

1 **SELF-MEDICATION AND PATRONAGE OF ORTHODOX MEDICAL FACILITIES**
2 **AMONG THE INDIGENOUS PEOPLE OF YAKURR LOCAL GOVERNMENT**
3 **AREA, CROSS RIVER STATE, NIGERIA.**
4
5
6
7
8

9 **Abstract**

10 The study examines the relationship between self-medication and patronage of orthodox
11 medical facilities in Yakurr Local Government Area, Cross River State, Nigeria. Three
12 research objectives were drawn which guided the formulation of three null hypotheses from
13 the independent variable. The study adopted a descriptive survey design. 17-item
14 questionnaires entitled “Self-medication and patronage of orthodox medical facilities
15 (SMPOMF)” were distributed to four hundred and forty-eight (448) respondents selected
16 through simple random sampling technique from the study area. The reliability test of the
17 instrument was conducted using the Cronbach reliability method. Data were gathered through
18 primary and secondary sources and were analyzed using Pearson Product Moment
19 Correlation Coefficient and One-way ANOVA statistical techniques. The three hypotheses,
20 tested at 0.5 level of significance, revealed that, there is a significant relationship between
21 belief system, level of awareness, proximity to medical facility and self-medication in Yakurr
22 Local Government Area, Cross River State, Nigeria. This confirms that, there is a significant
23 relationship between self-medication and patronage of orthodox medical facilities in the
24 study area. The study recommends among other things, that, traditional medical practice
25 should be integrated into the primary healthcare system to grant it a formal status in the
26 healthcare delivery system in Nigeria. In addition, the safety and regulation of traditional
27 medicine should be assessed to improve its standard and efficacy. Furthermore,
28 the government should build more medical facilities in the study area to encourage people to
29 patronize these facilities when faced with health challenges; rather than reverting to
30 traditional medicine and self-medication, which in most times are ineffective.

31
32
33 **Keywords:** self-medication, patronage, orthodox medical facilities, indigenous people of
34 Yakurr, Cross River State.

35
36 **Introduction**

37 Being ill is an unpleasant and possibly life-threatening experience. Once it starts,
38 there may be little that one can do about it except to retire to bed, go to the hospital, take
39 medication and wait to get better (Hughes, McElnay & Fleming, 2001). In our contemporary
40 society, there has been an upsurge of drug abuse, attributable to "over-the-counter drugs"
41 dispensing, which are bought by members of the public without any restriction. This
42 phenomenon is called "self-medication". Over-the-counter drugs used for self-medication are
43 available in any pharmaceutical, chemist, convenience shop or store. Over-the-counter drugs
44 are used to treat common health issues such as cough, fever, headaches, body pains, etc
45 (Panero & Persito, 2016).

46 In Nigeria, and Yakurr Local Government Area of Cross River State in particular,
47 self-medication has engineered social anomalies of violence due to its progressive indulgence
48 by people in our communities. For instance, in Yakurr Local Government Area, the incessant
49 conflict between confraternities and killing and maiming of each other is alarming. This
50 conflict situation has made the communities to be violence-prone. Factors such as poverty,

51 ignorance, illiteracy, etc, are associated with why indigenes of this area increasingly indulge
52 in self-medication. In addition, the reason for the increase in self-medication is the fact that,
53 people in the area are not aware of the short and long-term dangers of self-medication. These
54 is why the increasing population of youth from ages 15 and above, continue to engage every
55 day in practicing self-medication for reasons best known to them. This practice forms the
56 basis of this research which is targeted at the phenomenon of self-medication and patronage
57 of orthodox medical facilities in Yakurr Local Government Area, Cross River State, Nigeria.
58

59 **Statement of the research problem**

60 There has been widespread drug abuse in every community in Yakurr Local
61 Government Area. This includes the abuse of narcotics, antibiotics, and analgesics, sedatives
62 and hallucinogens. It has been observed that the primary cause of the phenomenon that
63 affects the lives of a significant number of people in society is self-medication. This is due to
64 several factors which inhibit patients from patronizing health facilities in the Local
65 Government Area. Most drugs are sold over the counter, thereby making the use and misuse
66 of controlled drugs and dangerous drugs freely available. This problem has caused a
67 devastating effect in the physical, emotional and psychological health of the indigenous
68 people of Yakurr Local Government Area.

69 Despite efforts put in by individuals, organizations and governments to curb the
70 menace of self-medication, the practice is still on the increase. This is partly due to the
71 absence of stringent government legislation and enforcement against over-the-counter drug
72 purchase and sale. Widespread poverty in rural areas has also encouraged people to opt for
73 this mode of treatment since it is available, affordable and proximal to the people than to
74 consult a health professional (Hassali, Safie, Al-quaza, Jambyappa, Palaian & Hariraj, 2011).
75 Based on the foregoing, the main objective of this research was to examine the causes and
76 correlates of why people indulge in self-medication in Yakurr Local Government Area and
77 the consequences of this phenomenon.
78

79 **Objectives of the study**

80 The main objective of the study was to examine the issue of self-medication and patronage of
81 orthodox medical facilities in Yakurr Local Government Area, Cross River State, Nigeria.
82 The specific objectives are to:

- 83 i. Examine the relationship between belief system and self-medication in Yakurr Local
84 Government Area, Cross River State, Nigeria.
- 85 ii. Investigate the influence of awareness level on self-medication in Yakurr Local
86 Government Area, Cross River State, Nigeria.
- 87 iii. Examine the relationship between proximity to medical facilities and self-medication
88 in Yakurr Local Government Area, Cross River State, Nigeria.

89 **Statement of hypotheses**

90 The following hypotheses were formulated to guide the focus of this study:

- 91 1. There is no significant relationship between the system and self-medication in Yakurr
92 Local Government Area, Cross River State, Nigeria.
- 93 2. There is no significant influence of awareness level and self-medication in Yakurr
94 Local Government Area, Cross River State, Nigeria.
- 95 3. There is no significant relationship between proximity to medical facilities and self-
96 medication in Yakurr Local Government Area.
97
98

99 **Literature Review and Theoretical Framework**

100 The issue of self-medication has become a global concern, especially among
101 adolescents, families and communities in general. According to the World Health
102 Organization (2008), self-medication is becoming widespread with increasing usage of over-
103 the-counter drugs due to accessibility. The United Millennium Development Goals (2015),
104 affirms that, self-medication is as old as human society. The magnitude of self-medication
105 according to WHO (2008), is a worrisome issue and is rated as increasing worldwide.

108 **Causes/correlates of self-medication:**

109 **Self-medication** also known as **self-provided** healthcare behaviors, is generally generated by
110 several motivational factors. Some of the potential and actual causes/correlates of **self-**
111 **medication** include:

113 **Influence of peer group:**

114 Friends have the greatest influence on **self-medication**. The practice of taking hard drugs
115 and related substances such as cocaine, marijuana, etc, occurs in the company of a friend or
116 friends who do not see **self-medication** as being wrong.

117 According to Chou, Grossman and Saffer (2002), a female adolescent with the best friend
118 who is a smoker is nine times more at risk to become a smoker. Smoking is a shared activity
119 with important socializing functions such as club houses for both male and female youths.
120 Peer smoking encourages continuous smoking among young people who have already begun
121 to smoke. Cannabis abuse in school-going population has become associated with poor
122 scholastic performance, school dropout and reinforcement of negative conduct symptoms.

123 In India, smoking is commoner with adolescents for the reason of easy availability,
124 low cost and convenient usage. Adolescents from low income families, tend to influence
125 friends to use cheap and spurious country-made liquor prepared illegally (Jiloha, 2009).
126 Similarly, peer group members making the product available, are likely to recruit new
127 adolescents in the drug use behavior. According to Abdul (2014), 100 million children live,
128 work, smoke and drink on the streets and cities of the world; 40 million in Latin America, 25-
129 30 million in Asia, and 10 million in Africa.

130 The World Drug Report (2010) surveyed 40,697 males of whom 8,587 were children
131 aged 12 - 18 years old. 3.8% of them were considered as users of alcohol, 0.6% users of
132 cannabis, and 0.2% users of opiates. Children reported for treatment of substance abuse in
133 treatment centers, where patients below 20 years constituted 5% of all patients. However,
134 more than 70% of all patients initiated their drug abuse before 20 years of age (World Drug
135 Report, 2010). This means that, most of the drug users started initiating this act at an early
136 age of adolescence, but were hidden from intervention services. This risky behavior is often
137 initiated during childhood and adolescence.

138 It was also observed that, more than 70% persons reported to be adult smokers and started
139 smoking on daily basis prior to age 18 (World Drug Report, 2010).

141 **Parental influence**

142 Parents have a tremendous influence and their children. The children of smokers are
143 likely to become smokers. Robb, Huston and Finke (2008), observe that, the disintegration of
144 the old joint family system, has resulted in the absence of parental love and care in modern
145 families. The authors stated that, parents who are working decline the old religious and moral
146 values, which have led to a rise in the number of adolescent drug addicts, to escape the hard
147 realities of life (Robb, Huston and Finke, 2008).

148 An adolescent, who has easy access to drug or alcohol because of his/her parent is using it, is
149 more likely to use these drugs than those whose parents are not using them in the family.

150 Findings reveal that, parents believe that moderate alcohol consumption does not have
151 adverse effect. Also, tobacco cessation could lead to weight gain. This belief permits the
152 adolescent to use drugs without hesitation or guilt (Jiloha, 2009). The World Drug Report
153 (2010) has it that, higher levels of parental education and socio-economic variables have
154 inverse relationship with tobacco use. And the use of other psycho-active substances is
155 widely found among adolescents. According to the report, prevalence of smoking is more
156 common in families with low socio-economic and educational status in the society (World
157 Drug Report, 2010). Again, according to Mini, Varas, Levano, Rojas and Medina (2011),
158 maintain that, marital discord or divorce among parents, and single parenting, are associated
159 with drug abuse among adolescents. Parents having poor monitoring of their children observe
160 the authors, are more likely to have their children abusing drugs. The National Survey of
161 Rural Health (2006) reports that, 74% of parents believe that, they should have access to
162 many more non-prescription medicine. Over-the-counter-medicines have existed for a long
163 time in many societies, so, they must update themselves. This is an opinion shared by 87% of
164 parents staying in Portugal.

165 **Influence from Mass Media:**

166 The media place a role in The reception of health risk as it has become an advertising
167 arena. Next media has interned influence the decision of young people to initiate smoking
168 and misuse of drugs. This is due to the fact that, some film and television stars, pop stars and
169 fashion models, make the misuse of drugs attractive (Jiloha, 2009). Information and adverts
170 with the internet are estimated to carry more than 90% of the global information capacity. In
171 2013, Germans were recorded to be among the most intensive internet users, rating 77.2%
172 worldwide. A total of 75.9% of persons aged 14 years and above were online in 2012
173 (Instituto Nacional de Estadistia, 2016). The influence of the media generally informs
174 patients and substance consumers on the latest findings in the field of medicine and health. A
175 survey report in 2009 shows that, 79% of internet users search for information on health-
176 related topics, to boost their self medication practice. The same survey showed in 2013 that,
177 television is the most important source in the mass media gathering of health-related
178 information. For instance, information on new diagnostic and therapeutic possibilities, new
179 scientific findings and risk or health hazard warnings, vary in efficacy with regard to
180 individual perception and assessment of health risks (Krewski, Lemyre, Turner, Lee, Dallaire,
181 Bouchard, & Mercier, 2007).
182 Accordingly, reception of information is difficult in the case of health topics without any
183 expert consensus. This lack of consensus is more frequent than is generally assumed,
184 particularly, in the case of method which experts consider practical experience insufficient
185 (Lee, Lemyre, Mercier, Bouchard & Knewski, 2007). In the case of proton therapy in cancer
186 treatment, the patient relies on his own competence when making a decision. This means that,
187 patients do not have to bear the risk of the decision, but also, the subsequent cost.

188 According to Lemit(2000), the internet offers a considerable number of websites
189 promoting mail order pharmacies with high financial implication on consumers of drugs. The
190 author states that, as of 7th May, 2000, account using the search engine Yahoo, identified
191 16,966 Yahoo users and web crawlers identified 244,546 mail order pharmacies promoting
192 self medication with its attendant huge cost on drug traffickers. Lemit (2000) concludes that,
193 there is no doubt that, in the future, self-prescription products sales through the Internet will
194 increase enormously. This could create additional demand to switch prescription products to
195 over the counter status. Although considered expensive, Lemit (2000) believes that, self
196 medication can facilitate access to medicine, and reduce healthcare costs.

197 **Global incidence/prevalence of self-medication:**

199 Self medication is a common practice but little is known about its determinants. In the
200 developing countries, note Palloni and Yonker (2012), self medication is a common practice
201 due to the quality concerns related to healthcare delivery system, as well as skepticism about
202 the benefits of professional healthcare vis-a-vis traditional medicine. Below are some review
203 of countries' reports on self medication:
204

205 **Nigeria:**

206 According to Arikpo, Eja and Enyi-Idoh (2010), self medication in rural Nigeria has
207 reached a crisis state, as people take anything and even potentially toxic substances as
208 remedies. In a study conducted by Arikpo, Eja and Enyi-Idoh (2010), to investigate the self
209 medication profile of the rural people in Nigeria, it was revealed that, about 90.4% relied on
210 self medication, while 9.6% consulted physicians. A wide range of substances such as herbs,
211 antibiotics, Ash, kerosene, petrol, etc, were used for the treatment of ailments. 10% herbs and
212 9.1% antibiotics were used for the treatment of any identified ailments in the communities.
213 The reason behind this practice, was identified to be the high expenditure on drugs in the
214 process of visiting a doctor in the hospital. Rather than spend too much money in either
215 government or private owned hospitals, self medication was another alternative (Arikpo, Eja
216 and Enyi-Idoh, 2010).

217 **China:**

218 According to Groves (2010) in China, over 40% of urban consumers of self medication
219 were declared actively involved in diagnosing and treating their health problems. Above all,
220 more than 50% demonstrated responsible healthcare behavior such as exercise, improved
221 nutrition and having regular physical examinations in the hospitals (Groves, 2010).

222 **Pakistan:**

223 Aqeel, Shabbir, Basharat, Moving, Bukharin, Shahid and Waqar (2014) gave statistical
224 facts of the prevalence and associated factors of self medication. It has been observed among
225 the urban and rural population of Islamabad that, self medication was more prevalent among
226 15 - 30 years age group. The report gathered that, majority of participants at a rate of 72.8%
227 trusted allopathic system the most. Pain was the most likely indicator, evaluated to be 67.6%
228 for which its population self medicated. Analgesics were evaluated as the most likely
229 medicine used which has amounted to 61.1%, while majority of the population used
230 paracetamol at 0.05%.

231 Meanwhile, rural sicknesses at 41.8% were determined to be the most common reason for
232 self medication. Generally, Aqeel, et'al (2014) further stated that, a higher proportion of
233 urban participants reported to be engaging in self medication due to their previous
234 experiences, and time saving factors. The rural population also reported that, the most
235 common reason for the practice of self medication, is inconsonance with "economic factor
236 and lack of healthcare facilities". At least 60.8% of participants were reported to indulge in
237 self medication based on their own initiatives.

238 **India:**

239 A report released by Nalini (2010) shows self medication in India to be in a relatively
240 high range. The indication of self medication with antibiotics was due to respiratory
241 problems, as it stands at 73.3%, as well as common cold and sore throats. However,
242 amoxicillin which is known to be the most commonly used antibiotics was at 40%. Drugs
243 from medical representatives were seen as the main source of medicine used for self
244 medication, with 47.8% all used as sample. A self-prescribed drug such as antibiotics was
245 placed at a level of 44.8%, as compared to the government hospital pharmacies which is at
246 7.4%. Meanwhile, antibiotics were considered as drugs used by individuals to self-medicate
247 with 26.8% (Nalini, 2010).
248

249 **Consequences of self medication:**

250 For diverse reasons, self medication has become rampant in society. It is a practice
251 and a common trend for people whenever they are ill. This they do by sourcing over the
252 counter drugs or simply proceeding to treat themselves of self diagnosed symptoms without
253 consulting medical professionals (Grigoryan, Burgerhof, &Degerier 2008). The use of drugs
254 without prescription by a qualified medical doctor has become a social norm, its
255 consequences notwithstanding. Unknown to many, the practice of self medication is
256 potentially dangerous and improper. According to Vidyavati, Sneha, Kamarudin, and Katti
257 (2016), the risk of self medication outweighs the benefits. To Vidyavati, et'al, it is easy for a
258 lay person to misdiagnose a health problem and subsequently take a wrong medication. It is
259 possible to correctly diagnose a problem, but still take the wrong medication. It is also
260 possible to correctly diagnose a problem, take appropriate medication, but the wrong dosage
261 (Vidyavati, et'al, 2016). Jelifat (2016) observes the consequence of self medication to be a
262 result of drug sensitivity, to which an allergic reaction due to wrong choice of "over the
263 counter drugs", which can result to adverse effects.

264 To Richman (2007), the issue of drug interaction is a case where the wrong
265 combinations of drugs are taken. Richman opines that, an attempt by a lay person to solve a
266 health challenge for example, certain drugs meant for treating a particular health problem
267 could raise a person's blood pressure which could be serious or fatal.

268 According to Wilbur, Salam and Mohammadu (2010), the body is a holistic piece of
269 machinery that is high-tuned, and even when an individual read fully about a medication,
270 he/she may not necessarily know how it is going to affect the body and the existing condition.
271 The self medication hypothesis originated in papers by Khantzian (1985) cited in Suh,
272 Ruffins, Robin, Albanese &Khantzian (2008); and states that, the individual's choice of a
273 particular drug is not accidental, but as a result of individual's psychological condition, as the
274 drug of choice provides result to the user's specific condition. Specifically, addiction is
275 hypothesized to function as a compensatory means to modulate effects and treat distressful
276 psychological states. This is to enable individuals choose the drug that will most
277 appropriately manage specific psychological distress to achieve emotional stability.

278 Another substance commonly used in self medication is tramadol consumption. According to
279 Cosci, Schruers, Abrams and Griez (2007), treating depression can put people in danger of
280 self harm and suicidal thoughts. It was explained by them that, as the brain is changed by the
281 substance (tramadol), people think of taking tramadol all the time. However, in the process,
282 what comes to the mind is the thoughts of committing suicide rather than recover from the
283 addiction (Cosci, Schruers, Abrams and Griez, 2007). Wrong substance abuse in self
284 medication, can compromise an individual's psychological development such as, formation of
285 self identity (National Institute of Drug Abuse, 2009). Taking to self medication, such as
286 marijuana can have negative effect on the user's mind and body. Such drugs can impair
287 memory and comprehension which can alter one's sense of time and reduce the ability to
288 perform tasks that require concentration and coordination. The long-term effect of using
289 marijuana include, the risk of lung cancer and other chronic lung disorders like head and neck
290 cancer, sterility in men and infertility in women (Abdul, 2014).

291 In rural Africa, the cultural consequences of self medication are sometimes interpreted
292 as normal ailments or health tradition. According to Bigby, Gibbs and Harvey (2002), it is
293 due to the lack of diagnostic competence, culture of passing down of healing knowledge
294 verbally, from one generation to another, encourages individuals to indulge in self
295 medication. In traditional Africa, an individual who self medicates privately but later exhibit
296 consequences of that indulgence publicly, may be sympathized with. The society may see
297 such a person as being under witchcraft attack and treatment administered in error by
298 traditional healers. Accusation of witchcraft has been the trigger of serious forms of violence

299 including murder which is common in places such as Burkina Faso, Ghana, India, Kenya,
300 Malawi, Nepal and Tanzania (Duke Journal of Comparative and International Law, 1997).
301 However, norms, values and health benefits differ across cultures which encourage the
302 practice of self medication. According to Jiloha (2009), the encouragement of self medication
303 by individuals who are indulging in using over the counter drugs, makes it possible for others
304 to practice self medication whenever illness is experienced. By this, self medication is
305 culturally made possible as individuals or a person who is more competent with the use of
306 their preferred language(s) uses the given opportunity to introduce more people to patronize
307 over the counter drugs to self treat mild illnesses (Jiloha, 2009).

308 The social consequence of self medication revolves around the cycle of social
309 determinants of health. According to WHO (2016), The social determinants of health are the
310 condition in which people are born, grow, work, live and age. Also, the wider set of forces is
311 systems shaping the condition of daily life, including development agenda, economic
312 policies, social policies and political systems. A major social consequence of self medication
313 is that, it hinders health programmes put in place for sustainable development and progressive
314 realization of universal health coverage WHO (2016). Those who indulge in self
315 medication create the impression that, obtaining medical attention in an Orthodox medical
316 facility is not a right. They further practice self-denial of public health equality. According to
317 a Public Health Report (2002), self medication concerns the prevalence of certain health
318 issues, their rate, data and evidence-based approach to addressing such ailments. Self
319 medication stigmatizes families and peer groups considered naturally influential to the
320 attitude of members. In their place of work, those who self medicate are seen as sticklers,
321 addicts and weaklings not worthy of handling serious or sensitive matters (Public Health
322 Report 2002).

323 The labor market has worsened the careers of many young people which have been
324 suddenly interrupted (Charles and Decca, Music 2005).
325 According to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA),
326 among 31% of European youth between ages 15 and 24 years, a total of 19.5 million
327 individuals have tried illicit drugs in their lifetime. Overall, drugs caused 3.4% of all deaths
328 in age group 15 to 39 years, due to the consumption of illicit drugs like cocaine, ecstasy drugs
329 and opioids. According to Caulkins and Ritter (2006), the increase probability of unemployed
330 and lack of opportunities found in the labour market, make young people resort to self
331 medication causing an increase in demand in substance use.

332 Economic recessions have changed opportunity cost of substance consumption given
333 few jobs available and low wages while spending time using drugs have smaller opportunity
334 cost which enhances consumption of drugs.

335 Arkes (2007), focusing on young Americans from 16 - 24 years old, observes that, the
336 counter-cyclical link among drug consumption and the business cycle for this group of people
337 is closely related with their limited response to the income effects. The study shows that,
338 during economic recessions, the youths are more likely to sell drugs and be able to afford
339 their consumption. This finding is supported by other studies showing that, the youth can
340 even get cannabis-like drugs for free (Harrison, Erikson, Korf, Brochu & Benschop, 2007).

341 The physical consequences of self-medication are the most visible of the various dimensions
342 of health.

343 Again, some of the obvious signs of self medication appear physically. The author
344 explains different ways in which self medication can be detrimental to victims of the practice.
345 These include, physical inactivity, as unhealthy youths and adults who indulge in self
346 medication gradually become physically inactive. People use a variety of substances to
347 alleviate physical discomfort. These perceived remedies carry great risk when abused. People
348 turn to alcohol which is a central nervous system depressant in order to relieve physical pains.

349 They find it to be a quick and accessible solution to their problems. But as they keep on
350 relying more and more on the substance to change their mood, or behavior, it often gives way
351 to a long-term addiction. Alcohol. Marijuana is one of the popular drugs used for self
352 medication. It is a drug used by many teenagers to help them cope with everyday stress of
353 life. More than 32 million people worldwide use opioids annually, and according to the
354 World Drug Report, substances like codeine as a means of self medication, notably lead to
355 addiction and even death. The physical consequence of self medication is attributable to
356 medicines which are extremely powerful and dangerous, and are unlicensed such as codeine,
357 methodone, etc. Reactions to these drugs can be very intense and can worsen certain illnesses
358 or ailments.

359
360
361

362 **Self medication and patronage of orthodox medical facilities:**

363 Self medication is the continuous use of drugs to treat self-diagnosed disorders,
364 symptoms or the recurrence of diseases. Self medication is often used in the treatment of
365 common health problems with medicine labeled for use without medical supervision (Kumar,
366 Kanrchain&Unnikrishnan, 2013). Sawair, Baqain, Abu and Abu (2009) observe that, it has
367 become a common trend that, everywhere and everyday members of the society reach out for
368 self care products that help them during their common health problems. This they do, because
369 it saves them the problem of booking an appointment with the healthcare professionals. They
370 therefore have no option other than to self medicate. To some end consumers, it is evidence
371 that they tend to recognize and respect non-prescription medicines. As a whole, they self
372 medicate appropriately, safely and carefully as they a-times read these non-prescription drug
373 instructions. This shows that, consumers take more active role in their healthcare through self
374 medication.

375 According to WHO (2010), responsible self medication can help prevent and treat
376 symptoms and ailments that do not require medical consultations. It has further been recorded
377 by WHO that, health is of a strategic importance to a nation and its people. This is because a
378 healthy nation is a wealthy nation, showing that, good health implies high productivity, low
379 morbidity and low mortality. Self medication has become a part of an individual's behavior,
380 where exogenous substances to self medication and administering treatments are bought and
381 used by members of the society. Also, according to Balamurugan and Ganesh (2011) the
382 practice of self medication involves the use of medicinal products by the individual to treat
383 self recognized disorders or symptoms like headaches, common cold, body pains, etc.
384 Pritisalian (2009) observes that, non-professionals who self medicate are lay persons. As a
385 social phenomenon which is rampant in society, self medication is known to be a common
386 trend for people whenever they are caught up with illness. They source for over-the-counter
387 drugs which is an easy way in treating themselves without consulting with a medical
388 professional.

389 Chana and Bradley's (2011) study was to analyze the socio-cultural, economic and
390 regulatory factors influencing access to, and the use of medicines by consumers in
391 Tiko, Cameroon. Using focus group discussions, information was obtained from members of
392 Plantain Traders Association, Township Taxi Drivers' Association and Teachers of
393 Government Bilingual High School (GBHS), Tico. This information was triangulated with
394 those obtained from key informant interviews with sellers of medicines in community
395 pharmacies. Key influences on medicine use were reported to have emanated from the socio-
396 cultural and economic background of the people and also from inappropriate regulation on
397 medicine distribution and sales and included the perceived need for medicines, the cost of

398 medicines, the purchasing habits, the medicine use culture, medicine supply channels and
399 poor medicines regulation and control.

400

401 **System and Self Medication:**

402 Our belief system is one of the most influential social institutions in Yakurr Local
403 Government Area. It has a very high influence on the individual's lifestyle, worldview, words
404 and actions. According to Benjamin (2005), activities and systems have been shown to be
405 associated with numerous health behaviors such as smoking, drinking, drug usage, dieting
406 and the general healthcare utilization. Belief system is so influential that, it has a significant
407 impact on members in determining self medication. Dada, Yinusa and Goes (2011),
408 conducted a study in Bayelsa State, Nigeria, to find out whether belief system has any
409 significant influence and the patronage of modern medical facilities. The findings were that,
410 in many developing countries, the traditional care of diseases remain popular despite
411 civilization and the existence of modern healthcare facilities and services. The researcher
412 reported that, in Nigeria, due to the traditional belief system, traditional bone setters, perhaps
413 more than any other group of traditional caregivers, enjoy high patronage and confidence in
414 the society. Indeed, the patrons of these services cut across all strata of the society, including
415 the educated and the affluent. Many reasons accounts for this, including the belief that,
416 disease and accidents have spiritual components that need to be tackled along with treatment.
417 As such, the ages of their clients vary from the newborn with musculoskeletal deformity to
418 the elderly with fractures. Again, Dada, Yinusa and Goes (2011) posit that, the commonest
419 problems treated by traditional bone setters are fractures and dislocations. This practice is
420 widely spread in Yakurr Local Government Area, and across the country, including areas
421 with modern healthcare facilities.

422

423 **Awareness and self medication:**

424 According to Olusegun et'al (2009), self medication is the indulgence in alternative
425 medicine and medical interventions that are neither thought in medical schools, prescribed
426 nor generally available in hospitals. Angell and Kassirer (1998), described self medication
427 partly as indulgence in alternative medicine, used in place of conventional medical treatment.
428 According to them, most of these self medication practices, do not require professional
429 knowledge but include practices such as spiritual and metaphysical practices. These are non-
430 European medical traditions. They are newly developed approaches to healing. According to
431 these scholars, self medication involves indulgence in medicines where the efficacy and
432 safety have not been verified through scientific research (Angell and Kassirer, 1998).

433 According to Afolabi (2008), awareness sometimes enables individuals to self
434 administer medications through drug identification and trade names. Other common names of
435 drug identification include use of generic names, action, color, shape and common usage
436 names. Even the educated sometimes source information on drugs from sales clerks in
437 chemist or patent medicine shops.

438

439 **Proximity to medical center and self medication:**

440 According to Moses and Freddie (2014), distance to health facilities constitutes one of
441 the reasons for self medication. Other reasons for indulgence in self medication with
442 antimicrobial agents include drug knowledge, advice from friends and long waiting time.
443 Again, they observed that long distance to health facilities and the need to reduce burden on
444 health care services made the WHO to encourage community treatment of common diseases
445 using self medication. This is considered to be of benefit especially for developing countries
446 such as African countries where there are challenges of limited healthcare infrastructure and
447 human resources.

448 Oluwole and Babatunde (2016), in their study conducted in western Nigeria, reported
449 that, the common reasons for self medication were non-availability of health facilities and
450 trained personal and distantly located at facilities. Most individuals travel a distance from
451 accessing health care facilities (Asenso-Okyere, Chiang, Thangata, and Andams, 2011).
452 According to Asenso-Okyere et al (2011), the health status of adults, affects their ability to
453 work, and thus, underpins the welfare of the household including children development.
454 Treatable conditions often go untreated because there is lack of access to healthcare.
455 Development in health is only possible when there is access to healthcare services and in
456 turn, its effective utilization by individuals. Access to healthcare facilities is
457 multidimensional process involving the quality, type of healthcare, geographical accessibility,
458 availability of the right type of care for those in need, financial accessibility, and acceptability
459 of service (Peter, et al, 2010).

460 Healthcare access and utilization are however the major interest to rural development,
461 because they are vital elements of well-being and components of human capital (Olugbenga-
462 Bello and Adebimpe, 2010). In rural communities for instance, where physical jobs tend to be
463 more abundant, health care access and utilization stand to be more important than education
464 in determining labor productivity (Olugbenga-Bello and Adebimpe 2010).

465 Furthermore, every individual sees good health as a need, which makes healthcare
466 utilization an economic good (Onah&Ibachi, 2009). Peter, Grag, Bloom, Walker, Briefer
467 and Rahman (2008), maintain that, good health is a need for all, and that, the choice of a
468 particular healthcare system in response to the law of demand and supply, is a derived
469 demand. Healthcare is not demanded for itself, but for the advantages that can be derived
470 from being healthy (Peters, et al, 2008).

471

472 **Theoretical framework:**

473 This research was framed based on two theoretical approaches viz; The Health Belief Model
474 and Mechanic's General Theory of help seeking behavior.

475

476 **The Health Belief Model:**

477 The health belief model was developed by two socio-psychologists such as,
478 Rosenstock and Kegel in the early 1950s in the United States Public Health Services. It was a
479 theory developed to understand the widespread failure of people to accept disease prevention
480 or screening test for the early detection of the asymptomatic diseases. The theory was later
481 applied the patients' responses the symptoms and to compliance with prescribed medical
482 regimen. The theory is known to be based on its two variables - the value placed by an
483 individual on a particular good and the individual's anticipated likelihood that a given action
484 can achieve that goal. The theory is based upon the following premises:

- 485 i. Perceived susceptibility: Individuals here widely vary in their feelings of personal
486 vulnerability to a condition like diagnosis and illness in general. This dimension is
487 subjective to one's perception of the risk of contracting a condition.
- 488 ii. Perceived benefits: This depends on the beliefs regarding the effectiveness of various
489 actions available in reducing the disease threats.
- 490 iii. Perceived severity: This deals with the feelings concerning the seriousness of
491 contracting an illness or leaving it untreated as it varies from person to person.
- 492 iv. Perceived barriers: This is concerned with the potential negative aspect of a particular
493 health action that may act as an impediment to undertaking the recommended
494 behavior. A kind of cost-benefit analysis is thought to occur wherein, the individual
495 weighs the action's effectiveness against the perception that, it may be expensive,
496 dangerous, unpleasant, inconvenient and time consuming.

497

498 This theory is relevant to this study in the sense that, it provides a framework for
499 predicting and explaining the complexity in self medication and for highlighting strategies to
500 discouraging people from engaging himself medication. The HBM was identified as the ideal
501 framework for the study as self medication should be seen as a reflection of the health belief
502 system of the individual and the society, as a whole. The model, a well tested,
503 comprehensive, social cognitive framework by Rosenstock and colleagues, was one of the
504 first models used to predict and explain variations in self medication behavior among women
505 in the 1970s and 1980s. Yet, the HBM has seldom, since been applied in explaining other
506 medical issues. The major criticism developed against this model is the overemphasis of
507 need, at the expense of health beliefs and social structure. In addition, the theory has been
508 criticized for failing to indicate where to actually get safety recommendations to treat illness.
509
510
511

512 **Mechanic's General Theory of help seeking behavior:**

513 The help seeking behavior theory was developed by David mechanic in 1978. The
514 theory explains individual differences in help seeking behaviors. In other words, the theory
515 explains why some people resort to self medication when they are sick, while others do not.
516 Mechanic (1978) notes that, socialization, belief system, awareness level and proximity of
517 healthcare facilities play a major role in help seeking behavior of people, as it culturally
518 defines what illness is, and how it should be dealt with or treated, ie, negatively or positively.
519 Mechanic (1978) highlighted some socio-cultural factors that influence people not to resort to
520 self medication when they are ill. They include:

- 521 i. Visibility, recognizability or perceptual salience of symptoms or deviant signs.
- 522 ii. The extents to which the symptoms are perceived as serious.
- 523 iii. The extent to which symptoms disrupt family, work and other social activities.
- 524 iv. The frequency of appearance of symptoms, their persistence or their frequency of
525 reoccurrence.
- 526 v. The tolerance threshold of those who are exposed to, and evaluate the symptoms.
- 527 vi. Available information, knowledge and cultural assumptions and understanding of
528 the bodily changes.
- 529 vii. Basic needs which lead to autistic psychological processes- perceptual processes
530 that distort reality.
- 531 viii. Needs competing with illness responses-competing needs and priorities.
- 532 ix. Competing cognitive interpretations that can be assigned to the symptoms once
533 they are recognized.
- 534 x. Availability of treatment resources, physical proximity and psychological and
535 monetary costs of taking action.

536
537 The theory is relevant to this study because, it can be applied to different strands of illness
538 behavior. Such as, what people do when they are sick, where they go for help, how they seek
539 medical or non-medical help, how they manage acute or chronic conditions, why they use
540 healthcare services, and how they develop health beliefs and form illness perceptions? The
541 theory explicitly explains that, people's health behavior show their routine activities related to
542 their health lifestyles that ultimately determine potential health threats and maintain their
543 current status of health. Relative to the phenomenon of self medication, the criticism leveled
544 against this theory is that, in seeking help the individual may take the wrong action by going
545 to the chemist or patent vendor, for over the counter drugs, instead of going to qualified
546 medical practitioners for examination, tests, diagnosis and treatments.
547

548 **Research design:**

549 The descriptive survey design was adopted for this study. This design was chosen to
550 provide explanation of the phenomenon and measure the relationship between self
551 medication and patronage of orthodox medical facilities in Yakurr Local Government of
552 Cross River State. Shields (2013) notes that, prescriptive survey design is used to describe
553 characteristics of population or phenomenon under study. It deals on questions such as who,
554 what, when and where? (Shields, 2013) and is derived from a broad class of experimental
555 studies with the purpose of describing characteristics as they occur.

556

557 **Research area:**

558 The target area for this research was Yakurr Local Government Area of Cross River
559 State, Nigeria. This area was chosen because self medication is relatively high in this area.
560 The area is located in the Central Senatorial district of Cross River State and constitutes one
561 of the largest ethnic groups in the state. Yakurr Local Government is comprised of eight
562 villages namely: Ugeb, Ekor, Idomi, Nko, Mkpani, Assiga, AgoiBami and Inyima
563 respectively, and is bordered by Obubra to the Northeast, Biase to the West, Akamkpa to the
564 Southeast and Abi to the Southwest. Ugeb is its Council Headquarters. The dominant
565 language spoken by the Yakurr people is "Lokaa." The Yakurr people are predominantly
566 farmers and petty traders, and celebrate new yam festival known as "LekoiBoku" annually.

567

568 **Population of the study:**

569 The population of the study comprise of people aged 15 - 49 years and above of both
570 **genders**. This is because the practice of **self-medication** is not limited to any age bracket or
571 gender. This research is based on the 2006 National Population Census; whose figures stood
572 at nine hundred and ninety-six thousand, two hundred and seventy-one (996,271) to be the
573 total population of Yakurr Local Government Area. The total of ninety-nine thousand, four
574 hundred and **eighty-five** (99,485) of this population were males, and ninety-six thousand,
575 seven hundred and eighty-six (96,786) were females respectively.

576 The Bureau of Statistics (2006) puts the youth population to be, one-hundred and
577 fourteen thousand, six hundred and **sixty-four** (114,664) and the elderly population to be
578 seven thousand, one hundred and twenty-six (7,126) respectively.

579

580 **Research sample:**

581 The sample for this study was made up of four hundred and **seventy-four** (474)
582 respondents randomly drawn from the various communities in Yakurr Local Government
583 Area of Cross River State, Nigeria. The Survey Monkey sample size calculator was adopted
584 in determining the sample size. The total population of the Local Government Area was
585 keyed into the calculator at a confidence level of 95% and at a margin error of 4.5%, and the
586 results displayed the needed sample of 474 respondents; as shown below:

587 Population size - 196,271

588 Confidence level (%) - 95

589 Margin of error (%) - 4.5

590 Sample size drawn - 474

591

592 **Sampling technique**

593 Three methods of sampling were adopted for this study, viz, stratified sampling,
594 purposive and simple randomization. Stratified sampling technique was adopted in the
595 stratification of Yakurr Local Government Area into different strata according to the
596 communities. From these strata, the purposive sampling technique was used in selecting four
597 communities which are known to have numerous cases of people engaging in self medication

598 over time. These communities are Ugep, Nko, Mkpani and Idomi. This sampling method
 599 reduced the possibility of error as it allows the researcher to recognize, identify and consider
 600 the heterogeneous characteristics of the phenomena. The proportional sampling technique
 601 was then used to select the four hundred and seventy four (474) subjects for this study. The
 602 proportional sampling technique is used when the population size is known, thereby allowing
 603 the researcher to appropriately apportion a proportionate sample size according to the
 604 population of the study area. The breakdown of the sample size from each selected
 605 community was Ugep (296), Ekori (95), Nko (79), and Idomi (31) respectively.
 606 A comprehensive breakdown of the population according to the proportional sampling
 607 technique is highlighted in Table 1. The disparity in the selection of sample size for each
 608 community is as a result of unequal distribution of the study population in the various
 609 communities.

610
 611
 612 **Table 1**
 613 **Proportional selection of samples for each community**

S/NO	COMMUNITY	NO. OF POPULATION	PROPORTION OF POPULATION	SAMPLE SIZE
1	Ugep	53,696	0.56	269
2	Ekori	18,870	0.70	95
3	Nko	15,699	0.20	79
4	Idomi	6,298	0.07	31
		$\Sigma = 94,563$		$\Sigma n = 474$

614 Source: Fieldwork, 2018

615
 616 **Research instruments**

617 Instruments used for this research was a – 17 item structured questionnaire and key
 618 informant interview data presented were of both close –ended and open – ended
 619 questionnaire. This was chosen to give respondents access to pin down personal opinions, as
 620 there was not discrimination between indigenes and non-indigenes residing in the research
 621 area. The questionnaire was further structured into two sections. Section “A” constituted
 622 personal demographic data of respondents while section “B” was to generate phenomenal
 623 data. The key informant interview was designed to obtain relevant data that complemented
 624 data derived from the questionnaire. Through this medium, data were generated that helped
 625 measure the relationship between self medication and patronage of orthodox medical
 626 facilities in Yakurr Local Government Area of Cross River State, Nigeria.

627 **Data analytic technique**

628 Data collected were properly checked and analyzed using appropriate statistical
 629 methods. Frequency distribution, simple percentage and Pearson Product Moment
 630 Correlation, as well as one ANOVA analysis were employed. The analyses were presented
 631 hypothesis by hypothesis, testing each at 0.05 level of significance

632
 633 **Data presentation, Results and Discussions**

634 Out of the 474 questionnaires administered, only 448 were returnee and these were
 635 analyzed accordingly. 26 questionnaires were not retrieved. The socio-demographic data
 636 were presented in tabular form.

637
 638
 639

640
641

Table 2
Socio-demographic distribution of respondents

Variable	Category	N	Percentages
Gender	Male	188	42
	Female	260	58
	Total	448	100
Age	18 – 25 years	228	51.0
	26 - 33 years	71	16.0
	34 – 41 years	68	15.0
	42 – 49 years	67	15.0
	50 years and above	14	3.0
	Total	448	100
Marital status	Single	273	60.9
	Married	124	27.7
	Divorced	20	4.5
	Widows/widowers	29	6.5
	No response	2	4
	Total	448	100
Educational status	Ph.D	0	0
	M.Sc/MA/BA	22	4.9
	B.Sc/B.ED/HND	48	10.7
	NCE/ND	70	15.6
	WASSCE/GCE/NECO	124	27.7
	FSLC	158	35.3
	No formal education	26	5.8
	Total	448	100
Religious affiliation	Christianity	350	78.1
	Islam	10	2.2
	ATR	20	4.5
	No response	68	15.2
	Total	448	100
Occupational status	Civil servant	141	31.5
	Self-employed	130	29.0
	Farmer	61	13.6
	Unemployed	106	23.7
	No response	10	2.2
	Total	448	100
Place of origin	Ugep	258	57.6
	Ekori	88	19.6
	Idomi	28	6.3
	Nko	74	16.5
	Total	448	100

642 Source: Field Survey, 2018

643
644

645 **General description of data**

646 Out of the 448 respondents used for the analysis 188 representing 42% were males
 647 while 260 representing 58% were females. Description of respondents based on age shows
 648 that, 228 representing 51% were 18 – 25 years, 71 or 16% were aged 16 – 33 years, 68 or
 649 15% were 34 – 41 years; 67 or 15% were 42 – 49 years while 14 – 3% were 50 years and
 650 above

651 This trend is a true representation of the society where there are more youths than
 652 aged people. For marital status of respondents, 273 or 60.9% were single, 124 or 27.7%
 653 were married; 20 or 4.5% were divorced; 29 or 5.5% were widowed while 2 or 0.4% did not
 654 respond to this question. The distribution of respondents based on educational qualification
 655 shows that WASSC./GCE/NECO were 124 or 27.7%; BSC/BA/BED/HND were 48 or
 656 10.7%; Msc/MA/MED were 22 or 4.92%; NCE/ND were 70 or 15.6%, FSLC were 158 or
 657 35.3%; and those without formal education were 26 or 5.8% respectively. This finding shows
 658 that respondents were not illiterates. On religious affiliations 350 or 78.1% respondents were
 659 Christians; 10 or 2.2% were Muslims, while 20 or 4.5% were African traditional religion
 660 practitioners. 68 or 15.2% respondents did not respond to this question. Findings from the
 661 occupational status of the respondents revealed that, 141 or 31.5% were civil servants; 130 or
 662 29% were self employed; 61 or 13.6% are farmers; 106 or 23% were unemployed, while 10 or
 663 2.2% were not responded to. On the distribution by place of origin, 258 or 57.6% were from
 664 Ugep; 88 or 19.6% were from Ekor; 28 or 6.3% from Idomi and 74 or 16.5% were from Nko
 665 respectively.

666

667 **Testing of Hypotheses**

668

669 **Hypothesis one**

670 H₀: There is no significant relationship between belief system and self medication in
 671 Yakurr Local Government Area

672 H₁: There is a significant relationship between belief system and self medication in
 673 Yakurr Local Government Area

674

675 **Decision Rule:**

676 Accept H₀ if calculated r value ≤ is or > 0.0098 critical value at 446 degrees of
 677 freedom and 0.05 level of significance, otherwise reject H₀ and accept H₁.

678

679 This hypothesis was plotted using items 1 – 4 measuring belief system of the
 680 questionnaire (See appendix 1); and tested using Pearson Product Moment Correlation
 681 (PPMC) as shown in table 3.

682

Table 3

683 **Pearson product moment correlation of belief system and self-medication**

Variable	Mean	SD	r-value	Sig.
Belief system	15.97	2.83	0.584**	.000
Self-medication	16.43	3.40		

684

685 Significant at 0.05 level; df = 446, critical r value = 0.098

686

687 Source: Field Survey, 2018

688

689 **Decision**

690 Since the calculated r value of 0.548 is greater the critical value of 0.098 at 446 degrees of
 691 freedom and 0.05 level of significance, the null hypothesis is hereby rejected and the alternate

692 accepted. This hypothesis states that, there is a significant relationship between belief system
 693 and patronage of orthodox medical facilities in Yakurr Local Government Area.

694

695 **Hypothesis two**

696 H₀: There is no significant influence between awareness level and self medication in
 697 Yakurr Local Government Area.

698 H₁: There is a significant influence between awareness level and self medication in
 699 Yakurr Local Government Area.

700

701 **Decision Rule:**

702 Accept H₀ if calculated F value ≥ 3.00 ($p < .05$) at 2,446 degrees of freedom; otherwise,
 703 reject H₀ and accept H₁.

704 This hypothesis was plotted using items 5.7 measuring awareness level of the questionnaire
 705 (see appendix 1) and tested using the one way analysis of variance (ANOVA), as shown on
 706 table 4a – c.

707

Table 4a

708

ANOVA of awareness level and self-medication

Category	N	Mean	SD		
Low	148	12.12	3.58		
Moderate	132	13.64	4.60		
High	168	18.17	6.33		
Total	448	14.76	5.39		
Source of variance	Sum of squares	Df	Mean square	F-value	Sig.
Between groups	1872.674	2	936.337	19.000	.000
Within groups	16114.890	446	49.281		
Total	17987.564	448			

709 *Significant at 0.05 level; df = 2, 446; critical F. = 3.00

710

711 Source: Field Survey, 2018

712

713

714

715

716

Table 4b

Scheffe Post Hoc test

Awareness level	(J) Awareness Level	Mean Difference (I-J)	Std. Error	Sig.
Low	Moderate	1.51	1.02	.337
	High	6.05*	1.10	.000
Moderate	Low	1.51	1.02	.337
	High	4.53*	0.88	.000
High	Low	6.05*	1.10	.000
	Moderate	4.53*	0.88	.000

717 * The mean difference is significant at the 0.05 level

718

719

Table 4c

720

Homogeneous subsets

Awareness level	N	Subset for alpha 0.05	
		1	2

Scheffe ^{a,b}	Low	148	12.12	
	Moderate	132	13.64	
	High	168		18.17
	Sig.		.325	1,000

721

722 **Decision**

723 Since the ANOVA result for awareness level is $F = 19.000$ and greater than the
724 critical F value of 3.00 ($P. < .05$) at 2,446 degrees of freedom, the null hypothesis is hereby
725 accepted and the alternate hypothesis, rejected. This hypothesis states that, there is a
726 significant influence of awareness on patronage of orthodox medical facilities in Yakurr
727 Local Government Area. The post HOC test was performed to establish which of the
728 categories (Low, moderate and high) have more influence on patronage of orthodox medical
729 facilities in Yakurr Local Government Area and the result are presented in table 4^b and 4^c.

730

731

732 **Hypothesis three:**

733 H_0 : There is no significant relationship between proximity to medical facilities and self
734 medication in Yakurr Local Government Area.

735 H_1 : There is a significant relationship between proximity to medical facilities and self
736 medication in Yakurr Local Government Area.

737

738 **Decision Rule:**

739 Accept H_0 if calculated $r \geq 0.098$ at 446 degrees of freedom and 0.05 level of significance;
740 otherwise, reject H_0 and accept H_1 .

741 This hypothesis was plotted using items 9 – 12 of the questionnaire measuring proximity to
742 medical facilities (see appendix 1) and tested using PPMC as shown on table 5.

743

744

745

746

747

TABLE 5
Pearson product moment correlation of proximity to medical facilities and self-medication

Variable	Mean	SD	r-value	Sig.
Proximity	15.41	2.22	0.334**	.000
Self-medication	16.43	1.40		

748 *significant at 0.05 level; $df = 446$ critical r -value = 0.098

749 Source: Field survey, 2018

750

751 **Discussion of findings:**

752 Respondents demographic data for sex showed that 188 or 42% were male and 260 or
753 58% were female. Description based on age showed that most of the respondents. 228 or 51%
754 were between 18 – 25 years; 17 or 16% were 26 – 33years; 68 or 15% were 34 – 41 years, 67
755 or 15% were 42 – 49 years; while 14 or 3% were aged 50years and above. This trend is a true
756 representation of our society where we have more youthful population than the elderly
757 population. The marital status distribution showed that, 273 or 60% were single; 124 or 27%
758 were married, 20 or 4.5% were divorced 29 or 6.5% were widowed; while 2 or 0.4% did not
759 respond to that question.

760

761

762

The distribution of respondents by educational qualification showed that, those with
SSC/GCE/NECO were 124 or 27.7%; BSC/BA/BED/HND were 48 or 10.7%;
MSC/MA/MED were 22 or 4.9%; NCE/ND were 70 or 15.6%; FSLC were 158 or 35.3%

763 while those with no formal education were 26 or 5.8% respectively. On religious affiliation,
764 350 or 78.1% were Christians; 10 or 2.2% were Muslims and 20 or 4.5% practiced African
765 Traditional Religion. 68 or 15.2% did not respond to this question. Findings from the
766 occupational status showed that, 141 or 31.5% were civil servants, 130 or 29% were self
767 employed; 61 or 13.6% were farmers 106 or 23.7% were unemployed, while 10 or 2.2% did
768 not respond to this question. The place of origin distribution showed 258 or 57.6% were from
769 Ugep; 88 or 19.6% from Ekor; 28 or 6.3% from Idomi while 74 or 16.5% were from Nko
770 respectively.

771 Hypothesis one finding revealed that there is a significant relationship between belief
772 system and self medication in Yakurr Local Government Area of Cross River State, Nigeria.
773 From the statistical analysis, the calculated r value of 0.544 is greater than the critical value
774 of 0.098 at 0.05 level of significance and 446 degrees of freedom. This showed that people
775 belief system influenced their use of over-the-counter drugs or using other forms of self
776 medication. This finding is supported by the work by Dada, et al (2011) and Benjamin
777 (2005) who asserted that, the activities and belief system are associated with numerous health
778 behavior such as smoking, drinking of alcohol, drug usage dieting and general healthcare
779 services utilization. Belief systems are so influential that, they have a significant impact on
780 people in determining self medication. This is because they shape the cultural norms and
781 values of the members of society especially in relation to drug use. Dada et, al (2011)
782 conducted a study to find out whether belief system has any significant influence on the
783 patronage of modern medical facilities whose finding showed that, the traditional care of
784 diseases, remain more popular despite the level of civilization and existence of modern health
785 care facilities and services. This goes a long way to confirm the fact that, in Nigeria, due to
786 traditional belief system, some traditional medical practitioners e.g. traditional bone setters,
787 still enjoy more patronage than the orthodox doctors in our health care facilities. Two key
788 informant interviews were conducted to triangulate research findings with that from the
789 questionnaire. Report from a male nurse working with the primary health centre in Idomi.
790 Mr. OtorEsekpa, using structured interview schedule, which was tape-recorded and
791 transcribed revealed that, people find it difficult patronizing orthodox medical facilities
792 because of their traditional belief system which include, the use of local herbs, roots and bark
793 of trees. These concoctions are believed to be more potent and efficacious than orthodox
794 medicines in treating ailments like malaria, mumps, bone fractures, dislocations,
795 dysmenorrhoea.

796 Response from another interviewee, a patient medicine vendor, Mrs. Obia Daniel
797 Ibiang from Idomi, collaborated the earlier response. According to her, most of the locals,
798 prefer to use traditional medicine, because it is what our forefathers used and it worked for
799 them. She added that, the poverty situation of the people of the community, made them to
800 prefer using local herbs which are obtained at no cost from the forest and farmlands, than
801 visiting the orthodox health centres where they are charged heavily for anything done for
802 them.

803 Result from the second hypothesis revealed that there is a significant influence of
804 awareness level on self medication on Yakurr Local Government Area of Cross River State,
805 Nigeria. This result implies that, people's knowledge of orthodox medicine influences
806 patronage. The one way-analysis of variance for awareness level (low, moderate and high)
807 and patronage of orthodox medical facilities revealed that, there is a statistical significant
808 influence of awareness level. Calculated $F = 19,000$ which is greater than critical $F = 3.00$ (p
809 $<.05$) with 2,446 degrees of freedom. This finding is supported by the work of Afolabi (2008
810 and Bamidele (2009). According to Afolabi (2008), awareness sometimes, enables
811 individuals to indulge in self medication through drug identification and trade names. Other
812 common means of drug identification include, use of generic names, action, colour, shape

813 and common drug usage, Bamidele (2009) on his part, notes that, Sododemographic
814 determinants of self medication among the educated are age, gender, occupation, educational
815 qualification, place of residence, income and culture.

816 Three key informant interviews were conducted using one Mr. Utum Felix, a
817 community health Assistant working in Primary Health Center, Ugep, Mrs. Mary Ibiang, a
818 female local drug dispenser and Mr. OtorEsekpa, both from Idomi. On how awareness affects
819 self medication, Mr. Utum Felix maintained that, most community members in Ugep are not
820 aware of the dangers of self medication; and that, it is the same over-the-counter drugs that
821 they are usually given even if they patronized the orthodox health care facilities and at a
822 higher price. On her part, Mrs. Mary Ibiang notes that, most of locals prefer the use of
823 traditional herbs, roots and other traditional methods, arguing that most of the drugs used in
824 the orthodox health care facilities are made from traditional herbs, roots, bark of trees and
825 other traditional substances. Lastly, on his part, Mr. OtorEsekpa asserted that, awareness can
826 dissotde people from self medication if they are fully aware of the repercussions and dangers
827 of drug abuse.

828

829 **Summary, Conclusion and Recommendations**

830 This study was set to examine self medications and patronage of orthodox medical
831 facilities in Yakurr Local Government Area of Cross River State, Nigeria.

832 Three specific objectives were formulated and were:

- 833 (i) To examine the relationship between belief system and self medication in Yakurr
834 Local Government Area of Cross River State, Nigeria.
- 835 (ii) To investigate the influence of awareness level on self medication in Yakurr Local
836 Government Area of Cross River State, Nigeria.
- 837 (iii) To examine the relationship between proximity to medical facilities and patronage of
838 orthodox medical facilities in Yakurr Local Government Area of Cross River State.
839 Nigeria.

840 Three null hypotheses were formulated to guide and direct these researches which
841 were tested using appropriate statistical techniques at the end of this study. Relevant
842 literatures were reviewed in line with the variables identified for this study. Two theories –
843 the Health Belief Model and Mechanic’s grand theory of help seeking behavior were used as
844 the theoretical framework of this study. The descriptive survey research design was adopted
845 for the study and a sample size of 474 was selected using the survey market sample size
846 calculator. The sampling techniques used were purposive, proportional stratified and the
847 simple randomization. The questionnaire and key informant interview were the instrument of
848 data collection and were subjected to both face and content validity tests conducted by
849 experts in measurement and evaluation in the faculty of social sciences, University of
850 Calabar, Calabar. Data generated were coded accordingly, and analyzed using the statistical
851 tools were adopted because of the nature of variables involved in this study. All hypotheses
852 were tested at 0.05 level of significance. The results of this test shared that

- 853 i. There is a significant relationship between belief system and self medication in
854 Yakurr Local Government Area of Cross River State, Nigeria.
- 855 ii. There is a significant influence of awareness level on self medication in Yakurr Local
856 Government Area of Cross River State, Nigeria.
- 857 iii. There is a significant relationship between proximity to medical facilities and self
858 medication in Yakurr Local Government Area of Cross River State, Nigeria.

859 Based on the findings of this study, the following recommendations were made:

- 860 1. The National Health Insurance Scheme should be extended to the rural populace in
861 Yakurr Local Government Area. The availability and accessibility of services will
862 discourage the rural poor from engaging in self medication.

- 863
864
865
866
867
868
869
870
871
872
873
874
875
2. An optional plan of education with more awareness campaigns and preclinical experiences should be made in rural communities on the advantages of using orthodox medicine to increase the knowledge and confidence of health care facilities utilization and minimize phobia among community members
 3. The patent / general medicine dealers constitute the single substantial channel of information and the usual source where market women obtained these medications. Renewal of these annual operating licenses could be tied to attending and passing workshops to update and improve their knowledge on managing simple complaints and dispensing of over-the-counter drugs. Such workshops should emphasize that, only those who could write and read, or who could be trained could be patent/general medicine dealers just as traditional birth attendants, village or community health workers, and so on, have been trained irrespective of their educational level.

UNDER PEER REVIEW

References

- 876
877
878 Abdul,H. (2014). Problems faced by the street children: a study on some selected places in
879 Dhaka City, Bangladesh. *International Journal of Scientific &Technology*
880 *Research*,3(10),45-56
881
- 882 Afolabi, A.O. (2008). Factors influencing the pattern of self-medication in an adult Nigeria
883 population. *Annals of African Medicine*, 7(3), 120-127.
884
- 885 Angell, M. D. & Kassirer, J. P. (1998). Alternative Medicine -the risks of untested and
886 unregulated remedies. *N Engl J Med.*, 339, 839-841.
887
- 888 Aqeel,T., Shabbir, A., Basharat, H., Bukhari, M.,Mobin,S., Shahid, H. &Waqar,S.A.
889 (2014).Prevalence of self-medication among urban and rural population ofIslamabad,
890 Pakistan. *Tropical Journal of Pharmaceutical Research*, 13(4),627-633.
891
- 892 Arikpo,G., Eja, M. E. &Enyi-Idoh, K. (2010). Self medication in rural Africa: The Nigerian
893 experience. *The Internet Journal of Health*.11.
894
- 895 Arkes, (2007). Does the Economy affect teenage substances use? *Journal of Health*
896 *Economics* Vol. 16:1.
897
- 898 Balamurugan, E. &Genesh, K. (2011). Prevalence and patterns of self-medication useof
899 coastal regions of South India. *Biennial Journal Medical Practice*, 4(3):9428.
900
- 901 Benschop, A., Harrison, L., Erikson, P., (2006): Different Concepts of Ethnicity in a Cross-
902 Atlantic Study of Violence and Drug use among Deviant Youth.
903
- 904 Bigby, M., Gibbs, S. & Harvey (2002). Non-genital Warts *Pub. Med.*
905
- 906 Bobb, Huston & Finke (2008): The Mitigating Influence of Time Preference on the
907 Relationship between Smoking and Body Mass Index (BMI).
908
- 909 Caulkins, J., Dietze, P. & Ritter, A. (2007): Dynamics Compartmental Model of Trends in
910 Australians Drug Use. *Health Use Management Science*.
911
- 912 Chou, C., Peng, H. & Chang, C (2002). The Concept of a Learner entered ULS Universal
913 Learning System.
914
- 915 Cosci, F., Schruers, K. R., Abrams, K. &Griez, E. J. (2007). Alcohol use disorder sand panic
916 disorder: a review of the evidence of a direct relationship. *Journal o Clinical*
917 *Psychiutiy*,68(6),874-880
918
- 919 Dada, A.A., Yinusa, W. &Giwa, S. O. (2011). Review of the practice of traditional bone
920 setting in Nigeria. *African Health Sciences*, 11(2),262-265
921
- 922 Grigoryan, L., Burgerhof, J. G. M., & Degener, J. E. (2008). Determinants of self-medication
923 with antibiotics in Europe.The impact of beliefs, country wealth and the health care
924 system. *Journal of Antimicrobial Chemotherapy*, 61(5):1172-1179.
925

- 926 Groves, J. (2010). International Alliance of Patients' Organizations perspectives on person-
927 centered medicine. *International Journal of Integrated Care*, 10(5),
928 DOI:<http://doi.org/10.5334/ijic.481> January 2015.
929
- 930 Harrison, L. Erikson, P. Korf, D., Brochu, S. Benschop, A. (2007). Teen Drug sellers-An
931 International study of Segregated Drug markets and related violence.
932
- 933 Hassali, M.A., Safie, A. A., Al-Quaza, H., Tambyappa, J., Palaian & Hariraj, V. (2011). Self-
934 medication practice among adult population attending community pharmacies in
935 Malaysia: An exploratory study. *International Journal of Clinical Pharmacy*,
936 33(5),794-799.
937
- 938 Hughes, C. M., McElnay, J.C. & Fleming, G. F. (2001). Benefits and risks of self-medication.
939 *Drug Safety*, 24(14),1027-1037.
940
- 941 Jelifat, O. (2016). 4 reasons to avoid self-medication. Available
942 at:[https://connectnigeria.com/articles/2016/08/4-reasons-avoid-self-](https://connectnigeria.com/articles/2016/08/4-reasons-avoid-self-medication/May2016)
943 [medication/May2016](https://connectnigeria.com/articles/2016/08/4-reasons-avoid-self-medication/May2016)
944
- 945 Jiloha, R. C. (2009). Social and cultural aspects of drug abuse in adolescents. *Delhi*
946 *Psychiatry Journal*, 12(2),167-175
947
- 948 Khantzian (1985). Self Medication Hypothesis of addictive disorders. Focus on heroin and
949 cocaine dependence. *Pub. Med. Central*.
950
- 951 Krewski, D., Lemyre, L., Turner, M. C., Lee, J. E. C., Dallaire, C., Bouchard, L., Brand, K. &
952 Mercier, P. (2007). Public perception of population health risks in Canada: Health
953 hazards and sources of information. *Human and Ecological Risk Assessment: An*
954 *International Journal*, 12(4),626-644.
955
- 956 Kumar, N., Kanchan, T. & Unnikrishan, B. (2013). Perception and practice of self-medication
957 among medical students in Coastal South India. *PLOS ONE*, 8(8), Article ID e72247.
958
- 959 Lemit, R. (2000). The benefits and risks of self-medication. *IHO Drug Information*. 14(1).
960
- 961 Mathur, P. & Iso B. (2009). *Classification Methods for remotely sensed data*. CRC Press.
962 Boca Raton
963
- 964 Mini, Varas, Levano, Rojas & Medina (2011). Self Medicated Behaviour among Pregnant
965 women user of Instituto Nacional Manteno Pen natal.
966
- 967 Moses, O. & Freddie, B.G. (2014). Patterns and prediction of self-medication in Northern
968 Uganda.
969
- 970 Nalini, G. K. (2010). Self-medication among allopathic medical doctors in Karnataka,
971 India. *British Journal of Medical Practitioners*, 3(2), 11-14.
972
- 973 Olugbenga-Bello, A., Wasiu, O. A. & Abodunrin, O. L. (2010) Sexual risk behavior among
974 in-school adolescents in public secondary schools in a South western city in Nigeria.
975 *International Journal of Health Research*, 2(3):243-251.

- 976 Oluwole, A. & Babatunde (2016). Self-medication among health workers in tertiary
977 institution, South Western Nigeria. *The Pan African Journal*
978
- 979 Omoruan, A. I., Bamidele, A. P. & Philips, O. F. (2009). Social health insurance and
980 sustainable healthcare. *Ethno-Med*, 3(2):105-110.
981
- 982 Onah, H., Ikeako, L. & Iloabachie, G. (2009). Factors associated with the use of elasticity
983 of healthcare services in Enugu, Southeastern Nigeria. *Soc Sci. Med.*, 63(7), 1870-
984 1878.
985
- 986 Palloni, & Yonker (2012): A search for answers to continuing Health and mortality
987 Disparities in the United States. *Pub. Med Central*.
988
- 989 Panero, C. & Persico, L. (2016). Attitude toward and use of over-the-counter medications
990 among teenagers: Evidence from an Italian study. *International Journal of Marketing*
991 *Studies* 8, 65.10.5539/ijms.v8n3p65.
992
- 993 Peter, D. H., Grag, A., Bloom, G., Walker, D. G., Brieger, W. R., & Rahman, M. H. (2008).
994 Poverty and Access to Health Care in Developing Countries. Available at:
995 <https://nyaspubs.onlinelibrary.wiley.com/doi/abs/10.1196/annals.1425.011>
996
- 997 Ritter, A. (2006). Studying illicit drugs markets: Disciplinary contributions. *International*
998 *Journal of Drug Policy*.
999
- 1000 Sawair, F. A., Baquain, Z. H., Abu, K. A. & Abu, E. R. (2009). Assessment of self-
1001 medication of anti-biotics in a Jordanian population. *Medical Principles and Practice*.
1002 18 (1), 21-5.
1003
- 1004 Shields, P. & Rangarjan, N. (2013). A playbook of research methods: *Integrating conceptual*
1005 *framework and project management*.
1006
- 1007 Suh, J. J., Ruffins, S., Robins, C. E., Albanese, M. J., & Khantzian, E. J. (2008). Self-
1008 medication hypothesis: Connecting affective experience and drug choice.
1009 *Psychoanalytic psychology*, 25(3) 518-532
1010
- 1011 United Nations Millennium Development Goals (2015). The Millennium Development Goals
1012 Report. Available
1013 at: [http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20re](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf)
1014 [v%20\(July%201\).pdf](http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf)
1015
- 1016 Vidyavati, S. I., Sneha, A., Kamarudin, J. & Katti, S. M. (2016). Self-Medication: Reasons,
1017 risk and benefits. *International J. of Healthcare and Biomedical Research*, 4(4), 21-
1018 24
1019
- 1020 Wilbur, K., Salam, S. E. & Mohammadi, E. (2010). Patient perceptions of pharmacist roles in
1021 guiding self-medication of over-the-counter therapy in Qatar. *Patient Prefer*
1022 *Adherence*, 4: 87-93.
1023
1024

- 1025 World Drug Report (2010). Drug statistics and trends: Understanding the extent and nature
1026 of drug use. Available
1027 at:https://www.unodc.org/documents/wdr/WDR_2010/2.0_Drug_statistics_andTrends
1028 .pdf
- 1029
- 1030 World Health Organization (2008). Self-medication. Sudan Journal of Rational Use of
1031 Medicine, 6.
- 1032
- 1033 World Health Organization (2010). The role of the pharmacists in self care and self-
1034 medication.

UNDER PEER REVIEW