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Demand for Consumer Health Information and Sustainable Health in Uasin Gishu County, Kenya

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ABSTRACT: Sustainable health is one of the key factors of production in an economy. Vibrant global endeavour towards attainment of sustainable health as a means of achieving greater heights in economic growth and development emphasize the importance of consumer health information. However, the influence of the demand for consumer health information on sustainable health remains unclear. The primary objective of this study was to analyze the effect of demand for consumer health information on sustainable health in Uasin Gishu County, Kenya. The specific objectives were: to evaluate the effect of prices of substitutes in consumer health information, the prices of complements of consumer health information, income level of households and expected future prices of consumer health information and their complements on sustainable health. The study was pegged on human capital theory, the theory of consumer choice and rational choice theory which provided the specification framework. A sample size of 399 households was used based on 304,943 households. The study is explanatory in design. Structured questionnaires were distributed to the head of households using random sampling, to collect data. The findings of the study indicated that prices of substitutes in consumer health information, income level of households and expected future prices of substitutes in consumer health information and their complements had a positive and significant effect on sustainable health, while complements of consumer health information were found to have a positive but insignificant effect on sustainable health. The study recommends that, policies should aim at regulating the prices of substitutes in consumer health information, reduce income inequality and increasing disposable income of lower-income households, stabilize prices by ensuring that prices remain predictable and affordable for sustainable health practices, and facilitate correct and prompt health decisions. The effects of Prices of complements of consumer health information although less significant, should be looked more in to.

KEY WORDS: demand for consumer health information, sustainable health, utility, labour productivity, consumer choice, consumer behaviour, consumption of consumer health information

INTRODUCTION

Production and consumption of goods and services, wealth generation in an economy, as well as all social and governance matters that aid them depend on health, as it influences efficiency in all these activities (World Bank, 2018; Stiglitz, 2019). Labour productivity is enhanced by good health, by allowing the use of the resources that would have otherwise been unavailable, in the presence of ill health (Arthur & Oaikhenan, 2017). High health care expenditures undermine consumption and production of goods and services, in an economy (Townsend, Phillimore & Beattie 2023). The income earning ability of households and allocation of the income earned to consumption and savings, which induces production and its expansion, are all impaired by ill health (Wagstaff et al, 2018; Siddique, Mohey-ud-din & Kiani, 2020).

Human capital development, results from education and training which increase labour productivity and its efficiency. It favours healthy persons with better capacity building opportunities as compared to those with poor health (Currie, 2009 & Richter et al., 2017). Holding other things constant, healthy learners spend more time in learning and labour development, as they are able to focus better on their capacity building objectives, which arms them with better skills, better income earning abilities and better positive influence in decision making for healthier lifestyles (Grossman, 2006). This relationship magnifies health effect on production, consumption and economic growth and development, cementing the submission by Kieny et al., (2017) that, Sustainable health is central to economic growth and development.

The effect of health on productivity and economic growth and development has been extensively evaluated. Ullah & Malik (2019), found that there is a correlation between health and labour productivity which is significant in its impact on economic growth and



development. This is in agreement with Audibert, Motel & Drabo (2011) who viewed sustainable health as a prerequisite to economic development, and improvement of health status as a significant condition to development, and a contributor to poverty reduction. This makes integration of preventive and health promotion through nutrition, diet, hygiene and lifestyle (Altun et al., 2014; Velardo, 2015) with curative and health management which revolves around treatment, patient support and life prolonging therapies (Finkel et al., 2018), a more than necessary requirement in achievement of sustainable health and economic growth and development.

Consumer health information is key in enabling individuals in households to understand their health and make health-related decisions for themselves and their families (Deering & Harris, 1996). It influences personal health, wellbeing and self-care, medical treatment and change of habits in order to reduce chances of sickness by encouraging healthy practices. It has sources such as: mass media, inter-personal communication, healthcare facilities; both public and private, traditional medicine, and Information technology (Chen et al., 2018; Wu, Xu & Fan, 2021). Demand for each source is dependent on the awareness and trust of each source (Wang, Shi, & Kong, 2021; Priscila et al., 2022). The influence of the prices charged by these sources, prices of the accompanying complements, socio- economic factors of households, and the expected future prices of consumer health information and their supporting complements is still unavailable and hence the study.

The most common consumer health information demanded range from healthy lifestyles; exercise and diet, causes of symptoms, the severity of illnesses, treatment options and prognosis (Zhang, 2014). Considerations of prices, requirements, quality, accessibility, popularity, privacy, social and cultural acceptance guide the consumption decision-making process. Public and private Investments made in the creation, dissemination, and delivery of this information are crucial in achievement of sustainable health (Hill & Sofra, 2017).

The oldest source of consumer health information is traditional medicine which utilizes herbal medicine (Ravi & Bharadvaja, 2019). It provides substitute healthcare services especially in developing countries bridging the gap of cost, scarcity, and negative effects of conventional therapy and drug resistance (Mahomoodally, 2013; Gakuya et al., 2020; Chebii, Muthee & Kiemo, 2022). Mass media campaigns have been very popular in the past few decades targeting to influence different health behaviours and spread health information to large groups (Sultan et al., 2017). Use of television, radio, billboards, posters, magazines, newspapers, pamphlets and brochures result in significant public health improvement and self-care (Gross et al., 2013; Shaghaghi, Asadi & Allahverdipour, 2014; Saraf, 2018).

Healthcare facilities on the other hand, are considered as prime sources of consumer health information which substitutes, supplements and complements other sources (Clarke, et al., 2016). The expectation that health attendants are armed with the correct and up-to-date information on diagnostic, curative, maintenance and management of health influences the frequency of visits, even as global initiatives target to make these visits worthwhile (Kruk, et al., 2018). Universal health and cost sharing initiatives have all been coined to make healthcare more affordable (Okech & Lelegwe, 2016). Unsustainability in health care provision and catastrophe in healthcare expenditure in African countries has left many clutching at any other available and affordable alternatives including no health care (Buigut, Ettarh & Amendah, 2015; Putrik, et al., 2021).

Digital technology has gained great popularity in health maintaince, acquisition, and management as a result of by global demand for good health (Jayaraman, Forkan, Morshed, Haghighi, & Kang, 2020). Consumers result to internet and internet supported applications (Apps) for the benefits of lowering of health care costs, and as a spillover, use of applications in mobile devices (Apps) in tracking and managing health, fitness status and also management of long-term conditions without medical professionals (Lupton, 2014; Whitehead & Seaton, 2016; Pare, Leaver & Bourget, 2018). Covid-19 pandemic containment measures and fear of contracting the disease found a solution in Digital health technology, as a substitute to traditional face to face healthcare provision in primary health care, a much-needed glad alternative (Roy et al., 2021; Ndayishimiye, Lopes, & Middleton, 2022). Social media campaigns and interactions armed with timely information about preventive measures and solutions to health challenges address the complex public health problems that the African continent is currently facing (Akwala, 2022). Interpersonal interactions come in handy to disperse consumer health information beyond the primary contact.

Consumer health information preference as a result of age difference exists, with the youthful labour force being more inclined towards digital health (Kickbusch et al., 2021) and the older towards face-to-face interactions and mass media information (Paek, Choi & Hove 2017; Heponiemi, et al., 2022). Level of education and health literacy are also influencers of these preferences, with self-care, income level, health care accessibility and urgency toping up the list (Grossman, 2006; Palumbo, et al., 2019; Smith & Magnani, 2019 Orlova 2021; Kim & Lee 2023).

Public and private health-based initiatives in Kenya, including those of Uasin Gishu county, are revealed in the establishment of health facilities, training of health practitioners, dispersal of consumer health information and formulation of health policies (Muga, et al., 2005; Okech & Lelegwe, 2016; Uasin Gishu County, 2021). This however, has not accomplished the ultimate goal of sustainable health. Challenges such as high cost of healthcare, information asymmetry, poor quality health care, inequities and

inequity in health care among others, still act as a hinderance to sustainable health. There is need to improve the consumption of consumer of health information and its complements, through more comprehensive and inclusive strategies, for greater sustainable health outcomes to be realized (Meyer, 2016; Barasa, Maina & Ravishankar, 2017; Ilinca, et al., 2019; Mouhomed & Mollahaliloglu, 2020; Putrik et al., 2021). Nonetheless, consumer choice and consumer behaviour while seeking consumer health information, particularly in Uasin Gishu County, has not been extensively studied, which extended an invitation to the study. Lack of clarity on how the prices of various types of consumer health information, prices of their accompanying complements, income level of households, and expected future prices of consumer health information and their complements influence decision-making on the demand of consumer health information for sustainable health needed to be addressed.

The study therefore reveals the effect of demand for consumer health information on sustainable health, shedding light on the effect of prices of substitutes in consumer health information, prices of complements of consumer health information, income level of households and expected future prices of consumer health information and their complements on sustainable health.

LITERATURE REVIEW

Han, Zhang, and Meng (2020) conducted an empirical study in China to assess the impact of internet information overflow on medical expenditure of residents. The study, utilizing data from Peking University's 2018 China Family Panel Studies (CFPS) and employed the Heckman sample selection model to analyze the effects of internet usage on medical costs. The findings revealed a significant reduction in medical expenditures, with internet use reducing costs by 6.19%, and frequent internet use resulting in a 15.1% reduction. The study suggested that the internet helps bridge the information gap between consumers and healthcare providers, reducing market failures and medical costs. The study highlighted the role of the internet in mitigating rising healthcare costs, particularly in more complex healthcare settings, underscoring its potential as a tool for reducing financial burdens on patients.

Wang and Qi (2021) conducted a systematic review to identify the factors influencing the acceptance and use behavior of mobile health application users. The study examined these factors from three perspectives: individual, societal, and application design. On the individual level, user behavior is shaped by demographic characteristics and personal motivations. Social factors include attributes like source credibility, social influence, and legal considerations, which can affect user trust and acceptance. In terms of application design, functionality, perceived ease of use and usefulness, security, and cost were cited as critical elements that influence user behavior. The review concluded with recommendations to enhance the acceptability and usability of mobile health apps by addressing these key factors.

Vuong, Ho, Nguyen, and Vuong (2018) examined the healthcare sensitivity of consumers to costs in an emerging market, focusing on the decision-making process around general health exams (GHE) in Vietnam. The study used data from 2,068 individuals in Hanoi and its surroundings, employing a baseline-category logit method to assess how demographic and socioeconomic factors influence the willingness of the consumers to pay for GHE, which are not covered by insurance. The findings revealed that uninsured, married, and employed individuals are less sensitive to the cost of GHE, as they value the information gained from these exams in reducing uncertainty about future health risks. This suggests that the perceived utility of GHE, in terms of obtaining health information to minimize future risks, outweighs cost concerns for certain consumer groups. The study also demonstrates the importance of periodic health screenings and their relevance from a behavioral economics perspective, particularly by highlighting the bounded rationality of consumers and private insurance companies regarding healthcare use and provision.

James, Wardle, Steel, and Adams (2018) conducted a systematic review to explore the use of traditional, complementary, and alternative medicine (TCAM) in Sub-Saharan Africa (SSA). The study found that TCAM is commonly used in SSA, often due to its relatively low cost compared to conventional healthcare. Many individuals in SSA, particularly those of lower socioeconomic and educational status, were found to prefer TCAM because it is perceived as more affordable and accessible. However, a significant barrier to the use of TCAM was revealed as the absence of conclusive scientific evidence supporting its efficacy which contributes to skepticism among healthcare providers and patients, often leading to non-disclosure of TCAM use by patients, who fear negative attitudes or improper care from conventional healthcare providers, and thus lack of robust evidence of its use. The review emphasizes the need for more research to better understand the use, benefits, and limitations of TCAM in the SSA context.

Afshin., et al. (2017) conducted a systematic review and meta-analysis to quantify the effect of food pricing on dietary consumption. The study reviewed 30 studies (23 interventional and 7 prospective cohorts) to evaluate how changes in food prices impact dietary habits. The findings indicated that a 10% decrease in the price of healthful foods (subsidy) results in a 12% increase in their consumption, while a 10% price increase (tax) leads to a 6% reduction in the consumption of unhealthful foods. Specifically, subsidies led to a 14% increase in fruit and vegetable intake and a 16% increase in other healthy foods. Conversely, a 10% price increase reduced the intake of sugar-sweetened beverages by 7%, fast food by 3%, and other unhealthy foods by 9%. The study concludes that subsidies are effective in promoting the consumption of healthier foods, while taxes can effectively discourage the

intake of unhealthy foods. The results underscore the effectiveness of using both subsidies and multicomponent interventions to achieve optimal dietary improvements.

Ilinca, Giorgio, Salari & Chuma (2019) carried out a study on Socio-economic inequality and inequity in use of healthcare services in Kenya evidence from the fourth Kenya household health expenditure and utilization survey. The study used the horizontal equity index as a measure of inequity in care utilization for three types of care services: outpatient care, inpatient care, and preventive and promotive care. It also used concentration curves and corrected concentration indexes to measure socioeconomic inequality in care use. Decomposition analysis provided additional insights into the traits at the person and household levels that influence observed disparity. The findings were that all types of care services were used with high inequality and injustice, favoring wealthier demographic group. Levels of disparity were especially prominent for preventative and inpatient care services. While the region of residency was a major driver for inequality in preventive care use solely, and it was claimed that these were principally driven by disparities in living conditions and levels of educational accomplishment. In addition, public providers provided treatment to a considerably greater proportion of those from lower socioeconomic groups and pro-rich inequities were particularly obvious for care given in privately held facilities.

Njagi, Arsenijevic, and Groot (2020) conducted an empirical study on cost-related unmet healthcare needs in Kenya, focusing on regional disparities in access to healthcare services. Using data from the 2013 Kenya Household Health Expenditure and Utilization Survey (KHHEUS), the study employed a multilevel regression model to assess how financial barriers contribute to unmet healthcare needs while accounting for geographic differences. The findings revealed significant regional disparities, with cost-related obstacles being a primary factor in unmet healthcare needs, particularly in counties with higher poverty rates. The intraclass correlation coefficient (ICC) indicated that inpatient services had a higher unmet need (35.9%) compared to outpatient services (9.1%). Factors such as urban residency, older household heads, and higher education levels of household heads were associated with lower unmet needs. The study underscored the importance of addressing cost barriers through enhanced health financing mechanisms, particularly in impoverished counties, to reduce disparities in healthcare access. The authors recommended more targeted health finance strategies to improve equity in healthcare access for disadvantaged and marginalized communities.

RESEARCH METHODOLOGY

Research design

This study adopted an explanatory research design. This approach enabled the detection of causal relationships between demand for consumer health information and sustainable health in Uasin Gishu County without involving their manipulation.

Target Population

The target population of this study comprised of 304,943 households that live in Uasin Gishu county, Kenya. The study involved heads of households proportionately apportioned and randomly sampled from the six sub-counties of Uasin Gishu County.

Sample size

The study employed simple random sampling backed by multistage sampling to select heads of households from each of the six sub-counties of Uasin Gishu which are; Turbo, Soy, Moiben, Kapseret, Kesses and Ainabkoi. The study adopted the Slovin's (1960) sample size formula to arrive at a sample size of 399, with a confidence level of 95% and a precision level of 0.05(5%).

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

Where: n is the required Sample size (399)

N is the Total population size (304,943)

e is the Margin of error (0.05)

2

= 399

Reliability Test

Reliability is the consistency of measurement or the degree to which an instrument measures the same way each time it is used in the same condition with the same subjects. The reliability of the research instruments for this study was obtained using the Cronbach's Alpha coefficients and the results are presented in the Table 1 below.

Table 1: Reliability and variability Results			
Variables	Number of items	Cronbach Alpha (α)	COMMENTS
Prices of substitutes in consumer health information (PSC)	6	0.762	Reliable
Prices of complements of consumer health information (PCC)	6	0.805	Reliable
Income level of households (ILH)	5	0.800	Reliable
Expected future prices of consumer health information and their complements (EPCC)	6	0.870	Reliable
Sustainable health (SH)	4	0.811	Reliable
Source: Researcher (2025)			

Table 1 reflects a Cronbach's alpha value of above 0.7 which is indicative of reliability and dependability of prices of substitutes in consumer health information, prices of complements of consumer health information, income level of households, expected future prices of consumer health information and their complements and sustainable health. According to George & Mallery (2003), a Cronbach alpha value of 0.7 and above reflects reliability of a variable.

Validity Test

The results in table 1 above depicted all the variables as having a Cronbach's alpha value above 0.7, which showed that the tool was valid for this research.

Regression Analysis

The model fitness results are presented in Table 2 below;

Table 2: Model Fitness

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate
1	0.816 ^a	0.665	0.662	0.45243

Source: Researcher (2025)

Results in Table 2 indicate an R-square of 0.665 which implies that the price of substitutes in consumer health information, the prices of complements of consumer health information, income level of households and expected future prices of consumer health information and their substitutes explain 66.5% of the total variation of sustainable health (dependent variable) in Uasin Gishu County, Kenya.

Table 3 provides the results on the analysis of variance (ANOVA).

Table 3: ANOVA

				Mean		
Mode		Sum of Squares	Df	Square	F	Sig.
1	Regression	157.891	4	39.473	192.842	0.000 ^b
	Residual	79.419	388	0.205		
	Total	237.310	392			

a. Dependent Variable: sustainable health

b. Predictors: (constant) prices of substitutes in consumer health information, prices of complements in consumer health information, income level of households and expected future prices of consumer health information and their complements.

Source: Researcher (2025)

The results in Table 3 indicate that the overall model is statistically significant. The results imply that price of substitutes in consumer health information, price of complements of consumer health information, income level of households and expected future prices of consumer health information and their substitutes are good predictors of sustainable health. This is supported by

an F statistic of 192.842 and the reported p-value (0.000), which is less than the conventional probability of 0.05 significance level. Further, the study sought to examine the regression coefficients and the study results are presented in Table 4

Hypothesis 1 (H_{01}) stated that there is no significant effect of prices of substitutes in consumer health information on sustainable health in Uasin Gishu County, Kenya. The findings in table 4 indicates indicate a positive and significant relationship between the prices of substitutes in consumer health information and sustainable health ($\beta = 0.141$, p = 0.002 < 0.05). consequently, H_{01} is rejected and the conclusion is that the prices of substitutes in consumer health information have a significant influence on sustainable health. The study insinuates that if prices of one source of consumer health information is high, the consumers would shift to a cheaper source of consumer health information in order to attain sustainable health resulting in a direct relationship between prices of substitutes in consumer health information and sustainable health.

Empirically, prices of substitutes in consumer health information contribute to 0.141 per unit of sustainable health. The findings are supported by Han, Zhang, and Meng (2020) who in their study showed that internet health information was used by patients together with visitation to health professionals and led to reduced medical costs. The use of internet health information resulted to self-care, preventive health in diet and healthy lifestyles reducing visits to health care facilities. Internet consumer health information acts as a substitute to visiting health care facilities for treatment, by reducing the information gap that exist in the medical market between consumers(patients) and suppliers (health professionals). The patients are empowered with health information that cuts out unnecessary visits to health professionals and enhance their productivity. However, internet health information is not a perfect substitute to visiting health care facilities.

Wang and Qi (2021) in their study found that people have been focusing more on preventive rather than curative health, opting for mobile health applications, having been driven by the prices encountered while seeking health care services, as one of the major factors. This results from the value individuals place on their healthy time making sick time have disutility. Mobile health applications by promoting preventive measures and self-care, guide the applicants on diet, physical exercise, healthy lifestyles and symptoms diagnosis, and acts as a substitute in consumer health information, availing more health and healthy time and more economic productivity. Mass media pharmaceutical drug advertisements act as substitutes in consumer health information supporting sustainable health, as an important influencer of over-the-counter drug purchase and consumption, as confirmed by DeLorme., et al (2010). Over the counter drug purchase supports self-medication of non-prescription drugs, according to the study. In addition, influence of interpersonal communication and recommendations result into over the counter (OTC) drug purchase, as supported by Temechewu & Gebremedhin (2020) in their study carried out in Ethiopia. The study ascertains that family and friends influence Over the Counter (OTC) drug purchase by giving recommendations for self - care. The end product is sustainable health and therefore labour productivity.

James, et al., (2018) in their study covering sub-Saharan African countries recognized traditional medicine in achieving sustainable health. The substitute is revealed as preferent among the lower socioeconomic and education status households, and as inhibited by the absence of conclusive research, from more expansive utilization. Gakuya et al., (2020) in support of this admits that in Kenya, the health care system is struggling, faces challenges in coping with the existing demand, and is also characterized by high costs of health care, which has given traditional medicine a lifeline. The traditional medicine not only lowers health care costs but also acts as a source of primary health care. However, it is not a perfect substitute to conventional health care and its health information and the extent of its use is undisclosed.

Njagi, Arsenijevic & Groot (2020), recognizes that prices of health care services have become barriers to health care, resulting to unmet health care needs for both outpatient and inpatient services, with wide variations across Kenyan counties. This study disclosed that 3.2% of persons in need of inpatient or outpatient care chose not to seek the critical healthcare services because they could not be able to pay for the high costs. It further diverged those inpatient services were reported to have much higher inaccessibility due to these high costs; 5.2%, against 2.9% in outpatient services. Inspite of the existing substitutes in consumer health information, a gap still exists in achieving sustainable health and thus optimal productivity.

Hypothesis 2 (H_{02}) stated that there is no significant effect of prices of complements of consumer health information on sustainable health in Uasin Gishu County, Kenya. The results on Table 4 reveal that prices of complements of consumer health information affect sustainable health in a statistically insignificant manner; $\beta = 0.081$, p = 0.094 > 0.05. There is direct relationship between prices of complements of consumer health information and sustainable as a result of available alternatives when the price of some complements is high. According to the study, prices of complements of consumer health information do not have a considerable influence on sustainable health at 5% level of significance.

Hypothesis 3 (H_{03}) stated that, there is no significant effect of income level of households on sustainable health in Uasin Gishu County, Kenya. The data results in Table 4 show that, income level of households has a positive and significant influence on sustainable health; $\beta = 0.335$, p = 0.000 < 0.05. The study indicates that low or high level of household income has a direct and proportionate effect on demand for consumer health information and therefore sustainable health.

This is supported by Ilinca, et al., (2019) who in their study observed that, income level of households affected utilization of Preventive, promotive and curative care services with the high-income level households being favoured and low-income level households being disadvantaged. Level of income has significant influence on investment of households on health and healthy living, with preventive measures such as diet and healthy lifestyles being dependent on income of a household, and so do curative and health condition management. With income level comes affordability of consumer health information that promotes a healthy diet, appropriate physical exercise, and generally a healthy lifestyle, their accompanying goods and services, curative measures and their complements, which is the core of sustainable health. As you go up the income levels, sustainable health becomes more and more affordable and therefore sustainable health increases and labour productivity becomes more enhanced.

Njagi, Arsenijevic, and Groot (2020) in their study carried out in Kenya reported a significant regional disparity in health care affordability, featuring income level of households as an important factor in influencing affordability of not only primary and preventive health care, but also the health care requiring more expertise. Intraclass correlation coefficient (ICC) indicated that inpatient services were more unaffordable to households (35.9%) as compared to outpatient services (9.1%). The study also found a positive association between county poverty rates and inability to meet health care needs. The study emphasized that income inequalities across Kenyan counties has led to pronounced health and health care disparities that negatively affect labour capital optimal productivity.

Hypothesis 4(H_{04}) stated that, there is no significant effect of expected future prices of consumer health information and their complements on sustainable health in Uasin Gishu County, Kenya. The study outcome in Table 4 indicates a positive and significant relationship between expected future prices of consumer health information and their complements and sustainable health ($\beta = 0.393, p = 0.000 < 0.050$). The study implies that, if the future prices of consumer health information and their complements are expected to come down, households may not be keen on taking preventive measures and seeking health care services immediately, but if they expect a rise in future prices of consumer health information and their complements, they are quick to take the necessary preventive measures and seek health care services promptly.

Vuong, Ho, Nguyen, and Vuong (2018) in support of the study findings, observed individuals preferred to pay for general health information in order to reduce uncertain future health risks. The monetary price of the information gained from these tests is therefore considered lower than that of the future sickness possibilities. This then affects their sustainable health greatly as it leads to a healthier population. Forward looking households bridge information asymmetry gap by seeking for consumer health information in preventive, promotive, curative and health condition management measures to divert future health risks. This is also supported by Han, Zhang, and Meng (2020) and Wang and Qi (2021) who recognizes the impact of readily available consumer health information that promotes sustainable health. Wang, et al., (2008) describes the outcomes of failure to seek medical attention as a result of inaccurate self-assessment as greater risks of consequences of disease such a; deterioration of health condition, greater burden of disease through increased costs of treatment and management of health, labour incapacitation and even death.

Njagi, Arsenijevic, & Groot (2020) in support of the influence of expected future prices of consumer health information and their complements on sustainable health reported that, the proportion of the people who did not seek medical attention owing to their conclusions that the illness was not serious enough for medical attention formed 33.5 % of their sample. This is a sizable proportion which Jones (1990), in his study regards as having high expectations about their health status. These expectations about physical health conditions, symptoms, and illnesses, often lead to a delay in seeking medical attention, which leads to degradation of health status and sometimes death. Wang, et al., (2008) in their study found that if patients' assessment of the severity of their illness is low, even if the doctor would have considered it grave, they fail to seek medical attention, which is among the factors that affect sustainable health.

Gunadi & Evangelidis, 2022 observed that expected future prices can cause deferral of consumption or current consumption. According to the study, consumers are known to be forward looking using the past patterns to predict the future prices. Zhang, Seetharaman, & Narasimhan, (2012) finds that consumers purchase more in the current period when prices are expected to rise and less when prices are expected to fall. This is in support of the outcome of this research. The fluctuating consumption of health influencing goods owing to the expected price changes affect health and health outcomes of households. Deferral may cause current health to be jeopardized while early stock can lead to better health in the short run and also expose households to negative health eventualities.

Table 4: Regression Coefficients

Coefficients ^a							
	Unstandardized		Standard	lized			
	Coefficients Coefficient		Coefficie	nts			
Model	Beta (β)	Std. Err	or	Beta (β)	t	Sig.	
(Constant)	0.256	0.136			1.882	0.061	
Prices of Substitutes in consumer health	0.141	0.045		0.130	3.139	0.002	
information (PSC)							
Prices of complements of consumer health	0.081	0.048		0.081	1.679	0.094	
information (PCC)							
Income level of households (ILH)	0.335	0.042		0.339	8.002	0.000	
Expected future prices of consumer health	0.393	0.043		0.396	9.189	0.000	
information and their substitutes (EPCC)							

a. Dependent Variable: sustainable health

b. Predictors: constant

Source: Researcher (2025)

RECOMMENDATIONS

To enhance sustainable health outcomes, it is essential to address the factors influencing the demand for consumer health information. Key areas of focus include the prices of substitutes in consumer health information, the income levels of households, and the expected future prices of both health information and their complements. Additionally, while the prices of complements of consumer health information have a less significant impact, they should not be entirely overlooked in policy considerations.

Firstly, policies should aim to regulate the prices of substitutes in (sources of) consumer health information. Given that higher prices for less sustainable health information sources drive consumers towards more reliable, evidence-based options, governments and health organizations should consider implementing price controls or subsidies to maintain the affordability of high-quality health information. Educational campaigns to inform consumers about the long-term benefits of sustainable health information over quick-fix solutions can also reinforce this shift.

Secondly, income levels play a crucial role in determining access to health information and sustainable health practices. Policies aimed at reducing income inequality and increasing the disposable income of lower-income households can have a substantial impact on public health. For instance, tax incentives or direct financial support for purchasing health information and related resources can empower more households to invest in their health. Additionally, expanding access to free or low-cost health information services, such as community health programs and online resources, can bridge the gap for those with limited financial means.

Thirdly, the expectation of future price increases for consumer health information and their complements necessitates proactive policy measures. Stabilizing of expected prices of consumer health information and their complements by ensuring that prices remain predictable and affordable would encourage sustainable health practices. Governments should also ensure quality and comprehensive consumer health information that ensures that people make prompt and appropriate decisions to seek much needed medical attention without delay. Decision making is key to proactive response towards a better health and availability of accurate consumer health information facilitates it. Moreover, policies that promote sustainable health can help consumers secure access to essential health information and resources.

While the direct impact of the prices of complements to consumer health information on sustainable health is less significant, it is still beneficial to maintain affordability in these areas. Complementary goods, such as fitness equipment and healthy foods, medication, medical procedures and therapies should be supported through subsidies or tax reductions to ensure they remain accessible. This approach can indirectly support sustainable health by making it easier for individuals to adopt and maintain healthy lifestyles and afford treatment.

A multi-faceted policy approach addressing the prices of substitutes, household income levels, and future price expectations is crucial for enhancing the demand for consumer health information and promoting sustainable health. By ensuring affordability and accessibility, these policies can foster a healthier, more informed population that is equipped to make long-term health decisions.

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