



## Prevalence and Determinants of Erectile Dysfunction among Men Attending Naturopathic Health Centers in Ashaiman Municipal

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Abstract

Original Research Article

**Background:** Many epidemiological studies have demonstrated a high prevalence of erectile dysfunction (ED) in different parts of the world. The objective of the present study was to establish the prevalence and determinants of ED in naturopathic health centers from Ashaiman Municipality, Ghana. **Methods:** The study performed a cross-sectional study design to estimate the prevalence of erectile dysfunction in naturopathic health centers among respondents aged 20 and above years old. The study also adopted simple random and purposive sampling in selecting its 50 respondents. **Results:** The prevalence of ED was 60%. The prevalence was high 35(70%) among the 20-50-year-old group. Age, financial challenges, hypertension, diabetes, hypercholesterolemia, history of prostate and hormonal disturbance, alcohol abuse and stress are significantly associated with ED (*p-value* 0.04, 0.03, 0.03, 0.015 0.000, respectively). Majority adopted naturopathic methods of treatment. Naturopathic approaches utilized were diet and clinical nutrition, homeopathy, botanical medicine, acupuncture. **Conclusion:** Sixty percent (60%) of the respondents were having the problem of erectile dysfunction. This was partly due to financial challenges, unemployment, disease history such as arterial hypertension, diabetes, hormonal and prostate disturbances, increased cholesterol, spinal injuries/surgeries and alcohol abuse. The respondent improved their condition through naturopathic approaches.

**Key words:** Dysfunction, Naturopathic, Ashaiman Municipality.

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## GENERAL INTRODUCTION

### BACKGROUND TO THE STUDY

Among all sexual dysfunctions, erectile dysfunction (ED) is the most common [1]. Approximately 1 in 10 men worldwide have ED, the prevalence ranging from 10-71% for men older than 70 years old [2]. This range is so wide and there are no reliable figures available for the incidence and prevalence of ED because most men do not seek treatment. Even more worrisome, due to the fact that ED can be linked to early signs of cardiovascular disease, is that 25% of all men diagnosed with ED are as young as forty (40) years and below [3].

There are a several approaches available to treat ED: drug therapy, psychotherapy, self-injection therapy, and penile prosthesis implantation [4]. However, the treatment options that are available come with many problems. For instance, drug therapy comes with side effects, which include flushing, headaches, dyspepsia, transient visual changes, priapism, and risk

of death if taken with nitric oxide. The side effects of self-injection therapy include pain, fibrosis at injection site, hypotension, and priapism. Penile prosthesis implantation is used for men who do not respond to the other therapies and this type of treatment is expensive and is complicated by mechanical failure, infection, and granuloma formation in the penis. For these reasons, many choose to resort to alternative medicines or decide to remain untreated to avoid negative side effects and dependency of pharmacotherapy [5].

One of the largest alternative medicine modalities is that of naturopathy, which combines nutritional, herbal and other complementary practices to treat such conditions [6]. According to Louise *et al.*, [7], naturopathic medicine is a primary health care profession that functions to promote health, prevent, diagnose and treat disease. Moreover, the intent of a naturopathic doctor (N.D.) is to stimulate the self-healing capacities of the individual by using a number of therapeutic modalities that include botanical medicines, clinical nutrition/diet counseling, nutritional

supplements, homeopathy, physical medicine (physiotherapy, hydrotherapy, manipulation) and psychologic counseling [8]. Also, naturopathic medicine is practiced as either a complement or an alternative to conventional medicine [9]. Among the risk of ED includes: organic, psychogenic, and a mixture of both. The organic causes include vascular, neurogenic, hormonal, anatomic, traumatic, and drug-induced. Psychogenic causes include depression, anxiety, and other mental-emotional disorders [10].

Most research has been conducted on ED. The most important common theme of the studies is that the incidence of sexual dysfunctions increases with age but that naturopathic approaches to managing the condition is generally less especially in Ghana. Hence, the aim of this study was to determine the prevalence and naturopathic approaches for managing erectile dysfunction in the Ashaiman Municipality.

### Problem Statement

Recent epidemiologic studies suggest that approximately 10% of men aged 40-70 have severe or complete erectile dysfunction, defined as the total inability to achieve or maintain erections sufficient for sexual performance. In 1995, it was estimated that 152 million men worldwide had ED, and that by the year 2025, the number of men having ED would be ~322 million; an increase of almost 170 million men [11]. The greatest increases will be in the developing world, such as Africa, Asia and South America. Establishing the prevalence of ED in these regions is important for understanding the need for services, which turn to depends on the functional expectations of men as they age. In Ghana, sexual dysfunction affects 66% of Ghanaian men who are sexually active and increases with age [12]. Despite this unacceptably increasing level, a lot of studies have been focused on the conventional methods of management.

Although not life-threatening, erectile dysfunction has a huge impact on the quality of life of the patient as well as their sexual partners with consequential fear, depression and loss of confidence or self-esteem. It is therefore important to also establish the main determinants and institute different approaches in managing the condition.

### Objectives of the Study

The main objectives of this study was to assess the prevalence and determinants of erectile dysfunction among men aged twenty (20) and above attending naturopathic health centers in the Ashaiman Municipality.

The Specific objectives were:

1. To determine the prevalence of erectile dysfunction among men aged twenty (20) and above attending naturopathic health centers in the Ashaiman Municipality.

2. To identify the determinants of erectile dysfunction among men aged twenty and above in the study area
3. To determine the naturopathic care of erectile dysfunction in the Ashaiman municipality
4. To identify the challenges of naturopathic care by men with erectile dysfunction in the study area
5. To suggest ways of mitigating the challenges in adopting naturopathic methods in managing erectile dysfunction Ashaiman Municipal.

### Research Questions

1. What is the prevalence of erectile dysfunction among men aged twenty (20) and above attending naturopathic health centers in the Ashaiman Municipality?
2. What are the determinants of erectile dysfunction among men aged twenty and above in the study area?
3. What are the naturopathic care methods for managing erectile dysfunction in the Ashaiman municipality?
4. What are the challenges of naturopathic care by men with erectile dysfunction in the study area?
5. How can the challenges of naturopathic care methods in managing erectile dysfunction Ashaiman Municipal be mitigated?

### Significance of the Study

Erectile dysfunction is a significant and common medical problem [13]. Many factors are believed to contribute to the development and maintenance of ED. The influence of age and of several medical conditions such as diabetes, vascular disease, and chronic diseases such as hepatic failure, renal failure and dialysis is well defined. Medications for diabetes, hypertension, cardiovascular disease and depression may also cause erectile difficulties. There is a higher prevalence of erectile dysfunction among men who might have undergone radiation or surgery for prostate cancer, or who have a lower spinal cord injury or other neurological diseases such as Parkinson's disease, multiple sclerosis [14]. Life style factors, including smoking, alcohol consumption and sedentary behavior are additional risk factors. The study will further identify the correlates and predictors of ED. Findings from this study will be useful in improving further identification, measurement and understanding of erectile dysfunction among men for appropriate coverage of preventative, control and treatment activities through naturopathic approaches.

### Scope of the Study

Geographically, the study covered one Municipal, Ashaiman Municipality situated in the East of Accra, Ghana's regional capital. The contextual scope of the study however focused on assessing the various approaches of naturopathic care adopted by the men twenty years and above with erectile dysfunction attending naturopathic centers in the municipal.

It specifically examined the methods of naturopathy, determinants of erectile dysfunctions, challenges of adopting the different naturopathic methods and suggested solutions to the challenges mitigating the use of those methods. The study is a cross sectional survey which covered a period of one year (2019-2020).

### Organization of the Study

The study has been organized into five chapters. Chapter one deals with the background to the study and statement of the problem, research objectives, research questions, significance of the study, scope and organization of the study. Chapter Two of the study covered the review. With this, past works pertaining to the topic under study, definition of key concepts, conceptualization of the topic and identification of gaps in the approaches and previous literature are examined. Chapter Three focused on the methodology used to conduct the study. This specifically includes the research design, sampling procedures, data collection and data analysis. Chapter Four discusses and presents the findings of the study. Chapter Five contains the summary of findings, suggestions and recommendations that will inform policy as well as a conclusion to the study.

### Limitations of the study

A limitation of the study is the systematic bias that the researcher did not or could not control and which could inappropriately affect the results [15]. The study was limited because of the following reasons assigned below: Inadequate resources could not permit the researcher to consider quite sizable number of municipalities and as well as high number of respondents that will enable the work to be highly representative.

Similarly, due to the sensitive nature of the condition, some respondents were demanding financial inducements before responding to the questions posed which hindered the study. Also, the time for the research was limited considering the broad nature of the topic itself. It is worthy of note that the concept erectile dysfunction and naturopathy care is broad which demands a longer period of time to study.

## LITERATURE REVIEW

### Brief Introduction

This chapter is centered on the conceptual frameworks of erectile dysfunctions and naturopathic approaches. Issues in this chapter include the explanations of relevant concepts and characters of erectile dysfunction, naturopathy and its application in management of ED among men aged twenty and above in Ashaiman municipality of Ghana, the various determinants of ED and naturopathic methods and the challenges in adopting these approaches. The chapter will also zoom it onto the types of naturopathic approaches appropriate for the study.

### Conceptual issues of erectile dysfunction and naturopathy

Erectile dysfunction (ED) is the inability to get or keep an erection firm enough for sexual function. Erectile Dysfunction (ED) is defined by the International Society for Sexual Medicine (ISSM) as the consistent or recurrent inability to attain and/or maintain penile erection sufficient for sexual satisfaction [16]. Naturopathy is a system of alternative medicine based on the theory that diseases can be successfully treated or prevented without the use of drugs, by techniques such as control of diet, exercise, and massage [17]. Hence, naturopathic medicine is a system that uses natural remedies to help the body heal itself. It embraces many therapies, including herbs, massage, acupuncture, exercise, and nutritional counseling.

Prevalence is the proportion of a population who have a specific characteristic in a given time period. Prevalence in epidemiology is the proportion of a particular population found to be affected by a medical condition at a specific time [14]. Determinants are elements that identifies or determines the nature of something or that fixes or conditions an outcome [18]. In health, they are the factors that makes some people healthy and others unhealthy. Categorized into several factors such as policymaking, social factors, health services, individual behavior, biology and genetics but the study was limited to social, individual and biological factors.

### Determinants of Erectile Dysfunction among Men

According to El-Sakka [19], the risk factors of ED are categorized into organic and psychogenic or both.

Among the organic causes of erectile dysfunction are those conditions that physically impair the delivery of adequate blood flow to, or prevent maintenance of sufficient blood within, the erectile tissue of the penis [20]. The organic components of ED can be classified into three major categories: cardiovascular, endocrine, and neurogenic conditions [21].

### Cardiovascular

The most common cardiovascular complications associated with ED are focal artery occlusive disease and subclinical endothelial dysfunction. Focal artery occlusion is caused through direct trauma or the chronic underlying thyroid dysfunction may be important for restoring normal erectile function in this category [22]. According to Yao *et al.*, [23] increased levels of subclinical endothelial dysfunction, thus increased systolic blood pressure, C-reactive protein levels, cholesterol, triglycerides, and carotid intimal-media thickness is also associated with ED. There is a strong association between type 2

diabetes and ED, with some diabetic populations having prevalence rates as high as 75%. As the rate of early-onset type 2 diabetes continues to rise, it is expected that the prevalence of ED in men will continue to increase.

### Endocrine

All hormones either directly or indirectly regulate desire, erection, ejaculation, and orgasm, and, as such, hormonal deficiencies or imbalances are other significant causes of sexual dysfunction [23]. The most common endocrine-related disorders seen in men ED patients are thyroid dysfunction, diabetes, and Klinefelter's syndrome

### Neurogenic

The neurological system is closely associated with erectile function. Erectile physiology is dependent on peripheral, spinal, supraspinal, somatic, and autonomic pathway. Common neurological etiologies of ED include multiple sclerosis, epilepsy, femoral fractures, and lumbar spine procedures [24]. Young men with multiple sclerosis are 2.23 times more likely to develop ED than their age-matched peers. Men who have a femoral fracture repaired with intramedullary shaft nailing are more likely to experience ED than similar patients who experienced tibial fracture. The mechanism for this is believed to be damage to the pudendal nerve.

### Medication Side-Effects

A variety of medications commonly taken by young individuals are associated with ED including antidepressants, finasteride, anxiolytics, neuroleptics, NSAIDs and muscle relaxants [25].

Psychogenic erectile dysfunction is defined as the persistent inability to achieve or maintain erection satisfactory for sexual performance owing predominantly or exclusively to psychologic or interpersonal factors [26]. Psychogenic erectile dysfunction frequently coexists with other sexual dysfunctions, notably hypoactive sexual desire, and with major psychiatric disorders, particularly depression and anxiety disorders [27]. Anxiety can cause increased heart rate, blood pressure issues, and fatigue [1]. This can affect men sexual performance. Depressed mood is found to be a significant predictor of erectile dysfunction, even after controlling for potential confounding factors [28]. According to Rosen [28] erectile dysfunction is also associated with self-reported emotional stress. Socioeconomic factors, including a decrease in household income during the past 5 years, can also associate with the incidence of erectile dysfunction [28].

### Naturopathic Approaches of Erectile Dysfunction

Naturopathy understands that erectile dysfunction is associated with cardiovascular conditions. Established naturopathy is strongly

positioned in strengthening the cardiovascular system. Sometimes however, the condition may be a simple case of zinc depletion. Nervous disorders, general hardening or thickening of some blood vessels, sluggish circulation, spinal stiffness and pelvic disorders may likewise cause erectile dysfunction. Inadequate sleep can also be problematic in some instances. Natural therapies for the treatment of ED are available and not only do they tend to have fewer side effects, they also increase overall health through other actions [29]. The following naturopathic approaches addresses the above problems.

### Diet and Clinical Nutrition

The amino acid L-arginine is often used due to its ability to make nitric oxide, the principal mediator of penile erection. Nitric oxide relaxes the corpus cavernosal tissue, allowing blood to flow into the area, which leads to an erection. Oral administration of the nitric oxide donor L-arginine at a high dose of 5g/day has been shown to only improve sexual function in men with organic causes of ED [30].

Zinc is often thought of as a natural remedy for ED. However, studies show that it is only efficient in men that have both a kidney disease and experience ED secondary to a zinc deficiency. It is unclear whether or not men with normal renal function and a zinc deficiency would benefit from zinc supplementation [31].

Fish oils can help with blood circulation and heart health, making them useful if help is needed to get blood flowing towards the penis, which can help to achieve and sustain an erection [32].

Maca is a vegetable mainly obtained from the Peruvian Andes. It is used as a source of food for those native to the highlands [33]. It has traditionally been used as an aphrodisiac, a stress reliever, and a fertility enhancer [33].

### Botanical Medicine

Like L-arginine, *pycnogenol* (derived from the plant *Pinus pinaster*) works by increasing the amounts of nitric oxide [34]. A study has shown that 92.5% of men were able to achieve erection after taking 120 mg of pycnogenol in divided doses in combination with L-arginine for a period of 3 months [34]. A second study has also demonstrated promising results of increased hardness of erection and satisfaction of intercourse [35]. Both studies reported that no adverse reactions were observed during the study period.

*Damiana and Cordyceps* grows in subtropical areas of North and South America and Africa. And can assist in correcting erectile dysfunction [36].

Horny Goat Weed's active ingredient is icariin, a flavonol glycoside and reputed to improve

cardiovascular function, hormone regulation, modulation of immunological function and antitumor activity [37].

*Ginseng (Panax ginseng)* is commonly used in the treatment of ED due to its action on the cardiovascular system. It increases the production and promotes the release of nitric oxide in penile tissue through catalyzing the conversion of arginine to citrulline by the enzyme NOS which in turn releases NO [38].

These mechanisms of actions all lead to the relaxation of the corpus cavernosum and vasodilation of penile arteries causing increased blood flow to the penis. In addition, ginsenosides also have an effect on the nervous system through inhibiting the reuptake of GABA, glutamate, dopamine, noradrenalin, and serotonin [39]. Although it is not well understood, this suggests that it may act on the central nervous system in the process of erection. Studies found that at a dosage of 600-1000mg taken 3 times per day for 4-12 weeks, ginseng not only improved erection, but also sexual desire and satisfaction. Overall, there were very little adverse effects reported in the human studies.

*Yohimbe* has long been known to have an affinity for males, often used as an aphrodisiac to increase libido. It is an  $\alpha_2$ -adrenergic receptor blocker that acts on the central nervous system to increase norepinephrine and it also has a direct action on penile tissue and arteries [40]. A study has shown that 30mg per day for 8 weeks of yohimbe extract was significantly more effective than placebo at improving sexual desire, satisfaction, and penile rigidity. However, a second study concluded that yohimbine alone is not effective at treating ED, but in combination with L-arginine, it can be a great treatment option [41].

*Ginkgo Biloba* is extracted from the ginkgo tree, and is one of the oldest species of trees in the world. It can be used for memory, stress management, but also to help with blood flow between the brain and adrenal glands. In men with erectile dysfunction, Ginkgo Biloba can also help to improve and maintain an erection [42].

### Traditional Chinese Medicine and Acupuncture

Erectile dysfunction can be either a full condition caused by dampness, blood stasis, and phlegm, or an empty condition caused by heart-blood deficiency, heart and gall-bladder deficiency, kidney-yin deficiency, liver-blood deficiency or kidney-yang deficiencies. Acupuncture points may be chosen based on the TCM diagnosis as treatment. A prospective study of acupuncture in men with psychogenic ED demonstrated that acupuncture lead to sexual satisfaction in 68.4% and erections improved in 21% of men [43].

### Homeopathy

Homeopathic medicines go straight to the root cause of the issue to bring about change. In this case, it is increasing testosterone levels [44]. Most forms of legitimate homeopathy are void of toxic side effects. They are safe to use and often work to stimulate testosterone production. For instance, Agnus Castus 30 correct erectile dysfunction caused by low testosterone, flaccid genitals and low sex drive [45].

### Lifestyle Counseling

Seeing as obesity, diabetes, heart disease, dyslipidemia, depression, anxiety, and hypertension are all risk factors for ED, lifestyle counseling and modifications can improve erectile function. According to the evidence available, weight loss and exercise should be the main focus for men with ED, as it can significantly improve erectile function [46]. A 2 year-long RCT of regular exercise and diet change (Mediterranean diet) significantly improved erectile function [46]. Though it might take more time to see results from lifestyle changes, it is the most beneficial treatment especially in men diagnosed with ED secondary to a chronic condition, diabetes, heart disease, or obesity.

Emotionally, little importance is given to the impact of ED on quality of life of affected men. Men with ED have been shown to have an increased incidence of depression, anxiety (both general and performance), and low self-confidence. ED also has an impact on sexual partners and relationships. Partners of men with ED have a reduction in libido and report feelings of rejection and guilt. It is suggested that ED has a tremendous impact on a man's life and marriage, and accounts for 1 in 5 failed marriages [47]. Providing counseling for both the man and his partner could provide the couple with tools to deal with the emotional aspect of ED and find ways to be sexual without an erection.

Another reason for healthy lifestyle is due to some substances and medicines may give rise to erectile dysfunction.

### Acupuncture

Acupuncture can be used to help treat erectile dysfunction, however if the idea of this sounds frightening to you, rest assured that it is not used directly on the penis [48].

Acupuncture, in general, can be used to stimulate nerves and increase blood flow to certain areas, depending on where needles are placed, and thus appropriately placed acupuncture needles may assist with these issues as they relate to erectile dysfunction [6].

## Challenges of naturopathic approach in managing erectile dysfunction

### Side-Effects

Some adverse events of nutraceuticals may include digestive complaints such as nausea, vomiting, diarrhea, as well as headaches, flushing, hypotension [49]. *Damiana* may cause diarrhea, headaches, insomnia, and hallucinations [50]. Seeing as *yohimbe* works on the CNS, it has a smaller therapeutic index and comes with side effects [51].

According to Wang *et al.*, [33], if not prepared correctly, *maca* may cause stomach upset. Fear of interactions with other medications for chronic conditions. Cordyceps should be avoided in some cancers, as well as for those who have diabetes as it can lower blood sugar [52].

### Sociodemographic and Socioeconomic Challenges

Male unemployment corresponds with a rise in stress and other mental health issues, including depression and anger making affordability a challenge. Financial crisis faced by unemployed men causes their ED [53]. This may make them difficult to afford certain natural remedies. Apparently, the location might also be problem in accessing some foods and other natural remedies. Accessibility and awareness of naturopathy might be a challenge that hinder patients [6].

## PROFILE OF THE STUDY AREA AND METHODOLOGY

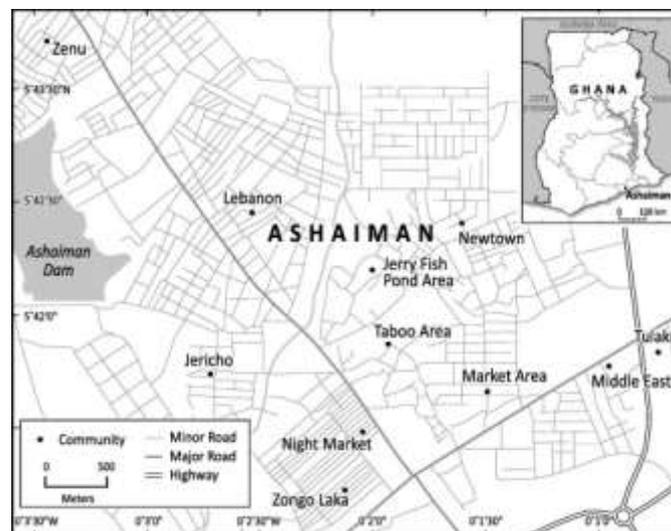
### INTRODUCTION

This chapter presents the sources and methods that were used in collecting data for the research. It deals specifically with the sampling procedure used in selecting a sample for the research, the instruments used for data collection and data analysis. It also provides a brief description of the study area.

### Profile of Ashaiman Municipal, population, location and size

Ashaiman Municipal with its administrative capital Ashaiman was carved out of the then Tema Municipality, now Tema Metropolitan Authority, as one of the newly created Districts in 2008 by LI 1889 and Local Government Act of 1993 (Act 462). Ashaiman Municipality is located about 4km to the North of Tema and about 30km from Accra, the capital of Ghana. The Municipality shares boundaries with Tema Metropolitan to the east, Ledzokuku Municipal to the south, Adenta Municipal to the north and to the west with La-Nkwantanang-Madina Municipal.

Total area of the district is 45 square kilometers. According to the 2010 census, the population of the district is 190,972, with 93,727 males and 97,245 females. The current population based Ghana Statistical Service record is 235,465.



**Fig-1: Map of Ashaiman, Ghana**

Source: Town and country plan, Greater Accra, 2010

Source: GSS, 2010

### Research Design

The researcher adopted the descriptive cross sectional study design. According to Setia [54], cross-sectional studies are used to assess the burden of health needs of a population and are particularly useful in informing the planning, monitoring, evaluation and allocation of health resources. Cross-sectional studies

are relatively faster and inexpensive. Hence, the study used the cross-sectional survey aimed at describing the prevalence and associated determinants of erectile dysfunction and naturopathic practices in the Ashaiman Municipality.

### Sources of data

Data for the study was obtained primarily from field work by the researcher. This was done through interviews. The following were the respondents interviewed by the researcher; men twenty years and above ( $\geq 20$ ) affected with erectile dysfunction and are using naturopathic methods of management at the various naturopathic centers within the Ashaiman municipality. List of various registered naturopathic centers was obtained as a secondary data. Also data was obtained from the naturopathic centers.

### Study Population

The population of interest is the study's target population that it intends to study (Majid, 2018). The population of study included men twenty years and above ( $\geq 20$ ) affected with erectile dysfunction and are using naturopathic methods of management at the various naturopathic centers within the Ashaiman municipality.

### Determination of sample size, sampling and sampling technique

Sampling is the process of selecting or searching for situations, context and/or participants who provide rich data of the phenomenon of interest. It is an important tool for research studies because the population of interest usually consists of too many individuals for any research project to include as participants [55]. The research used a combination of

purposive sampling (a type of non-probability sampling method), and simple random sampling (a type of probability sampling technique) sampling methods in selecting the sample units for investigations.

According to Habib *et al.*, [56], purposive sampling is a form of non-probability sampling where samples are chosen by intentionally seeking individuals or situations that meet criteria of interest or are likely to provide greater understanding of a chosen concept of research. Hence, the researcher used this method in selecting four (4) naturopathic centers in the municipality, Ashaiman.

The sample frame was 345 and the sample size of fifty (50) was selected randomly from the different methods of naturopathy in the study area.

Simple random sampling was used to select from the various method. The research used the lottery method. In this method, all the members in the sampling frame were assigned unique numbers written on separate slips of papers of the same size, shape and color. These slips of papers were folded and mixed up in a container. A blindfold selection was then made until the desired sample size was drawn. In this method of sampling, the number of candidates corresponding to numbers on the slip drawn constitute a random sample [57] as shown in Table-1 below.

**Table-1: Random sample determination**

<i>Modality/ Method of naturopathy</i>	<i>Population/sample frame</i>	<i>Sample</i>
<i>Diet therapy and clinical nutrition</i>	105	20
<i>Botanical medicine (Herbalism)</i>	80	10
<i>Naturopathic physical medicine</i>	60	7
<i>Behavioral change (prevention and lifestyle counselling)</i>	50	8
<i>Acupuncture</i>	50	5
<i>Total</i>	<b>345</b>	<b>50</b>

Source: Field survey, 2020

### Data Collection Instruments

The instrument use to collect data depend on the type of data. For the purposes of survey in this study, data was mainly obtained by use of questionnaires and interview guide.

### Questionnaires

The questionnaire is a tool designed for collection of quantitative data by providing quick responses. This data collection tool allowed the researcher to develop series of structured questions and prompts for the purpose of gathering information from the respondents [58]. This tool assisted the study to gather information such as the socio-demographic and economic determinants, organic and psychogenic characteristics of erectile dysfunction, patients' satisfactions with naturopathic care and challenges of the various methods.

Checking for misunderstandings, incomplete concept coverage, inconsistent interpretations, satisficing and context effects, Collins [59] relates that, it is important to pre-test research instruments. The questionnaire was pre-tested using 5% of its respondents. The researcher interpreted to the patients of erectile dysfunction in Twi and Ga Languages since these languages in the study area was not a barrier. The pretest was answered and returned to the researcher where accuracy and appropriateness was checked.

### Interviews

Interviews are active interactions between two or more people leading to a negotiated contextual based result [60]. The research adopted different forms of interviews as semi-structured, unstructured, face-to-face verbal interactions

A set of questions, both open ended and closed ended, were developed based on the various themes that underpinned naturopathic care of erectile dysfunction, roles that each method was required to play in the erectile dysfunction management. The questionnaire covered the different sections of the study; Section A covered basic socio-demographic and economic determinants such as age, level of education, employment status, locality, other diseases (risk factors), Section B investigated the various methods/types of naturopathy that are being used in managing erectile dysfunction of men in the four (4) registered naturopathic centers of the Ashaiman Municipality. Section C examined the various challenges in adopting naturopathic methods of management. The rest of the sections asked the respondents to suggest ways of mitigating the challenges in adopting naturopathic methods of management in the Ashaiman Municipality.

#### **Data collection procedure and ethical considerations**

Approval and an introductory letter for the study was obtained from the authorities of Holistic and Naturopathic Medicine, Dr. Nyarkotey College of Holistic Medicine to the units of the various naturopathic centers in the study area and was accepted.

The study also ensured strict adherence to the following ethical standards during its data collection exercises:

1. The study respected the dignity and welfare of all its respondents.
2. Again, the study respected the freedom and rights of its respondents to decline participating in it.
3. Additionally, the study ensured and maintained the confidentiality of all the data it collected from its respondent.
4. Furthermore, the study guarded against violating or invading the privacy of all its respondents.
5. The study anonymized the identity of its respondents (the study used code numbers instead of the names of its respondents to analyze their individual responses).

Most importantly, in keeping with Cooper & Schindler [61] admonishment, the study was conducted in a manner that ensured that none of its respondents suffered any intentional harm, discomfort, mental anguish, embarrassment or loss of privacy.

#### **Methods of Data Analysis and Presentation**

Analysis of data is a process of editing, cleaning, transforming, and modeling data with the goal of highlighting useful information, suggestion, conclusions, and supporting decision making [62]. Data from the field was edited and coded appropriately to make meaning out of them. Editing was done to correct

errors, check for nonresponses, accuracy and correct answers. Coding was done to facilitate data entering and a comprehensive analysis. Descriptive statistics was the medium used for analysis. The software was the Statistical Package for Social Science version twenty (SPSS 20). The study employed descriptive and inferential statistics to show the relationships between erectile dysfunction and its determinants, naturopathic methods and level of satisfaction, challenges and patronage by the subjects. This included percentages, mean and standard deviation, while inferential statistics was correlation analysis using chi-square (Pearson value,  $p \leq 0.05$ ).

## **PRESENTATION OF SURVEY RESULTS**

### **INTRODUCTION**

This chapter presents the analysis and discussions of findings of the naturopathic management of erectile dysfunction and its determinants in the Ashaiman Municipality. These are obtained from the interviews conducted as well as other relevant documents such as documents obtained from the various naturopathic centers in the study area. They are discussed in sections that reflect the objectives of the study.

#### **Socio-demographic and economic characteristics of the respondents**

A total of fifty 50 men aged twenty and above with erectile dysfunction (respondents) were recruited for the study. The results presented in the Table-2 indicated that, about half (40%) of the respondents aged between 20 and 40 years, while only 10% aged 61 years and above. Educationally, 40% of the study's respondents were uneducated whilst another 40% had had attained tertiary education. Meanwhile more than half (60%) the respondents were unemployed with less percentage (20%) gainfully employed by the public sector. Also, greater proportion (60%) of the respondents were not satisfied financially with their job status.

#### **Determinants of erectile dysfunction among the respondents**

On Table-3 below, in order to assess the risk factors of ED, out of the 50 respondents, more than half of the respondents had diagnosed with hypertension (60%), cardiac conditions (60%), diabetes mellitus (80%), hormonal disturbances (80%), hypercholesterolemia (80%), spinal cord injuries/surgeries (90%), prostatic diseases (60%). Meanwhile higher proportion of the respondents were never diagnosed with neurological diseases (70%), stroke (70%), liver diseases (80%), pelvic injuries/surgeries (60%). Moreover, on the Table-3 below, a higher number (45) out of the 50 respondents never smoked (90%) and a greater proportion (90%) ever took alcohol

**Table-2: Socio-demographic and economic characteristic of respondents**

Characteristic of respondent		Frequency	Percentage (%)
<i>Age</i>	20-40	20	40
	41-50	10	20
	51-60	15	30
	≥61	5	10
<i>Educational level attained</i>	Uneducated	20	40
	Primary/JSS/JHS/SHS	10	20
	Tertiary	20	40
<i>Occupation</i>	Public sector work(government)	10	20
	Privately employed	5	10
	Entrepreneur	5	10
	Unemployed	30	60
<i>Are you satisfied financially with your job?</i>	Yes	20	40
	No	30	60
	Other	0	0
<i>Total</i>		<b>50</b>	<b>100</b>

Source: Field survey, 2020

**Table-3: Other risk factors of erectile dysfunction**

Characteristic		Frequency	Percentage (%)
<i>Have you been diagnosed with :</i>			
<i>Hypertension?</i>	Yes	30	60
	No	20	40
<i>Any cardiac disease?</i>	Yes	30	60
	No	20	40
<i>Stroke?</i>	Yes	15	30
	No	35	70
<i>Diabetes mellitus?</i>	Yes	40	80
	No	10	20
<i>Neurological disease?</i>	Yes	15	30
	No	35	70
<i>Chronic liver disease?</i>	Yes	10	20
	No	40	80
<i>Hormonal disturbances?</i>	Yes	40	80
	No	10	20
<i>Hypercholesterolemia?</i>	Yes	40	80
	No	10	20
<i>Spinal cord injury/surgery?</i>	Yes	45	90
	No	5	10
<i>Prostate disturbance/surgery?</i>	Yes	30	60
	No	20	40
<i>Pelvic injury/surgery?</i>	Yes	20	40
	No	30	60
<i>Genital injury / surgery?</i>	Yes	20	40
	No	30	60
<i>Smoked?</i>	Yes	5	10
	No	45	90
<i>Alcohol?</i>	Yes	45	90
	No	5	10
<i>Total</i>		<b>50</b>	<b>100</b>

Source: Field survey, 2020

**Assessment of the problem and prevalence of erectile dysfunction among the respondents**

From the Table-4 below, about half (40%) of the respondents rated to have a very low confidence in erection with more (40%) of them not able to keep erection to normal time expected of sexual intercourse,

higher proportion (60%) of the respondents had difficulty maintaining erections during intercourse and a greater proportion were never satisfied with sexual intercourse. More than half (60%) of the respondents were experiencing stressful situations.

**Table-4: Assessment of erectile problems**

Variable		Frequency	Percentage (%)
<i>Rate your confidence that you could get and keep an erection</i>	Very low	20	40
	Low	10	20
	Moderate	10	20
	High	5	10
	Very high	5	10
<i>How often were your erections hard enough for penetration?</i>	Almost never/never	10	20
	A few times (much less than half the time)	20	40
	Sometimes (about half the time)	10	20
	Most times (much more than half the time)	5	10
	Almost always/always	5	10
<i>How difficult was it to maintain your erection to completion of intercourse?</i>	Extremely difficult	2	4
	Very difficult	40	60
	Difficult	5	10
	Slightly difficult	0	0
	Not difficult	3	6
<i>How often was sex satisfactory for you</i>	Almost never/never	20	40
	A few times (much less than half the time)	10	20
	Sometimes (about half the time)	5	10
	Most times (much more than half the time)	10	20
	Almost always/always	5	10
<i>Do you experience severe stress?</i>	Yes	30	60
	No	20	40
<i>Total</i>		<b>50</b>	<b>100</b>

Source: Field survey, 2020

**Naturopathic care of erectile dysfunction among the respondents**

From the Table-5 below, all 50(100%) the respondents were naturopathic approaches in managing the condition. Majority (80%) of the respondents

adopted diet therapy and clinical nutrition, more than half (60%) were using herbal medicine, a greater proportion (90%) adhered to homeopathic and life style counselling approaches and more than half of them were using *acupuncture*.

**Table-5: Naturopathic approaches used by respondents**

Variable		Frequency	Percentage
<i>Naturopathic use</i>	Yes	50	100
	No	0	0
<i>Diet therapy and clinical nutrition</i>	Yes	40	80
	No	10	20
<i>Botanical medicine (Herbalism)</i>	Yes	30	60
	No	20	40
<i>Naturopathic physical medicine</i>	Yes	10	20
	No	40	80
<i>Homeopathic Medicine</i>	Yes	45	90
	No	5	10
<i>Behavioral change (prevention and lifestyle counselling)</i>	Yes	45	90
	No	5	10
<i>Traditional Chinese medicine / acupuncture</i>	Yes	30	60
	No	20	40
<i>Total</i>		<b>50</b>	<b>100</b>

Source: Field survey, 2020

**Benefits of naturopathic methods of management**

From the Table-6 below, out of the 50 respondents, majority of the respondents were using the naturopathic methods of treatment for the reason that, it

helped them felt better including managing emotions, anxiety, increase general sense of wellbeing (70%), helped them reduced their symptoms of erectile dysfunction with less side-effects (80%), it provided

natural and healing therapies (90%), it made them feel positive and hopeful for the future (100%), they were looking for cure (100%). Meanwhile, a greater

proportion (90%) of the respondents adhered to the naturopathic method of treatment not for the purpose of comfort from touch, talk and time with therapist.

**Table-6: Benefits of naturopathic approaches adhered by the respondents**

Variable		Frequency	Percentage (%)
<i>Please why do you use the naturopathic methods</i>			
<i>Help me feel better including emotions, anxiety, increase general sense of wellbeing</i>	Yes	35	70
	No	15	30
<i>Help reduce my symptoms with less side-effects</i>	Yes	40	80
	No	10	20
<i>Make me feel more control over my own health</i>	Yes	25	50
	No	25	50
<i>For its natural and healing therapies</i>	Yes	45	90
	No	5	10
<i>Comfort from touch, talk and time with therapist</i>	Yes	5	10
	No	45	90
<i>Make me feel positive and hopeful for the future</i>	Yes	50	100
	No	0	0
<i>Boosting my immune system</i>	Yes	45	90
	No	5	10
<i>Looking for cure</i>	Yes	50	100
	No	0	0
<i>Has condition improved</i>	Yes	40	80
	No	10	20
<i>Total</i>		50	100

Source: Field survey, 2020

#### Challenges in using naturopathic methods

From the Table-7 below, out of the 50 respondents, majority (60%) of them reported to have encountered challenges in the naturopathic methods. Out the 30 respondents with challenges, a greater

proportion (83.3%) found it difficult affording the remedies, 66.7% experienced side-effects while a lesser percentage (33.3%) of them reported to have not seen improvement in their condition.

**Table-7: Challenges in using the naturopathic methods by the respondents**

Variable		Frequency	Percentage (%)
<i>Do you experienced challenges in using naturopathic methods?</i>	Yes	30	60
	No	20	40
<i>Total</i>		50	100
<i>Difficult affording the remedies</i>	Yes	25	83.3
	No	5	16.7
<i>Side effects</i>	Yes	20	66.7
	No	10	33.3
<i>Does not get healing/improvement</i>	Yes	10	33.3
	No	20	66.7
<i>Other...</i>	Yes	0	0
<i>Total</i>		30	100
<i>Side effects</i>			
<i>Nausea, stomach upsets, vomiting</i>	Yes	20	100
	No	0	
<i>Skin rashes, itches</i>	Yes	15	75
	No	5	25
<i>Other, Specify</i>	Yes	0	0
<i>Total</i>		20	100

Source: Field survey, 2020

### Prevalence and determinants of erectile dysfunction

McCabe *et al.*, [16] defined erectile dysfunction as the consistent or recurrent inability to attain and/or maintain penile erection sufficient for sexual satisfaction. From the above definition, sixty (60%) of the respondents met the criteria and hence the overall prevalence.

### Erectile dysfunction and socio demographic/economic determinants

From the table 4.7 below, majority 35(70%) of the respondents were within 20-50 age bracket. This age range was statistically ( $p$  value =0.04) associated with ED. Educational status was not associated with erectile dysfunction ( $p$  value= 0.35). Meanwhile occupation and financial satisfaction associated significantly ( $p$ =0.01) with ED.

### Erectile Dysfunction and Risk Factors

From Table-8 below, respondents who were ever diagnosed with hypertension, diabetes and

hypercholesterolemia were strongly associated ( $p$  value of 0.04,0.03,0.03 respectively) with ED. Others were, those with prostate disturbances ( $p$  value=0.03) and pelvic and spinal cord injuries. Alcohol abusers were also strongly associated ( $p$  value=0.02) with the condition.

### Erectile Dysfunction and Naturopathic Use

All the respondents adopted naturopathic method of treatment. This was statistically significant with the condition, ED with the chi-square, Pearson value of 0.01. diet and clinical nutrition, botanical medicine, herbs and lifestyle counselling were the most utilized methods. The respondent encountered challenges but this statistically insignificant ( $P$ =0. 06). Meanwhile, majority of the respondents had their condition improved by using the naturopathic methods with statistically significant of  $p$  value of 0.002.

**Table-8: Determinants of erectile dysfunction and naturopathic use**

Variable	Erectile dysfunction	Test statistic
Age range	Total/ Yes (%)	
20-50	35(70)	*0.04
≥ 51	15(30)	0.23
Level of education		
Educated	25(50)	0.35
Uneducated	24(25)	0.35
Occupation		
Employed	20(40)	0.08
Unemployed	30(60)	*0.02
Financial satisfaction		
Yes	20(40)	0.07
No	30(60)	*0.01
Hypertension		
Yes	35(70)	*0.04
No	15(30)	0.34
Diabetes		*0.031
Yes	40(80)	*0.03
No	10(20)	0.63
Stroke		
Yes	5(10)	0.65
No	45(90)	
Liver disease		
Yes	10(20)	0.730
No	40(80)	
Hypercholesterolemia		
Yes	40(80)	*0.04
No	10(20)	0.54
Prostate disturbances		
Yes	30(60)	*0.03
No	20(40)	0.45
Alcohol		
Yes	45(90)	*0.02
No	5(10)	0.35
Naturopathic use		
Yes	50(100)	*0.01

No		
Diet and nutrition counseling		
Yes	40(60)	*0.04
No	10(40)	
Challenges of naturopathy		
Yes	30(60)	0.06
No	20(30)	
Improved condition		
Yes	40(80)	*0.002
No	10(20)	

\* = statistically significant

Source: Field survey, 2020

## DISCUSSION OF SURVEY RESULTS

### INTRODUCTION

This chapter presents summary of key findings of the study. These findings are derived from the results from the field work. Recommendations from the study are highlighted to show how naturopathic practices in the sector can be strengthened and sustained in the study area and Ghana as a whole.

### Socio-Demographic and Economic Characteristics of the Respondents

Erectile dysfunction is sometimes associated with age, educational status, economic stability and several other sociodemographic and health behavioral factors [63]. Respondents below the age of 50 years were significantly associated with the condition with 70%. A study published in 2013 noted that, out of 439 men who had erectile dysfunction, 114 (26%) were younger than 40 [5] and nearly half of those young men had severe ED. However, this was contrary to Moreira Júnior *et al.*, [64] who found higher prevalence of erectile dysfunction (45.9%) among men older than 40 years old in Brazil the prevalence of ED was inversely correlated with the level of education. Uneducated, those who advance beyond primary and to tertiary as well those who were not satisfied financially with their occupation were associated significantly ( $P= 0.001$ ) the condition. A population based study was done by Berrada *et al.*, [65] in Morocco and revealed that illiterate subjects and those who advanced beyond elementary school as well as the poor had significant association with ED(both  $p<0.0001$ ).

### Erectile Dysfunction and Risk Factors

Among the risk factor for erectile dysfunction included hypertension, hypercholesterolemia, diabetes, spinal cord injuries/surgeries, prostate disturbances, hormonal disturbances, alcohol, stress. A study by Van Vo *et al.*, [66], showed that, the key factors associated with ED were, disease history, weight associated problems, hormonal imbalances, alcohol consumption, anxiety. Also, according to Yao *et al.* (2012), hormonal deficiencies or imbalances are other significant causes of erectile dysfunction. The study also corresponded with Heidelberg [1] who found that, anxiety can

increase heart rate, blood pressure issues and fatigue thereby leading to ED.

### Erectile Dysfunction and Naturopathic Use

Naturopathic use was high among the respondents. Increased use of the approaches might have attributed to its benefits of improving their condition. According to Espinosa & Esposito [67], erectile dysfunction is well treated using naturopathic medicine such as herbal, lifestyle counselling, acupuncture, homeopathy.

## CONCLUSION AND RECOMMENDATION

### CONCLUSION

Sixty percent (60%) of the respondents were having the problem of erectile dysfunction. This was partly due financial challenges, unemployment, disease history such as arterial hypertension, diabetes, hormonal and prostate disturbances, increased cholesterol, spinal injuries/surgeries and alcohol abuse.

The respondents adopted the use of naturopathy and had their condition improved. Among the naturopathic approaches included: homeopathy, botanical; herbal, lifestyle counselling, acupuncture and diet and clinical nutrition. Even though the respondents encountered affordability, few side-effects and no improvement challenges, that did not prevent the respondents from adopting the naturopathic methods. Some of the respondents suggested that naturopathic practitioners minimized the prices of the various approaches and that they should create more awareness and sensitization programs to the public.

### RECOMMENDATION

The study therefore suggested the following recommendation:

1. There is the need for naturopathic professionals to strengthen the level of education and awareness of naturopathic practices and remedies to the general public
2. Naturopathic practitioners should advance their research and education level in order to get more knowledge about erectile dysfunction and its treatment plan.

3. Further researches should be done by naturopathic research institutions in Ghana to evaluate the various naturopathic methods to improve upon its practice. It is also important for similar studies be carried out across the entire country to confirm the present study.

## DECLARATION

I hereby declare that this submission is my own work towards the diploma. And that to the best of my knowledge it contains neither materials previously published by another person or materials that have been accepted for the award of any other Diploma by the University or any other University except due acknowledgment has been made in the text.

## ACKNOWLEDGEMENT

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## DEDICATION

This project is dedicated to my lovely wife Deaconess Mrs. Faustina Accam for her dedication and continuous support throughout my time in this program. May God bless us all.

## APPENDIX 1: QUESTIONNAIRE FOR THE STUDY

**INFORMED CONSENT**

Greeting! My name is Gabriel Accam and I am a student from Dr. Nyarkotey College of Holistic Medicine, Accra. I am conducting a survey on the prevalence and determinants of erectile dysfunction among men from twenty years of age and above and their naturopathic management methods in the Ashaiman Municipality. The information you provide will help the Traditional and Alternative Medicine Practice Council (TMPC), Ministry of Health plan and improve the performance of its practices in Ghana and beyond. The interview takes about 20 minutes to complete.

There are no direct benefits to you for participating in the study. However, the information you provide will help improve the naturopathic practices in Ashaiman. The risks involved in taking part of the study are very minimal. These include the time spent in answering the questions and the discussions and the inconvenience that the interview might cause you. I am very much appreciative of your participation in this survey. All answers you will give will be confidential and will not be seen by anyone.

Participation in this survey is voluntary and you can choose not to answer any individual question or group questions during the interview. However, I hope that you will participate fully in this research since your views are important.

At this time, do you want to ask me anything about the research?

Do you agree to participate in this research? 1. Yes 2. No

## SECTION A SOCIO-DEMOGRAPHIC/ECONOMIC DETERMINANTS OF ERECTILE DYSFUNCTION

1. Age (years) of respondent
  - a) 20-40
  - b) 41-50
  - c) 51-60
  - d)  $\geq 61$
2. What is your educational attained
  - a) Uneducated
  - b) Primary/JSS/JHS?SHS/SSS
  - c) Tertiary
3. Where do you live?
  - a) Lebanon
  - b) Zenu
  - c) Bethlehem
  - d) Zongo laka
  - e) Other, specify.....
4. What do you do?
  - a) Public sector work(government)
  - b) Privately employed
  - c) Entrepreneur
  - d) Unemployed
  - e) Other: \_\_\_\_\_
5. Are you satisfied with the work that you do? (financially)
  - a) Yes
  - b) No
  - c) Other,.....
6. Have you ever diagnosed with hypertension?
  - a) Yes
  - b) No

7. Have you ever diagnosed with any cardiac disease?  
a) Yes  
b) No
8. Have you ever diagnosed with stroke?  
a) Yes  
b) No
9. Have you ever diagnosed with diabetes mellitus?  
a) Yes  
b) No
10. Have you ever diagnosed with any neurologic diseases?  
a) Yes  
b) No
11. Have you ever diagnosed with any chronic liver diseases?  
a) Yes  
b) No
12. Have you ever diagnosed with hormonal disturbances?  
a) Yes  
b) No
13. Have you ever diagnosed with kidney function disturbances?  
a) Yes  
b) No
14. Have you ever diagnosed with hypercholesterolemia?  
a) Yes  
b) No
15. Have you ever underwent any spinal cord operations?  
a) Yes  
b) No
16. Have you ever underwent any prostate operations?  
a) Yes  
b) No
17. Have you ever underwent any genital operations?  
a) Yes  
b) No
18. Have you ever experienced any spinal cord injuries?  
a) Yes  
b) No
19. Have you ever experienced any pelvic injuries?  
a) Yes  
b) No
20. Have you ever experienced any pubic bone injuries?  
a) Yes  
b) No
21. Do you smoke?  
a) Yes  
b) No
22. Have you ever had alcohol addiction?  
a) Yes  
b) No
23. Have you ever had narcotics addiction?  
a) Yes  
b) No
- Over the past 6 months\*:
24. How do you rate your confidence that you could get and keep an erection?  
a) Very low  
b) Low  
c) Moderate  
d) High  
e) Very high
25. When you had erections with sexual stimulation, how often were your erections hard enough for penetration?  
a) Almost never/never  
b) A few times (much less than half the time)  
c) Sometimes (about half the time)  
d) Most times (much more than half the time)  
e) Almost always/always
26. During sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?  
a) Almost never/never  
b) A few times (much less than half the time)  
c) Sometimes (about half the time)  
d) Most times (much more than half the time)  
e) Almost always/always
27. During sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?  
a) Extremely difficult  
b) Very difficult  
c) Difficult  
d) Slightly difficult  
e) Not difficult
28. When you attempted sexual intercourse, how often was it satisfactory for you?  
a) Almost never/never  
b) A few times (much less than half the time)  
c) Sometimes (about half the time)  
d) Most times (much more than half the time)  
e) Almost always/always
29. Are there any psychiatric problems in communicating with your partner?  
a) Yes  
b) No

30. Do you experience severe stress?  
 a) Yes  
 b) No

**NATUROPATHIC METHODS, CHALLENGES AND BENEFITS**

1. Do you use naturopathy?  
 a) Yes  
 b) No

**SECTION B**

2. Please indicate which of these methods you use (multiple selection apply)

Naturopathic Method	No	Yes
Diet therapy and clinical nutrition:		
Botanical medicine (Herbalism)		
Naturopathic physical medicine		
Homeopathic Medicine		
Behavioral change (prevention and lifestyle counselling)		
Traditional Chinese medicine / acupuncture		

**BENEFITS OF THE DIFFERENT NATUROPATHIC METHODS**

1. Why do you adopt to your current method of treatment? Please select all that apply by ticking

Benefits	
Help me feel better including emotions, anxiety, increase general sense of wellbeing	
Help reduce my symptoms with less side-effects	
Make me feel more control over my own health	
For its natural and healing therapies	
Comfort from touch, talk and time with therapist	
Make me feel positive and hopeful for the future	
Boosting my immune system	
Looking for cure	

2. Please has your condition improved after using the naturopathic methods?  
 a) Yes  
 b) No

.....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....

**CHALLENGES OF NATUROPATHY USE**

1. Do you experienced challenges in using naturopathic methods?  
 a) Yes  
 b) No

2. Indicate which of the following challenges? Select all that apply  
 a) Difficult affording the remedies  
 b) Side effects  
 c) Does not get healing/improvement  
 d) Other.....

3. If yes to Qn 2 b above, specify which of the side-effects (multiple choice)  
 a) Nausea, stomach upsets, Vomiting  
 b) Skin rashes, itches  
 c) other, Specify.....

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**SECTION C**

**WAYS OF MITIGATING THE CHALLENGES IN ADOPTING NATUROPATHIC METHODS**

Please, which measures would you propose to improve upon how the naturopathic modality manage your erectile dysfunction?

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