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THE PERCEPTION OF THE STAFF OF THE UNIVERSITY OF JOS ON PHYTO MEDCINE AS A TREATMENT OPTION IN HEALTH CARE DELIVERY SYSTEM

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ABSTRACT

People from different cultural backgrounds have used different forms of Traditional Medicine as a means to managing their ailments. This study aimed to assess the perception of people on phytomedicine as a treatment option in health care delivery in University of Jos, Plateau state. This study was motivated by the increasing use of the phytomedicine in health care delivery in University of Jos, Plateau state as an alternative medicine to modern medicine state. The theory adopted for this study was Health Belief Theory (HBT). The methodology adopted by this study was a survey research design. The major finding of this study was that the use of phytomedicine has been on the increase in areas of health care delivery in University of Jos and elsewhere. Results in this study also revealed that primary care physicians rarely initiate conversations with patients about the use of phytomedicine and patients also were found to be reluctant to reveal their usage due to the perception that the physician is not knowledgeable of these practices or will disapprove of alternative treatment. In conclusion, this study concludes that the level of the level of perception and usage of phytomedicine in health care delivery among the staff of the University of Jos are on the increase, providing valuable insights for policymakers, researchers, and healthcare professionals. The study recommends that there should be an increase in public awareness about instructions and restrictions when using phytomedicine and the Ministry of Health should find a way to get all phytomedicine practitioners on board so that workshops and intermittent training can be organized for health practitioners to upgrade their knowledge on the use of phytomedicine.

Keywords: Phytomedicine and Health Care Delivery.

Background to the study

Phytomedicine treatment is becoming more popular worldwide (Rashrash, Schommer& Brown, 2017). Patients, and even countries, reach out to phytomedicine to fulfill health needs not satisfied by orthodox medicine (Orisakwe, Orish&Nwanaforo, 2020). According to World Health Organization (WHO), (2014) phytomedicine refers to healthcare practices (indigenous or imported) that are delivered outside of the mainstream healthcare system.

The development of health products of phytomedicine has often stemmed from traditional or historical use, or from long-term evidence that consumption of phytomedicine is associated with better health care delivery outcomes (Zappala & Pauli, 2020). It represent a collection of therapeutic knowledge that is deeply rooted in a culture and formed the basis of early version of pharmacopoeias, which was based in large part on natural products originated from botanicals, animals, fungi, and minerals.

The use of phytomedicine in health care delivery is pivotal to the practice of the African Traditional Medicine (ATM), and it was the major medical system available to millions of people in urban and rural communities of Africa, until the advent of Europeans (Abdullahi, 2011). It is a non-conventional system of disease management that employs various processes of consultation with herbalists,

priests, media and diverse traditional deities together with herbal use. It has been reported that, Sub-Saharan Africa is one region of the world in which the use of phytomedicine in health care services has long been held to be widespread, with a considerable number of its population relying on it to maintain their health or prevent and treat communicable and non-communicable diseases (World Health Organization, 2014).Some patients believe that the use of phytomedicine for treatment augments orthodox medicine and that it is more cost-effective and natural compared to orthodox medicine, with fewer side effects (Ameade, Ibrahim, Habib &Gbedema, 2018). Consequently, phytomedicine remains an indispensable option for many people globally (Sharp, Lorenc, Morris, Feder, Little &Hollinghurst, 2018).

The World Health Organization (WHO) (2014) estimates that 80 percent of the world's population presently uses herbal medicine for some aspect of primary health care, (Ernst, 1998). In addition to the use in the developing world, phytomedicine is used in industrialized nations by alternative medicine practitioners such as naturopaths. In a survey of naturopath in the UK found that many of the herbs recommended by them were used traditionally but had not been evaluated in clinical trials, (Casey, Adams &Sibbritt, 2007). In Australia, a 2007 survey found that these Western herbalists tend to prescribe liquid herbal combinations of herbs rather than tablets of single herbs. The use of, and search for, drugs and dietary supplements derived from plants have accelerated in recent years.

In the African setting, the provision of healthcare falls mainly into the orthodox and non-orthodox systems. The non-conventional healthcare system includes complementary medicine of which phytomedicine is an important component. A large percentage of the world's population depends on herbal medicine in both developing (80%) and developed countries (WHO, 2014). In Nigeria, phytomedicine use has been a treatment alternative among the general population, who pay out-of-pocket for health care services. (Oreagba, Oshikoya&Amachree, 2011, Osamor&Owumi, 2010).

The increasing uptake of phytomedicine as treatment services across the continent in recent decades has attracted the attention of policy makers, researchers and healthcare professionals. In the past 20 years, the WHO regional office for Africa spearheaded the implementation of a regional strategy endorsed by African Heads of State in Lusaka, Zambia to promote the role of phytomedicine in health care systems in the African region. It has also promoted the training of phytomedicine practitioners and the local production and cultivation of medicinal plants, as well as the establishment of intellectual property rights for traditional medicine knowledge in few nations, (Kasilo, Trapsida, MwikisaandNgenda, 2010). Despite such progress, African countries continue to grapple with an absence of phytomedicine policy or its implementation, inadequate phytomedicine research infrastructure and insufficient regulation of phytomedicine products and practices, (Abdullahi, 2011). It is in line with this background that this study assessed the perception of staff of University of Jos on the impact of Phytomedicine on Health Care Delivery.

Statement of the Problem

Various studies have been conducted on the use of phytomedicine in health care delivery in subpopulation in developing and developed countries. Some of these studies include those of Manish (2018) in Malaysia on Phytomedicine used by traditional people of Malaysia found that, plants such as Betel- for Stomach pain, Ginger flower for ear pain, Flower-head for diarrhea, Guava for rashes, Rusty-leaf bush fig- shrink vaginal canal after give birth, Garlic- Asthma, Noni fruit- Asthma, Neem plant- Stomach upset, Snake plant- Kidney stone and Papaya- Diabetes among others are used for treatment purposes.

Egharevba & Olobayo (2021) in Nigeria on Multidisciplinary work approach to phytomedicines Research and Development (R&D), found that, shared responsibilities, outcome acceptability across broad spectrum of professionals and work efficiency, appears to be the new order for developing

affordable health product that could stand the test of time, funding efficiency through transparency and accountability and research honesty as a result of multiple contributors serves as problem to the use of phytomedicines . The problem of more productive collaboration among different professionals, clear understanding of goals and framework of collaboration from the onset constitutes a challenge to the production of phytomedicines. There should be mutual respect, transparency and accountability. Afisulahi, Mutalub, Attahiru Muhammad, Mark and Akangoziri (2022) in Bauchi State, Nigeria on Prevalence and determinants of herbal medicine use among adults attending the National Health Insurance Clinic of Abubakar Tafawa Balewa University Teaching Hospital also found that, herbal medicine use is lower than in many other studies, it is still significant, especially with the high rate of co-use of herbal medicine and orthodox medicine, which amplifies the risk of herb–drug toxicity.

Moreover, lack of research has not been carried out about the types of herbal medicine used by patients in different clinical settings, the toxicity, potency, as well as about the determinants of herbal medicine use and this pose a problem. Although there is a cultural history of HM use within the study population, socioeconomic and socio-demographic factors were determinants of its use in light of a prevalent income inequality and absence of adequate health insurance coverage. There are many negative side effects of herbal medicine (Grunet, 2014; Sifferlin, 2013),stated that cardiovascular morbidity and mortalities are related to the intake of some herbal medications; for example ginkobiloba, ginseng and green tea. Likewise Echinaceais associated with liver toxicity and inflammation (Grunet, 2014). Aristolochicacid found in birth worth or Dutchman's pipe is associated with kidney conditions in Asia (Sifferlin, 2013).

In South Africa, 68% of deaths caused by poisoning among native blacks were caused by traditional medicine toxicity (Antigoni & Dimitrios, 2009). In Ghana herbal medicine has been associated with some deaths which include the death of a 50year old woman who took some herbal mixture prescribed by herbalist. Two others were hospitalized after taking the same mixture this lack of unmeasured quantity to be taken by the patients constitutes a problem to the use of phytomedicines (The Chronicle, 2013).

There have been various perceptions on the use of phytomedicine in the society. It is against this background that this study investigates the perception of staff of university of Jos on the use of phytomedicine in health care delivery.

Objectives of the Study

The main research objective of the study is to assess the perception of phytomedicine and health care delivery in University of Jos. Specifically, the study intends to achieve the following objectives;

- **i.** To find out the perception of staff of University of Jos on phytomedicine in health care delivery.
- **ii.** To find out the number of staff that has used phytomedicine in addressing their health care delivery.
- **iii.** To find out the number of people that have benefited from the use of phytomedicine in treating their health care challenges.
- **iv.** To ascertain the challenges faced by usage of phytomedicine in health care delivery in University of Jos.

Research Questions

The following questions guided the study thus;

- **i.** What is the perception of staff of University of Jos on phytomedicine in health care delivery?
- **ii.** How many people have used phytomedicine in addressing their health care delivery?

iii. How many people have benefited from the use of phytomedicine in treating their health care challenges?
iv. What are the challenges of phytomedicine in health care delivery in University of Jos?

Conceptual Review

Phytomedicine

Phytomedicine (also known as indigenous or folk medicine) comprises medical knowledge systems that developed over generations within various societies before the era of modern medicine. Practices known as traditional medicines include herbal, Ayurveda, Siddha medicine, Unani, ancient Iranian medicine, Islamic medicine, traditional Chinese medicine, traditional Vietnamese medicine, acupuncture, Muti, Ifá, traditional African medicine, and other medical knowledge and practices all over the globe. The World Health Organization (WHO) (2008) defines phytomedicine as: "the health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral-based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being(World Health Organization, 2008).
Phytomedicine is defined as materials or preparations obtained from one or more plants—raw or processed parts (World Health Organization (WHO, 2019) containing substances with therapeutic characteristics and other benefits to human health. A large percentage of the world's population depends on phytomedicine in both developing (80%) (Bandaranayake, 2006) and developed countries, (Nissen, 2010). Traditional, phytomedicine refers to a set of healthcare practices (indigenous or imported) that are delivered outside of the mainstream healthcare system, (WHO, 2014).
Phytomedicine products are medicinal products that consist of a plant, or a concoction of various plants, often used due to its believed beneficial effect, (Hussan, 2018) and are a popular source for disease management and prevention. Within the past decade, there has been a tremendous surge in herbal therapies, as herbs are easily assessable directly from traditional healers or commercially available in many countries, including in Malaysia. According to Islahudin, Shahdan, Mohamad-Samuri (2017), approximately 70% of the world's population from developing countries prefers herbal medicinal products as a primary source of healthcare.
In the African setting phytomedicine encompass local herbal medicines or products, indigenous healthcare practices (traditional bone setting), as well as imported complementary and alternative medicine products and practices (eg, acupuncture or chiropractic). Sub-Saharan Africa is one region of the world in which TCAM has long been held to be widespread, with a considerable number of its population relying on it to maintain their health or prevent and treat communicable and non-communicable diseases (Mander, 2007).

Health Care Delivery

Healthcare delivery system in Nigeria as a sub Saharan African Country comprises of the primary, secondary and tertiary healthcare facilities (Uzochukwu et al., 2015). The health policy in Nigeria has been influenced by different local and regional factors that affect the quality and quantity present in one location (Uzochukwu et al., 2015). This has led to a total decay and neglect in the primary healthcare delivery system.Eboh, Akpata, and Akintoye (2016) also view that health care delivery systemhas to do with people, institutions and legal framework, all interacting systematically to mobilize and allocate resources for health management, prevention and care of diseases, illnesses and injuries.
The World Health Organization (2008) defines health care delivery as the "the management and delivery of health services so that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system".

Health care delivery is a crucial issue in the definition of development and wellbeing of a nation and individual. In giving credence to this fact, the United Nation made healthcare delivery as one of the cardinal objectives of Sustainable Development Goals (SDGs) in the twentyfirst century for the developing nations (UNAIDS (2007) Joint United Nations programme on HIV and AIDS (Lindelow, 2014).

i. Use of The Health Belief Theory

Herbal medicines may be used during pregnancy to treat pregnancy symptoms likenausea and vomiting. They may also be used to prepare for labor or for otherunrelated health issues such as colds and respiratory illnesses or skin problems tomention a few examples (Nordeng and Havnen, 2004). Reasons reported for ceasingherbal medicine during pregnancy include concerns for the health of the fetus/baby,the 'condition' improving, the herbal medicine not helping and advice from a healthcare provider (Hepner, 2002).

It is estimated that 80% of the African population use traditional medicine in some ways for their primary health care needs (WHO, 2008). Studies by WHO (2008) suggested heavier reliance of people in rural areas on traditional medicine for primary health care. However, similar figures can be observed in some urban contexts: Njoroge and Kibunga (2007) reported that a majority of their respondents relied on traditional herbal preparations for the treatment of diarrhoea in an urban area, Thika, Kenya.

A survey among 400 Norwegian women at Ulleval University Hospital in Oslo in2004 on the use of herbal drugs in pregnancy found that 36% of pregnant women had used herbal drugs during pregnancy (Nordeng, 2004). Among the women havingused herbal drugs in pregnancy, 39% had used herbal drugs that were consideredharmful or herbs where there was paucity of information about safety in pregnancy.In South Africa, the use of herbal medicines by women in reproductive age group is common. These herbal medicines are used for abortion, breast cancer, contraception, and conception, irregular or even in painful menstruation (Steenkamp, 2003).

In pregnancy herbs are normally used orally on a regular basis as a tonic to clean the womb to attain an easy and quick delivery and in order to protect the child from evil and to have a healthy child (Goncalves, 2001). It is estimated that 60% of SouthAfrican women use herbal medicine during pregnancy. Twenty nine percent of non-users indicated that they had been advised by doctors not to take herbs. In a prospective study on the use of oral herbal medicine conducted on 214 pregnant women attending antenatal clinics in urban and rural Tanga district in Tanzania, the overall prevalence rate of use of herbal medicine was 42%. The prevalence in urban and rural areas was 43.3% and 40.2% respectively. Of the users, 54% did so to relieve pregnancy-associated symptoms, while the rest used it as a consequence of beliefs, possibly superstitious, circumstantial constraints, and combinations of these (Mbura, 1985).

ii. Health seeking behavior and herbal medicine

The concomitant use of herbal and Western treatments indicates that use of both systems of care significantly influences health-seeking behaviour of users. In a Family Care International (2003) report, use of traditional birth attendants and herbal medicine was claimed to cause delays in seeking biomedical attention when complications arose, especially during labour and post-labour. According to Olenja(2003), health seeking behaviour is "any action undertaken by individuals who perceive themselves to have or to be ill for the purpose of finding an appropriate remedy." The action taken when ill is influenced by perception of illness, decision-making about steps to follow and the social, cultural and economic context in which illness occurs.

In behavioural studies, the most common approach to study health seeking behaviouris assessment of people's knowledge, attitude and practices –otherwise known as KAP studies (Hausmann-Muela et. al. 2003). Models such as Health Belief Model, Theory of Reasoned Action and Theory of Planned

Behaviour are employed in public health studies to explore similar concepts. In practice, various models arefused depending on key factors of consideration or relevant variables (Hausmann-Muela et.al. 2003).What types of herbs do women use during pregnancy? Herbalpreparations can be used as supplements for nutritional purposes and some are usedfor medicinal purposes such as nausea, urinary tract infections, and other uses(Glover et al., 2003).
In the developed world, popular herbs include ginger for nausea, St. John's Wort fordepression,Blue or black cohosh for efficiency of contractions, echinacea asanimmuno-stimulant, ginsengfor energy and immune function, gingko bilobato stimulate cognitive functioning, raspberry leaf for facilitation with labor(Tiran,2003). In developed regions, women also use other complementary andalternative therapies such as yoga, reflexology and massage for stress-reduction (Tiran and Chummun, 2004). Midwives in a developed country are increasingly incorporating CAM care into their practice, and expectant mothers are increasing its use (Tiran &Chummun, 2004).

Theoretical Review
There are several theories that can be used to explain the use of herbal medicine and the health seeking behaviours. Some of the theories that were instrumental in the study are; Theory of Reasoned Action and Theory of planned Behaviour, Mystical Approach Theory, and Social Cognitive Theory of Learning and The Health Belief Theory however the Health Belief theory was adopted for this due to its aptness in this study. In other words it addressed the study appropriately as a result of its strength over other theories associated with the use of

Health Belief Theory (HBT)
The health belief model was one of the first, and remains one of the best known social cognition models (Janzand Becker, 1984).It is a health behavior change and psychological model developed by Irwin M. Rosenstock in 1966 for studying and promoting the uptake of health services. Originally, the model was designed to predict behavioral response to the treatment received by acutely or chronically ill patients, but in more recent years the model has been used to predict more general health behaviors.
The model postulates that health seeking behavior is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat. The health belief model addresses the relationship between a person's beliefs and behaviors. It proposes that a person's health related behavior depends on the persons perception of four critical areas namely; the severity of a potential illness, the persons susceptibility to that illness, the benefits of taking a preventative action and the barriers of taking that action. It provides a way to understanding and predicting how clients will behave in relation to their health and how they will comply with health care therapies. This model will be used to explain the main factors that motivate women to seek and use herbal medicine.
The uniqueness of the HBM to health makes its application appropriate for use in understanding and explaining people's behaviour vis-à-vis their health outcomes – this further explains its wider use in public health (Bellamy, 2004). This research considered the elements of the HBM to be appropriate in exploring perceptions and attitudes of adult Nigerians contributing to delays in health-seeking behaviours for malaria treatment within the Makurdi context. This theoretical framework has been widely and successfully used by several malaria studies in exploring perceptions and attitudes relating to delay in health-seeking for malaria treatment (Mitiku & Assefa, 2017). Examples include, a qualitative study conducted by Dembo (2012) this study adapted the HBM to explore the perception of community health workers in Lilongwe on barriers to effective malaria control service delivery and utilization at the community level. The findings of Dembo (2012) highlighted some determinants that health workers identified as barriers to effective health-seeking and practice of

malaria interventions in Lilongwe. Some of them included: health professionals' perspectives about the community's traditions and beliefs about the causes of malaria which disagrees with the known biomedical causes of malaria; perceptions about alternative and complementary treatment use for malaria prevention and treatment; and lack of understanding about the perceived vulnerability to malaria. Another example of a study that used the HBM was conducted by Mitiku & Assefa (2017), this study assessed the perceptions of malaria treatment-seeking behaviours among caregivers of under-five children in the Mandura District of Ethiopia. The key findings of their study revealed that caregivers' perception of malaria, perceived susceptibility to malaria, place of residence (rural/urban) and perceived barrier to seeking treatment are contributing factors influencing treatment-seeking for malaria. Similarly, HBM has been successfully applied to identify determinants of nurses' willingness to receive vaccine (Chen et al.,2019), explore the role of exercise for type 2 diabetes patients and explain factors inhibiting or encouraging utilization of mental health services (Henshaw &Freedman-Doan, 2019), increase rate of voluntary cervical cancer screening (Wang et al., 2015), chronic disease management (Smith et al., 2016), explain the perceptions of HIV prevention (Chen,2019), smoking cessations (Dembo, 2012), Osteoporosis prevention (Bellamy, 2004), and adult physical activity practices to mention a few. This conceptual framework is therefore relevant and appropriate to answer the research question of this present study and provide a deeper understanding of how perceptions and attitudes contribute to influencing delays in effective health-seeking behaviours for malaria treatment in Makurdi and staff of the University of Jos, Plateau state Nigeria. This theory best fits into this study as it addressed the use of phytomedicines by many of the staff University of Jos.

METHODOLOGY

This study employ's survey research design. This is a type of design that gives the researcher the opportunity to select respondents from a large population to study the phenomenon using quantitative and/or qualitative instrument for data collection. The survey design is chosen for this study because it is appropriate in obtaining information about personal perceptions, belief, feelings, motivations, anticipation or future plans as well as past behavior that has actually taken place.

Population and Sample of Study

Population

Population refers to a collective number of people the researcher is interested in forming conclusion on after completing a study (Korb, 2012).According to the Academic Staff Union of Universities, University of Jos Handbook, (2021) the total number of academic staff in the institution stands at 1462 and also the Non-Academic Staff Union Handbook (2021) also put the number of staff at 4646 in the university. This comprises both male and female workers in the institution. Therefore, the total number of staff (Academic and Non-academic) in the University of Jos is projected to be 6108 workers in the institution and this forms the population of the study.

Sample Size

Taro Yamane (1967) sample size determination formula will be employed to determine the sample size for this study. With the total population of staff of University of Jos at 6108, number of academic staff at 1,462 and number of nonacademic staff at 4646, the sample size will be calculated using the Taro Yamane formula which is given as:

$$n = \frac{N}{1+N(e)^2}$$

Where n = sample size

N = finite population

e = level of significance (limit of tolerable error)

1 = unity (constant)
Given the population of staff of University of Jos 6,108
e = 0.07
The sample size for this research therefore will be
$n = \frac{N}{1+N\,(0.07)^2}$
Given that:
n = 6108
e = (0.07)
$n = \frac{6108}{1+6108(0.07)^2}$
$n = \frac{6108}{6109(0.05)^2}$
$n = \frac{6108}{6109x\ 0.0050}$
$n = \frac{6108}{30.545}$
n = 199.9
n = 200 approximately
To calculate the proportion of academic staff to be selected out of a total sample size of 200 is as follows:
Proportion of academic staff = [(Number of academic staff) / 6,108] x 200
Proportion of academic staff = [(1464) / 6,108] x 200 = 48
To calculate the proportion of nonacademic staff to be selected out of a total sample size of 200 is as follows:
Proportion of nonacademic staff = [(Number of nonacademic staff) / 6,108] x 200
Proportion of nonacademic staff = [(4646) / 6,108] x 200 = 152
Therefore, the sample size for this study will be 200 respondents comprise of 48 academic staff and 152 nonacademic staff in which questionnaires will be administered.

Empirical Review

Perception of People on Phytomdeicine in Health Care Delivery

Phytomedicine is becoming more popular worldwide, (Rashrashet , 2017, James , 2018). Patients, and even countries, reach out to phytomedicine to fulfill health needs not satisfied by orthodox medicine (Orisakwe et al., 2020). Some patients believe that phytomedicine augments orthodox medicine and that it is more cost-effective and natural, compared to orthodox medicine, with fewer side effects (Ameadeet al., 2018) Many patients use phytomedicine for "spiritual" care (Kuubiereet al., 2015). Consequently, phytomedicine remains an indispensable option for many people globally, (Sharp et al., 2018).
Studies in Nigeria on herbal medicine use have been among the general population, who pay out-of-pocket for health services (Oreagbaet al., 2011). In a developing economy, the cost of orthodox medicine may account for the popularity of herbal medicine use often noted. In Nigeria, the National Health Insurance Scheme (NHIS) is the chief regulator and the largest institution responsible for health insurance (National Health Insurance Scheme (NHIS). 2012).Mainstream health care administration of herbal medicine has been met with factors that either expedites or challenges the process. Some of the overarching factors proposed to be facilitating the utilization of CAM therapies include availability of herbal medications and belief in positive benefits of CAM among nurses, physicians and patients (Sharp et al., 2018).
There is also a growing interest in herbal medicines in the developed countries which is evidenced by the increasing use of ethno botanicals in these regions (Wachtel-Galorand Benzie, 2010). The growing interest in the use of herbal formulations for the treatment and management of human

diseases could be credited to their medicinal efficacies (Yang et al., 2013), and also because they have little or no adverse effects compared to the orthodox drugs (Karimi et al., 2015).
It has been reported that the use of herbal substances was in situations of restricted access to conventional medical care, delayed care due to cost or unmet medical needs (Suand Li, 2011). The renewed and growing interest of the world population for use of alternative medicines is predicated on several factors. Some of these factors include high cost and side effects of orthodox drugs amongst other factors (Ekor, 2013). Thus, herbal medicines have been and are still considered as a balanced and moderate approach to achieving health (Ekor, 2013). Herbal medicines have been known to possess anticancer, antidiabetic, analgesic, antifertility, antipsoriasis, antidepressive and hepatoprotective activities, as well as useful in dental care (Pathak and Das, 2013).
In Malaysia, preference towards phytomedicine use is common and is at higher odds compared to other ethnicities in Malaysia (Aziz and Tey, 2009). The use of herbs for medicinal purposes is largely based on theory, beliefs, and experiences that are indigenous to specific cultures (Ramli, 2015). Herbal remedies are usually preferred over conventional medicine as it is perceived to be important for reasons of health and wellbeing, including being beneficial during pregnancy (Pathak & Das, 2013). The most common herbs that are used among Malaysians are raw herbs and commercialized herbal products. For example, herbs such as Croton caudatus, coconut oil and Cymbopogon citratus are among a few frequently used during pregnancy and in postnatal care among the Malay community (Ong et al., 2011). However, there are significant variations in the popularity of herbs used by Malay women depending on location and despite the variety of herbs available, evidence for the safety and efficacy is still limited (Ong, 2011). Such practice modalities should raise concerns among healthcare professionals and consumers.
The common use of herbs among the Malay community is due to the perception that herbal products do not contain harmful chemicals and are free of side effects (Pathak & Das, 2013). The perception that herbs are natural sources and are therefore safer is also a common misconception observed among herbal users, (Olowekere & Olajide, 2013). Women are also largely affected by recommendations by family and friends, and are known to self-prescribe herbal remedies for treatment or prevention of ailments (Olowekere & Olajide, 2013). Although allopathic treatments and technologies are abundant, the inability to recognize or feel positive changes may also influence them to try herbal remedies, (Frawley, 2015). Thus, with the steady increase of herbal medicinal products, concerns surrounding their safety must be recognized.
The factors that affect herbal use among women may differ from one population to another. It is believed that the popular use of herbs in developing countries is due to the accessibility and availability of the product. Housewives and those with a lower income were the most frequent users of herbs in the local population (Ramli, 2015). Recent work in Malaysia demonstrated that those with a more positive attitude and stronger belief towards herbal use had a higher tendency to use herbal medicine (Sharp et al., 2018). Given that herbal medicines are often portrayed as being harmless, the public may be at an additional risk, which underlies the need to further understand the reasons behind herbal medicine use. Non-disclosure of herbal use is a common scenario among women (Frawley, 2015). The utilization and self-prescribing of herbs for medicinal purposes among women is of particular concern due to the risk of potential safety issues linked, but not limited to, pregnancy, breast-feeding and other maternity complications.

Phytomedicine Use in Addressing Health Care Delivery

The use of phytomedicine is pivotal to the practice of the African Traditional Medicine (ATM), and it has the major health care delivery available to millions of people in urban and rural communities of Africa, until the advent of Europeans (Abdullahi, 2011). It is a non-conventional system of disease management that employs various processes of consultation with herbalists, priests, media and

diverse traditional deities together with herbal use (MacGaffey, 2020). The increased use of HMs has been attributed to challenges relating to the availability and affordability of conventional medicine (National Bureau of Statistics (NBS), 2019).

The renewed and growing interest of the world population for use of alternative medicines is predicated on several factors. Some of these factors include high cost and side effects of orthodox drugs amongst other factors (Ekor, 2013) Thus, herbal medicines have been and are still considered as a balanced and moderate approach to achieving health (Ekor, 2013). Herbal medicines have been known to possess anticancer, antidiabetic, analgesic, antifertility, antipsoriasis, antidepressive and hepatoprotective activities, as well as useful in dental care (Pathak and Das, 2013).

According to Bonifácio, (2014),approximately 70% to 95% of the people across the world use the phytomedicine for their primary healthcare purposes. Phytomedicines (herbal medicine) are currently the oldest and the most frequently used medicine system in the world (Ogirima, 2015). A large portion of the population in the developing and developed nations still relies on the phytomedicine or herbal medicine for their primary healthcare (Parsaei, 2016; Rouhi-Boroujeni, 2016). More than 90% of the people in Africa, 70% in India, 70% in Germany, 48% in Australia, 70% in Canada, 42% in America, 39% in Belgium and 76% in France use phytomedicine for meeting their healthcare requirements (WHO, 2014;Sen Chakraborty, 2017). Currently, nearly 80% of the drugs used for the body immunity, cardiovascular systems and anticancer drugs are of plant origin (Fang, 2005).

However, recent studies have reported the high use of herbal medicine in Nigeria (Duruet al., 2016, Olorunniyi &Morenikeji, 2013). A study conducted in one of the local government areas (Ekiti state) reported 74.3% of the respondents used phytomedicine in the treatment of malaria (Olorunniyi &Morenikeji, 2013). In another study, in urban Lagos Nigeria, 66.8% (n=388 respondents) used herbal medicine for management of various ailments (Oreagbaet, 2011).However, these studies are more specific to setting and disease, hence a need for a general population study and non-disease specific study as reported here. Moreover, the knowledge and prevalence of phytomedicine use within the larger population in Ekiti state remains unknown, researched or documented; although its use is generally believed to be widespread Vendors of various herbal medicine are almost now ubiquitous in Nigeria, trading in traffic gridlocks, highways, bus stops/ stations, festivals and even in some conventional health facilities, but the determinants of its use has not been wholly examined. Phytomedicine used are either locally made, refined, imported, certified or uncertified by the government. The National Agency for Food and Drug Administration and Control (NAFDAC) in Nigeria is the government agency responsible for the certification; registration and regulation of herbal medicine(NAFDAC Guidelines Herbal and Cosmetics, 2020). However, some of these products have now been commercialised raising concerns about safety as much as the uncertified herbal medicine types, therefore this need to be included in the NAFDAC registration and regulation process. Furthermore, with respect to the ethnicity of users, their health status, reasons for use, and medical conditions for which phytomedicine was consumed, as well as for prevalence rates within and between countries, reviews in the literature show a less consistent picture (Eardley et al., 2012).

Benefit of Phytomedicine in Treating Health Care Challenges

Phytomedicine importance has been acknowledged over the years (Li and Weng, 2017). Phytomedicine extracted from plants are known to treat illness across different cultures in the world (Li and Weng, 2017, TiburtandKaptchuk, 2020) and it is also a type Complementary and Alternative Medicine (CAM), (National Center for Complementary and Integrative Health, 2017). Phytomedicine or herbal medicine is a medication naturally made from plants with little or without industrial effect (TiburtandKaptchuk, 2020). In Germany, studies have shown that, the continuous use of herbal

medicine is predominant among 86.7% of the general population (Welzet al., 2019). An average of 58.2% of the population in Ethiopia and Nigeria are reported to use herbal medicine (James et al., 2016). In Ghana, it has been reported that, phytomedicine use is prevalent among 70% of the population (Tabi et al., 2006).

Phytomedicine or herbal medicine has been noted for the management of several conditions in Africa (Liwa et al., 2017). For instance it is used in the treatment of hypertension in South Africa and Tanzania (Marais and Steenkamp, 2015); conditions of the respiratory tract, gastrointestinal tract and general bodily pain (Nworuet al., 2015). Some students of the University of Nigeria used herbal medicine to manage malaria and typhoid fever (Brewer et al., 2019). In Ghana, herbal medicine is used in the management of cancer and the various phases of pregnancy (Yarneyet al., 2013).

A number of studies have reported nurses clinical administration of some CAM therapies including herbal medicine (Balouchiet al, 2018). According to Brewer et al. (2019) some nurses have used CAM therapies in managing pains in patients with cancer in different parts of the world. In Norway, some nurses managed challenging behaviours of patients with dementia by using herbal medicine. They administered a dose of lavender, a form of aroma therapy on the palm and neck of the patients after which they became calm (Johannessen, 2013).

In Israel, it was found that, some nurses changed the way they spoke with their patients because they were guided by the training they had received on guided imagery. This ensured lower levels of anxiety in their patients (Arnonet al., 2018). In Ghana some nurses and midwives who personally experienced positive results with herbal medicine use recommended the therapy to their patients including pregnant women (Peprahet al., 2017). A few studies have shown that nurses who experienced favorable outcome after administering phytomedicie to their patients yearned to work with it daily since they relished the ability to serve such therapies (Johannessen andGarvik, 2016). However in Iran, most of the nurses (57.3%) involved in a study by (Balouchiet al., 2018) did not apply CAM in the clinical practice. The few who administered CAM on the ward mostly practiced massage, prayer and herbal medicine.

Mainstream health care administration of herbal medicine has been met with factors that either expedites or challenges the process (Hill et al., 2019). Some of the overarching factors proposed to be facilitating the utilization of CAM therapies include availability of herbal medications and belief in positive benefits of CAM among nurses, physicians and patients (McIntyre et al., 2015).

Previous studies have shown that the success of CAM integration into hospital care is largely linked with the involvement of nurses (ShorofiandArbon, 2017). However what nurses recognize to either enhance or hinder clinical administration of herbal medicine in Ghana is not largely documented. This study sought to explore what nurses consider as the facilitators and barriers to the clinical administration of herbal medicine.

Challenges of Phytomedicine in Health Care Delivery

Barriers reported on phytomedicine in health care delivery comprised lack of prescription by physicians, lack of collaboration between health professionals and herbal medicine providers, lower level of knowledge on phytomedicine among nurses and other health professionals (Brewer et al., 2015).Studies at the Brim South District and the Kumasi South Hospital of Ghana also reported inadequate knowledge and ignorance of protocols regarding herbal medicine administration in hospitals among health professionals (Peprahet al., 2019).

Another difficult problem in phytomedicine is the significant failure rate in reproducing the biological activity of particular plant extracts after the first screening phase has been successful. The repeatability of about 40% of plant extracts examined was found to be lacking. This failure in re-

sampled and re-extracted batches suggests that biochemical profiles of plants gathered at different times and locations vary, as well as the existence of unique diversity within the same plant variety. Different methods of biological activity extraction and detection in laboratories may also contribute to the lack of reproducibility (Mosihuzzaman, 2012).

Phytomedicine has a wide range of chemical compositions, which necessitates careful chemical analysis to maintain uniformity. This discrepancy in efficacy reports could be attributed to this inconsistency. Furthermore, the synergistic interactions between the many phytocompounds in each extract may have an impact on its activity and efficacy. A single phytocompound may not be responsible for the desired pharmacological action, but rather a mixture of phytocompounds resulting in pharmacodynamic synergism. The whole plant of Panax ginseng is more active than the separated compounds. Nonetheless, we may accidentally eliminate phytocompounds with important pharmacological properties in our quest to isolate an active compound from a specific plant.

Although, until recently phytomedicine in Africa was generally not thoroughly researched and only loosely regulated (Mills et al., 2005) with the lack of proper documentation of the workings of the herbal medicine and its practice not helping (Van Wyket al., 1999). Some of these factors caused the pericolonial conflict between new orthodox systems and the already established herbal medicine, largely due to the belief by the colonialists that the latter was superstitious (Onwuanibe, 1979) and therefore declared illegal (Helwig, 2020). The perpetuation of this perception and the lack of proper documentation, research and regulation may still militate against an improved synergy between stakeholders, researchers and collaboration between HM and orthodox medicine. This also includes the general public who are caught between both choices for numerous reasons.

RESULTS AND DISCUSSION

This sub-section deal with the presentation and analysis of the result obtained through questionnaires. The data gathered were presented according to the order in which they were arranged in the research questions, simple percentage were used to analyze the demographic information of the respondents.

Demography

Table 1: Demographic of Respondents

S/No	Item	Frequency	Percentage (%)
1	**Gender of respondents**		
	Female	80	40.0
	Male	120	60.0
	Total	200	100.0
2	**Age Group of respondents**		
	19 - 28yr	15	7.5
	29 - 38yrs	33	16.5
	39 – 48	46	23.0
	49 – 58	77	38.5
	≥ 59	29	14.5
	Total	200	100.0
3	**Marital Status**		
	Single	95	47.5
	Married	105	52.5
	Total	200	100.0
4	**Religion**		
	Traditional	27	13.5
	Christian	155	77.5
	Islam	18	9.0

	Others	5	2.5
	Total	200	100.0
5	**Educational level**		
	Diploma/NCE	44	22.0
	B.Sc/B.Ed	65	32.5
	Postgraduate	91	45.5
	Total	200	100.0

Source: Field Survey, 2025.

Table 1 represents the demographic characters of respondents. Majority of the respondents were males 120 (60%) while females were 80 (40%).

In respect to age group of respondents, 39 – 48 years of Age had the highest with 77 (38.5%) followed by 59 years of Age and above with 46 (23%) while the least is 19 – 28 years of Age with 15 (7.5%). Also, Married respondents were the highest with 105 (52.5%) while single respondents were 95 (47.5%). In terms of Religion, Christianity had the highest with 155 (77.5%) followed by Islam with 18 (9%) while Traditional worshippers had 27 (13.5%). The respondents with highest educational level were Postgraduates with 91 (45.5%) followed by B.Sc/B.Ed with 65 (32.5%) while Diploma/NCE is the least with 44 (22%).

Table 2: The perception of staff of University of Jos on phytomedicine in health care delivery

	Frequency	
Question	**Yes (%)**	**No (%)**
Phytomedicines are less expensive than modern medicine	170 (85.0)	30 (15.0)
Phytomedicines are faster accessible than medical drugs	166 (83.0)	34 (17.0)
The inherited culture plays an important role in the use of phytomedicine	153 (76.5)	47 (23.5)
Phytomedicine makes people dispense with the use of medical drugs	113 (56.5)	87 (43.5)
Phytomedicinemedicine is safer than medical drugs	110 (55.0)	90 (45.0)

Source: Field Survey, 2025.

The perception of staff of University of Jos on phytomedicine in health care delivery is presented in table 2. Majority of the respondents 170 (85%) said yes thatPhytomedicines are less expensive than modern medicine and 166 (83.0) also said yes that Phytomedicines are faster accessible than medical drugs while 90 (45.0%) said no that Phytomedicine medicine is safer than medical drugs. Also, 87 (43.5%) said no that Phytomedicine makes people dispense with the use of medical drugs.

Table 3: Usage of phytomedicine in treating health care challenges

Question	**Response**	**Frequency**
Have you ever (even once in your life) used phytomedicine?	Yes	165 (82.5)
	No	35 (17.5)
When was the last time you used phytomedicine?	Every day	41 (20.5)
	Two days ago, or less	35 (17.5)
	A week or less ago	20 (10.0)
	A month or less ago	48 (24.0)
	Six weeks ago, or less	56 (28.0)
What is the frequency of your use ofphytomedicine?	Daily	30 (15.0)

	Weekly	38 (19.0)
	Only when needed	122 (61.0)
	No answer	10 (5.0)
Does your use of phytomedicine have specific doses?	Yes	87 (43.5)
	No	67 (33.5)
	Sometimes	31 (15.5)
	No answer	15 (7.5)
What kind of phytomedicine do you use?	Leaves	76 (38.0)
	Seeds	88 (44.0)
	Roots	19 (9.5)
	Other	17 (8.5)
How do you use phytomedicine?	In the form of a drink or eat	123 (61.5)
	External use	54 (27.0)
	Other	23 (11.5)

Source: Field Survey, 2025.

In table 3, the usage of phytomedicine in treating health care challenges is presented. Majority of the respondents 165 (82.5%) have ever (even once in their life) used phytomedicine while 35 (17.5%) have never (even once in their life) used phytomedicine. Also 56 (28%) of the respondents used phytomedicine the last time in six weeks ago or less while 20 (10%) used phytomedicine the last time in a week or less ago. In terms of the frequency of usage of phytomedicine, 122 (61%) of the respondents use phytomedicine only when needed, 38 (19%) use phytomedicine weekly while 30 (15%) use phytomedicine daily. Many of the respondents, 88 (44%) use seeds as their kind of phytomedicine, 76 (38%) use leaves, 19 (9.5%) use roots while 17 (8.5%) use other parts of plants as phytomedicine. Additionally, 123 (61.5%) use phytomedicine in the form of a drink or eat while 54 (27%) use phytomedicine externally.

Table 4: Benefits of phytomedicine in treating health care challenges

Question	**Response**	**Frequency**
What is the reason for your use of phytomedicine?	Enhance Health	74 (37.0)
	Treatment of diseases	60 (30.0)
	Cosmetic	18 (9.0)
	Enhance physical functions	40 (20.0)
	Other	8 (4.0)
What do you feel after using phytomedicine?	Better	98 (49.0)
	Worse	16 (8.0)
	No change	52 (26.0)
	Other	34 (17.0)
What are the most common cases where phytomedicine are used?	Fractures	23 (11.5)
	Diabetes	38 (19.0)
	Hypertension	34 (17.0)
	High temperature	18 (9.0)
	Malaria and fever	56 (28.0)

	Headaches	10 (5.0)
	Constipation	14 (7.0)
	Other	7 (3.5)

Source: Field Survey, 2025.

The benefit of phytomedicine in treating health care challenges is presented in table 4. Majority of the respondents 74 (37%) use phytomedicine to Enhance Health, 60 (30%) use phytomedicine for Treatment of diseases, 40 (20%) use phytomedicine to Enhance physical functions, 18 (9%) use phytomedicine for cosmetic while 8 (4%) use phytomedicine for other reasons. In terms of what they feel after using phytomedicine, 98 (49%) feel better, 52 (26%) feel no change while 16 (8%) feel worse. For the most common cases where phytomedicine are used, many of the respondents 56 (28%) use phytomedicine for Malaria and fever, 38 (19%) use phytomedicine for diabetes, 34 (17%) use phytomedicine for hypertension.

Table 5: The challenges of phytomedicine in health care delivery

Question	Response	Frequency
What are the challenges of phytomedicine in health care delivery?	Use of Phytomedicine is harmful	30 (15.0)
	There are side effects associated with the use of phytomedicine	18 (9.0)
	Doctors rarely recommend phytomedicine	52 (26.0)
	The problem of standardization and dosage	40 (20.0)
	There is insufficient awareness of phytomedicine	60 (30.0)

Source: Field Survey, 2025.

Table 5 presents the challenges of phytomedicine in health care delivery. Majority of the respondents 60 (30%) believe that there is insufficient awareness of phytomedicine, 52 (26%) believe that doctors rarely recommend phytomedicine, 40 (20%) believe that phytomedicine is hindered by the problem of standardization and dosage while 30 (15%) believe that the use of Phytomedicine is harmful.

Discussion of Findings

This study explored the perception of University of Jos staff usage of phytomedicine in health care delivery. The number of participants who have ever used phytomedicine was 82.5 %. This finding is closely related to the study conducted in Ethiopia which indicated the number of phytomedicineusage as 80 % (Mohsen and Masoumeh, 2012). The observed high prevalence in the present study could be due to the fact that in 200 participants, only 18 (9%) said that there are side effects associated with the use of phytomedicineand therefore majority belief that it is safe due to its natural origin. The age group of 39 – 48 years formed the largest proportion (38.5%) of the respondent of which 82.5% had ever used phytomedicine; and this was higher than the result of work done in Merawi town of Ethiopia (Mohammed et al., 2016).

Among the phytomedicines, seeds (44%) was the most commonly used; and this agreed with outcome of a study conducted in urban areas of South-Western part of Nigeria, with the use of seeds as phytomedicine accounting for53.8% (Oreagba et al., 2011). Similarly, the 82.5% acceptance of traditional medicine/practice among the study population was quite higher than the result obtained in a similar study done in Jara Town of Bale Zone, South East Ethiopia, which showed an almost equal percentage of 50.18 % and 49.8 % for those who have ever used phytomedicine

and those who have never used, respectively (Mohammed et al., 2016). The observed high response in usage in the present study could also be as a result of increasing adverts on radios and televisions with the notion that phytomedicine cures all illness, safe for use, no adverse effects, and or cost effective.

Majority of the respondent used phytomedicine mainly in the treatment of malaria and fever. The reported high percentage of those feeling better after using phytomedicine (49%) was consistent with the study done in Nigeria and Ethiopia (Mohammed et al., 2016).

In this study, the researcher found that a small proportion of 18 (9%) of the participants believe that there are side effects to using phytomedicine. This result is consistent with the findingof Abdel-Kader et al (2018). Different results were revealed from a previous Saudi study, where 81.2% believed that phytomedicines and plant-derived dietary supplements are harmless (Suleiman, 2014). In a previous study done in Oman, 47% of studied women believed that phytomedicine has no side effects (Alsubaie, 2017).

In this study, 76 (38%) of the participants use leaves as phytomedicine which is similar to the finding of the study conducted on phytomedicinal plants used in Al-Khobah village (AbdelKader, 2018).The present work showed that 38 (19%) of the participants use phytomedicine to treat diabetes. A previous study done in Riyadhin 2017 found that about 64% of diabetic patients used phytomedicine for controlling diabetes (Kamel , 2017). And a systemic review done in 2018found that the prevalence of use of phytomedicine among Saudi diabetics32.18% (Alsanad, 2018). This result agrees also with finding of the study conducted in North Sudan about phytomedicine use among patients with Type 2 Diabetes (Ali & Mahfouz, 2014).

A large percentage (74, 37%) of the participants use phytomedicineto enhances health which is similar to the finding the study conducted about the use of phytomedicine in the treatment of obesity in Taif, Saudi Arabia (Eldalo, 2017).

It was found that primary care physicians such as doctors rarely initiate conversations with patients about the use of phytomedicine (Jong et al., 2012).And patients also were found to be reluctant to reveal their usage due to the perception that the physician is not knowledgeable of these practices or will disapprove of alternative treatment (Farooqui , 2012).Assessing patients use of phytomedicine and encouraging them to disclose their use is a very important task of the caring physician (Farooqui, 2012). This could be done through the doctor-patient's strong interpersonal and communication skills (Farooqui et al., 2012).

CONCLUSION

The highest percentage of the participants in this study use phytomedicine for therapeutic purposes and more than half of them feel better after using phytomedicine. Thisstudy therefore, revealed the level of perception and usage of phytomedicine in health care delivery among the staff of the University of Jos, providing valuable insights for policymakers, researchers, and healthcare professionals.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

- **i.** There is need to find out the perception of staff of University of Jos on phytomedicine in health care delivery so as to increase the use of phytomedicine.
- **ii.** Awareness need to be created on staff of the University of Jos on the use of phytomedicine in addressing their health care delivery.
- **iii.** There is need to find out the number of people that have benefited from the use of phytomedicine in treating their health care challenges.

iv. It is necessary to ascertain the challenges faced by usage of phytomedicine in health care delivery in University of Jos so as to address these challenges.

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