly in the selected rural community.

HYPOTHESIS

All the hypotheses were tested at 0.05 level of significance:

H_1: There would be a significant improvement in the cognitive functions of the elderly after undergoing Nurse Led Cognitive Stimulation Program as measured by Mini Mental State Examination.

H_2: There would be a significant improvement in the quality of life of the elderly after, undergoing Nurse Led Cognitive Stimulation Program as measured by QOL-AD scale of quality of life.

H_3: There would be a significant correlation between cognitive functions and quality of life among the elderly in selected rural community**.**

H_4: There would be a significant association between cognitive functions and quality of life with selected demographical variables among elderly.

ASSUMPTIONS

1. The sample will be true representation of target population

2. Elderly in the selected community may have decline in cognitive status and want to participate in Nurse Led Cognitive Stimulation Program.

OPERATIONAL DEFINITIONS

1. Effectiveness: It means to determining the degree to which the Nurse Led Cognitive Stimulation Program (NLCSP) helps the elderly to improve their cognitive functions and Quality of Life (QOL) as measured by using Mini Mental State Examination and QOL-AD scale.

2. Cognitive functions: It refers to intellectual process in elderly by means of which they perceive, become aware of, and comprehend ideas. In the current study, the following cognitive functions viz. attention, orientation, memory, thinking, executive function, and language comprehension as measured by using Mini Mental State Examination.

3. Elderly: It means to those who are of aged 60 years and above and having a declined cognitive impairment as measured using MMSE.

4. Quality of Life: It means to measures of the degree with which elderly are satisfied with their overall life in relation to four major concepts i.e. physical health, psychological status, social and environmental components altogether as measured using the QOL-AD scale.

5. Nurse Led Cognitive Stimulation Program (NLCSP): It is a systemically planned, comprehensive, multi-component group-based intervention of total 14 sessions of cognitive stimulation activities. Each session is of 75 minutes duration, conducted biweekly, for 7 weeks. The overall activities are based on unique theme,

which include cognitive functions stimulating activities, tasks, games and discussion with aims to refine and build the cognitive functions of elderly.

6. Selected Community: It refers to those community areas which are included under district Panipat, Haryana, which has five subdivisions/blocks (Panipat, Israna, Bapoli, Samalkha, and Madlauda), out of which two were selected for the study.

DELIMITATIONS:

The research study was delimited to:

1.The selected community of District Panipat, Haryana.

2.The elderly population available at the time of data collection.

CONCEPTUAL FRAMEWORK

A conceptual framework is a group of concepts and sets of prepositions that elucidate the relationship between them. The conceptual framework in the present investigation is based on Health Promotion Model (HPM) focused on developing and assessing the effectiveness of the Nurse Led Cognitive Stimulation Program (NLCSP) to build, strengthen, and promote the cognitive strength and quality of life, ultimately promoting mental health in elderly, so as to assist in successful cognitive aging. In 1982, Pender proposed a Health Promotion Model (revised in 1996) which was constructed and counted as one of the "complement models parallel to the Model for Health Security." Pender, constructed this model for the promotion of health, and revised it again in 1996. The model was structured to be an "Aspiring

model for the prevention and promotion of health." This explains health in terms of the definition given by World Health Organization which says it is constructive dynamic conditions not just the nonappearance of diseases. Health encouragement and building up are directed towards participants' level of welfare. The Health Promotion Model explains the multidimensional essence of the person as they interrelate with their surroundings to pursue wellbeing.

Health promotion model accounts that each individual has distinctive particular attributes and occurrences that influence subsequent measures. The determined way of factors which are responsible for behavior, certain knowledge, and influences had necessary motivational weightage. The set of factors and variables can be altered through nursing action. Improved health behavior in all terms is the assumed behavior outcome and is the target result of HPM. Promoting health behavior must provide an outcome in form of better health, improved cognitive abilities, and better quality of life in all the phases of development. The ending behavioral command is also affected by the directly competing stipulation and choices, which can prevent deliberate health encouraging effort.

Various major components of the health-promoting model are:

1. Individual characteristics and experiences
2. Behavior specific cognition and affect
3. Behavior outcome

Component-I

Individual characteristics and experiences

1.1 Prior related behavior: It refers to prior occurrence and expertise in health encouraging effort. People who develop a habit of a prior health encouraging behavior and receive positive outcomes, as a result, will involve in further health encouraging behavior.

In this study, prior related behavior comes under previous exposure of elderly regarding cognitive functioning, promotive strategies, health habits, lifestyle practice, and any source of health information.

1.2 Personal factors

Personal factors can influence the health. These factors are defined as physical, intellectual, and cross-cultural. These elements predict a prescribed behavior and are modulated by the kind of the target behavior being appraised.

1.3 Biological, Psychological and Socio-cultural factors

Biological factors are age, and strength balance. Psychological factors include their cognitive functions (attention, concentration, judgment, executive function etc.) and their decrement with age. Socio-cultural factors constitute background, socioeconomic status, and literacy status.

In this research, the investigator incorporates variables such as age, gender, educational status, occupational status, financial dependency status, marital status, type of family, having any sickness and previous exposure to such program.

Component-II

Behavior specific cognition and affect

It constitutes a critical core for intervention because it can be modified through intervention. It includes the following components:

2.1 Perceived benefits of action

Anticipated outcome affects the plan of a person to take part in health encouraging behavior and may ease regular practice.

In this study, an anticipated positive outcome will occur from elderly cognition functioning and quality of life. Their cognitive functioning and quality of life will be strengthened and promoted with the help of a Nurse-led cognitive stimulation program.

2.2 Perceived barrier to action

An individual's perception regarding certain factors which may act as a barrier. These include time available to perform and practice and inconvenience and trouble in accomplishing the activity. A barrier may impact health by encouraging behavior that negatively influences the person's commitment to a plan of action.

In this study viewed barriers of action are insufficient practice, physical health, personality, lack of knowledge of self and caregiver regarding the building of cognitive functions, willingness, poor resources, motivation, and surrounding environment.

2.3 Perceived self-efficiency

This notion ascribes to the belief that an individual can profitably sustain the

behavior important to attain the desired result. Often people have serious doubt about their capabilities; therefore, self-awareness, self-dependency, and self-motivation is necessary for elderly.

In this study perceived self-efficiency is the physiological and psychological capability of the old age person to grasp and practice the intervention. To overcome the perceived barrier to action, perceived self-efficiency must be influenced; so higher efficiency results in a lower perception of barriers to the execution of the behavior

2.4 Activity related effect

The individual feeling which occurs prior to, during, and after an activity may have an impact on whether the individual will accept and practice the behavior in the future as well as maintain the positive behavior.

In this study, the activity-related effect means that the more the positive feeling in elderly, greater is the self-efficiency. Elderly willing to attend the nurse-led cognitive stimulation program on strengthening and promoting cognitive functioning and quality of life by making them to perform activities related to both of these, were included in the intervention.

2.5 Interpersonal and situational influences

These are the individual's perceptions focusing on the intervention, attitudes, or faith of others. Circumstantial conditions may have a direct or indirect effect on the behavior that is related to health and activities which are constituted of perceptions

of accessible choices, stipulated characteristics, and the aesthetic attributes of the environment.

In this study, interpersonal and situational influences are family relationships, relations, and bonds with caregiver, peer group influences, beliefs and customs, and availability of health resources.

2.6 Commitment to Plan of Action

It is a responsibility of a person to practice an action for health promotion within the boundary timely.

Elderly actively attends the Nurse-Led Cognitive Stimulation Program by strengthening cognitive abilities and improving quality of life.

Component-III

Behavior outcome

Health encouraging behavior should focus on improving health, amplifying cognitive functional capability, and better quality of life at all phases of development.

3.1 Health-promoting Behavior

The outcome phase or action end-result which is directed toward achieving positive health results such as promoting and strengthening both cognitive functioning and quality of life as among elderly.

Summary: This chapter includes the introduction and need for the study, problem statement, objectives, purposes, conceptual framework, operational definitions, hypothesis, assumptions as well as delimitations.

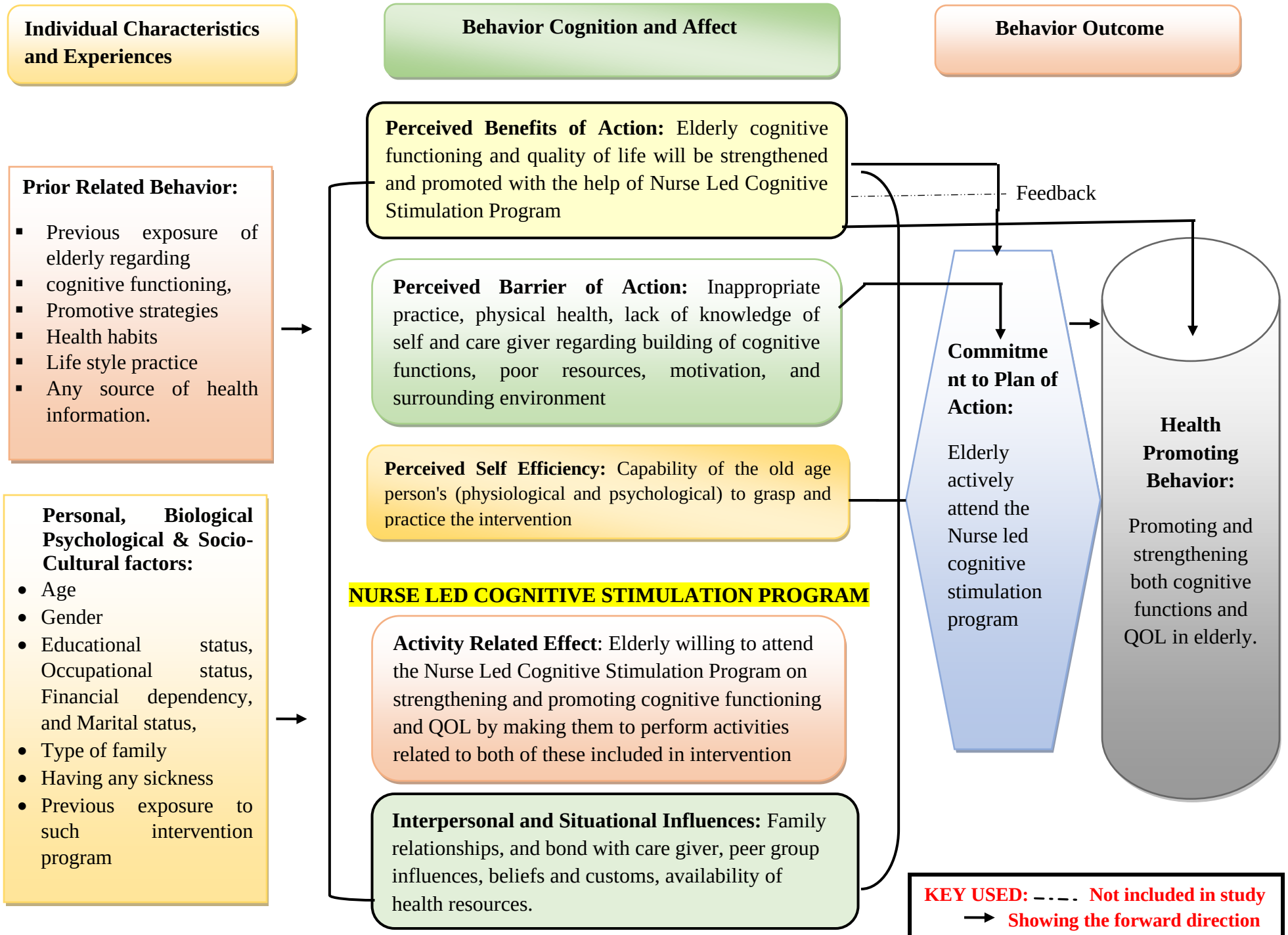

FIGURE 1: Modified Conceptual framework based on pander's health promotion model.