



## **Local Gin: Through the Lens of Ogogoro Consumers**

**Kennedy Ajiroghene Osakwe Adakporia<sup>1\*</sup>**

<sup>1</sup>*Occupational Health and Safety, School of Property Construction and Property Management, RMIT University, Melbourne, VIC 3000. Australia.*

### **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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### **ABSTRACT**

Globally, several studies had established the effects of local gin in human subjects through laboratory, analytical, experimental and objective research methods. There is however a balancing need to investigate the effects from the prism of the consumers.

**Aim:** To explore the pattern of consumption and effects of prolonged consumption of Ogogoro through a participatory model seeking the opinion of consumers.

**Methodology:** Cross section survey of one hundred (100) consumers of Ogogoro with informed consent obtained from respondents.

**Results** Study revealed that Ogogoro has a significant potential to cause heavy drinking as evidenced by 93% of respondents consumes 90mls to 180 mls daily and 88% consumes to oblige uncontrolled cravings. Significant secular and socio-economic effects were found to be quarrelsome, poor physical appearance, always broke, stigmatization, seen as public nuisance and low circle of friends. Conversely, there were low affirmations for loss of job, poor job performance, fighting and loss of friends. Notably, physiological and health effects were found to be excessive urination; loss of weight, excessive sleeping and appetite for food.

**Conclusion:** While the government had adopted a punitive stance, the author opines advocacy on the potential effects and prevention of Ogogoro would be an achievable primordial strategy for potential consumers. Treatment and rehabilitation of existing consumers could aid as a remedial recovery. Upskilling of brewers and modification of the physico-chemical formulae to make less harmful could bring pragmatic solutions.

\*Corresponding author: E-mail: [kennedy.osakwe@rmit.edu.au](mailto:kennedy.osakwe@rmit.edu.au);

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## 1. INTRODUCTION

Globally, local gin is a commonplace commodity traded under different names and for several purposes including leisure and household needs [1]. In some communities in Rivers State of Nigeria, it is referred to as Ogogoro [2]. The production of local gin (Ogogoro) in Nigeria can be traced back to the colonial times where heavy taxes were imposed on the importation of "trade spirits or imported liquor" as a curtailment to its consumption due to its perceived health hazards [2]. This led to the emergence and growth in the number of local gin (Ogogoro) distilleries across villages. Although the consumption of local gin is welcomed in many societies, it is worthy of note that its consumption has been prohibited in some states in Nigeria. Across cultures and ethnic nationalities in Nigeria, Ogogoro is used for religious events, ritual purposes, social events such as marriage and for medical reasons in addition to its daily local consumptions [2]. More still, it has been used as an agent for embalment of dead bodies in very remote communities to prevent putrefaction.

The consumption of Ogogoro has been associated with different medical challenges and thus received a plethora of interest from researchers [1] who sought to know its constituents, production process and health effects. However, there is paucity of researches on the pattern of consumption and its effects on other aspects of consumers livelihood. Relatedly, majority of studies on local gin especially Ogogoro have been executed through objective methods such as experimental, observational and analytical research methods with paucity of consumers perspective and involvement. The objective of this study was to establish the pattern of consumption and effects of prolonged Ogogoro consumption on the health, lifestyle, secular, family and socio-economic aspects of consumers through a participatory model and participant lens.

## 2. MATERIALS AND METHODS

### 2.1 Study Design

A cross sectional survey of Ogogoro consumers in Rivers State of Nigeria as approved by the research advisory committee, Department of Pharmacology at the University of Port Harcourt,

Rivers State, Nigeria. Written informed consent obtained from respondents after issuance of participant information.

### 2.2 Data Collection

The questionnaire was designed and pre-tested using close ended questions, designed to capture subjective data on the pattern and post consumption effects in the health, family, social, family and secular aspect of respondent's lifestyle. Although 120 respondents were planned through purposive sampling technique but could secure one hundred participants. One hundred questionnaires were administered to known local gin consumers and their 'joint 'associates. They were interviewer administered using the face-to-face approach.

### 2.3 Analysis

Outcome was analyzed using basic statistical analysis via Microsoft Excel packages and SPSS version 20. In analyzing the questionnaire, the simple percentage method of statistical test was used.

## 3. RESULTS AND DISCUSSION

One hundred (100%) percent response rate was achieved.

### 3.1 Frequency of Ogogoro Consumption is Presented as Follows

The results showed that on daily basis, Ogogoro is a frequently consumed beverage among the respondents.

### 3.2 Average Quantity of Consumption is Presented as Follows

Significantly and on average, 40% of respondents consumes exactly or more than 5 to 6 cups of 30mls daily and 53% consumes 3 to 4 cups of 30mls daily.

### 3.3 The duration of Consumption is Presented as Follows

Significantly and on average, 76% of respondents have been consuming Ogogoro for more than 3 years.

**Table 1. Frequency of consumption**

S/N	Number of times	Yes (Percent)	No (Percent)	Total (Percent)	P –Value
1.	Once a day	11(11%)	89 (89%)	100 (100%)	≤ 0.001
2.	More than once per day	89 (89%)	11 (11%)	100 (100%)	≤ 0.001
3.	Once a month	0 (0%)	100 (100%)	100 (100%)	≤ 0.001
4.	More than once a week in a moth	0 (0%)	100 (100%)	100 (100%)	≤ 0.001
5.	Occasionally in a year	0 (0%)	100 (100%)	100 (100%)	≤ 0.001

*P* ≤ 0.001 shows that the estimation has high statistical significance, therefore valid

**Table 2. Average quantity of consumption**

S/N	Average quantity of Ogogoro taken by respondents daily	Yes (%)	No (%)	Total (%)	P value
1	Less than one small cup of 30mls	0(0%)	100(100%)	100 (100%)	≤ 0.001
2	1 to 2 cups of 30 mls each	7 (7%)	93 (93%)	100 (100%)	≤ 0.001
3.	3 to 4 of 30 mls each	53 (53%)	47 (47%)	100 (100%)	≤ 0.001
4	5 to 6 cups of 30 mls	20 (20%)	80 (80%)	100 (100%)	≤ 0.001
5	More than 6 cups of 30 mls each	20 (20%)	80 (80%)	100 (100%)	≤ 0.001

*P* ≤ 0.001 shows that the estimation has high statistical significance, therefore valid

**Table 3. Time history of consumption**

S/N	How long has Ogogoro been taken?	Yes (%)	No (%)	Total (%)	P-value
1	Less than a month	0(0%)	100 (100%)	100 (100%)	≤ 0.001
2	More than a month but less than a year	4 (4%)	96 (96%)	100 (100%)	≤ 0.001
3.	1 to 2 years	20 (20%)	80 (80%)	100 (100%)	≤ 0.001
4	3 to 4 years	20 (20%)	80 (80%)	100 (100%)	≤ 0.001
5	More than 4 years	56(56%)	44(44%)	100 (100%)	≤ 0.001

*P* ≤ 0.001 shows that the estimation has high statistical significance, therefore should be accepted

**Table 4. Why respondents drink Ogogoro**

S/N.	Reason	Yes (%)	No (%)	Total (%)	P- value
1.	To overcome worries	12 (12%)	88 (88%)	100 (100%)	≤ 0.001
2.	To oblige uncontrolled cravings	88 (88%)	12 (12%)	100 (100%)	≤ 0.001
3.	At social events	0 (0%)	100 (100%)	100 (100%)	≤ 0.001
4.	To be smart and good at work	0 (0%)	100 (100%)	100 (100%)	≤ 0.001
5.	To accompany medication	0 (0%)	100 (100%)	100 (100%)	≤ 0.001

*P* ≤ 0.001 shows that the estimation has high statistical significance, therefore should be accepted

### 3.4 The Reasons for Consuming Ogogoro is Presented

A large percentage of 88% indicated they consumed Ogogoro because they would want to oblige cravings that have become uncontrollable for them, while 12% of the respondents consumes to overcome worries.

### 3.5 The Feeling Derived from Consuming Ogogoro is Presented

From the analysis in Fig. 1, the commonest feelings were the 'feel on top of the world' category, which is often called 'feeling high' at 76%. Followed by the indescribable feeling they derive from Ogogoro at 12%. This means that

most of the respondents do not know how to explain the effect of the local gin on the state of their psycho-social being. Only 2% of the respondents indicated that consumption makes them feel sick, but they would still take it more

than once every day. This could also be related to being relieved from burden which had 8% from the analysis as some of the respondent's consumes Ogogoro to take away some heavy thoughts from their minds for the time being.

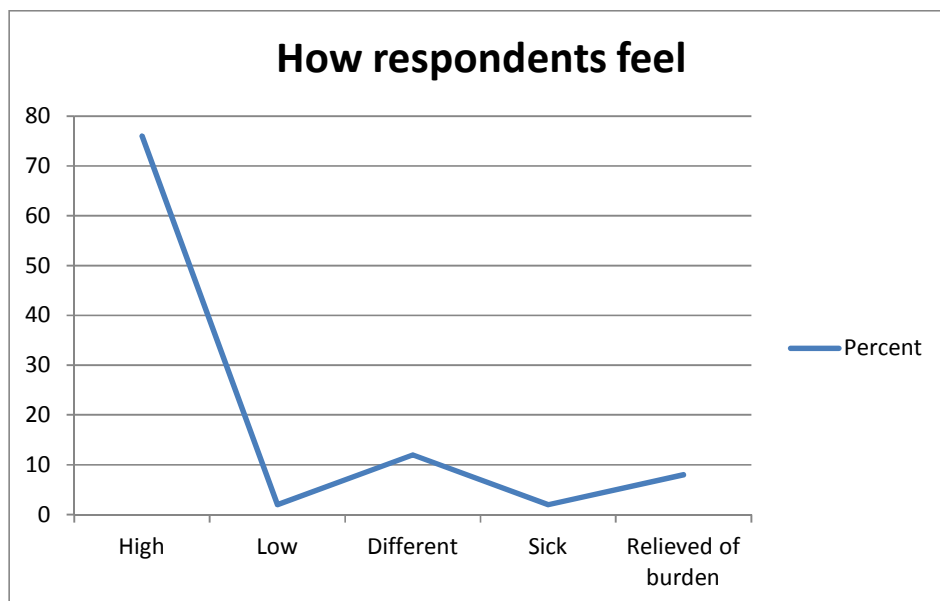


Fig. 1. How respondents feel after taking kaikai

Table 5. Family, Social and Secular implications of taking local gin

S/N	Family, social and Secular implications of taking kaikai	Yes (Percent)	No (Percent)	Total (Percent)	P value
1	Divorce	0 (0%)	100 (100%)	100 (100%)	≤ 0.001
2	Loss of friends	12 (12%)	88 (88%)	100 (100%)	≤ 0.001
3.	Quarrel with people	88 (88%)	12 (12%)	100 (100%)	≤ 0.001
4	Fought with people	11 (11%)	89 (89%)	100 (100%)	≤ 0.001
5	Poor physical appearance	91 (91%)	9 (9%)	100 (100%)	≤ 0.001
6	Belongs to a clique of drunkards	94 (94%)	6(6%)	100 (100%)	≤ 0.001
7	Arrested by police	0 (0%)	100 (100%)	100 (100%)	≤ 0.001
8.	Report late to work	12 (12%)	88 (88%)	100 (100%)	≤ 0.001
9.	Poor job performance	24 (24%)	76 (76%)	100 (100%)	≤ 0.001
10.	Troubles at work	12 (12%)	88 (88%)	100 (100%)	≤ 0.001
11.	Loss of job	4 (4%)	96 (96%)	100 (100%)	≤ 0.001
12.	Compulsive drinking during work	4 (4%)	96 (96%)	100 (100%)	≤ 0.001
13.	Always broke	94 (94%)	6 (6%)	100 (100%)	≤ 0.001
14.	People see you to be a drunkard	94 (94%)	6 (6%)	100 (100%)	≤ 0.001
15.	Public nuisance	67 (67%)	33 (33%)	100 (100%)	≤ 0.001

*P* ≤ 0.001 shows that the estimation has high statistical significance, therefore valid

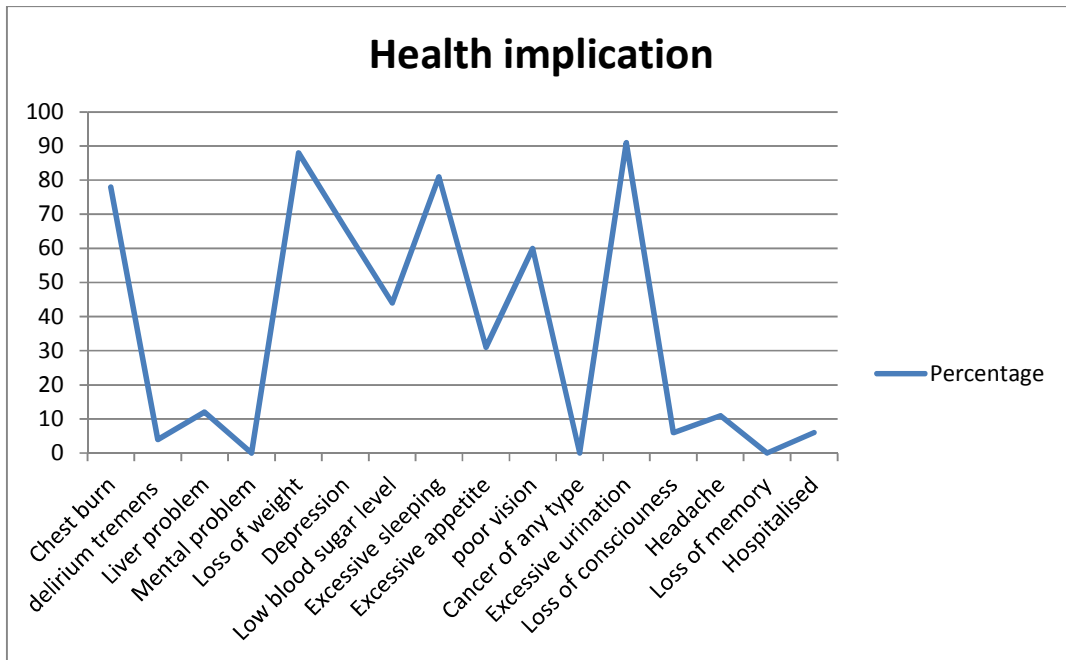


Fig. 2. Health effects of prolonged consumption of Ogogoro

### 3.6 Health Effects Experienced by Consumers are Presented

Majority of the respondents indicated that the commonest health effect is excessive urination with 91%. Also, 81 % of the respondents experienced excessive appetitive for food after drinking Ogogoro. 78% of respondents experienced chest burn after consuming Ogogoro. Only 4% reported delirium tremens (severe shaking) resulting from drinking the local gin implying that 96% which is a majority percentage do not suffer from severe shaking. Also 94% said that they had not been hospitalized as a result of drinking kaikai.

### 3.7 Family, Social and Secular Effects are Presented

High affirmative responses were obtained for being financially broke (94%), stigmatized as a drunkard (94%), belongs to a clique of drunkards, seen as a public nuisance, poorly physical appearance and quarrelsome with people. There was, however, low affirmative responses to on-the-job questions such late resumption to work (12%), poor job performance (24%), trouble at work (12%), loss of job (4%), compulsive drinking during work (4%), police arrest, fighting with people, loss of friend and divorce.

## 4. DISCUSSION

In Table 1, result shows that Ogogoro is consumed every day by majority of respondents with a high percentage more than once a day at different proportions [3]. Study by Lu et al., revealed that one of the causes of high alcohol intake is early exposure to alcohol consumption [4]. According to the authors, a society that allows children access to alcohol at earlier age to the point of intoxication, has higher chances of producing moderate and heavy drinkers. This is because of the higher presence of persons that model people growth behavior towards high alcohol intake. Nevertheless, Jeffery argued that there is no causative factor for alcoholism, yet there are multiple risk factors that influence addiction to alcohol which differently influence individual's alcohol behaviours leading to the existence of alcohol-related disorders in one person and the absence of alcohol disorder in another person [5]. He also noted that the influencing factors could be categorized into external and internal factors. Socio-cultural norms, level of education, employment level, family condition, religious background, individual's age and surrounding environment are the external influencing factors of alcoholism. While genetic components, individual choice, psychology and personality considerations are the internal factors that influence drinking rate of

alcohol. Relatedly, most respondents could be regarded as heavy drinkers (see Table 2), because they consume more than 5 cups of the 30 mls volume more than once a day [6]. Rehm et al also said that when alcohol consumption is not infrequent or not occasional and more than once in a week, the drinker could be regarded as at a harmful, heavy level of drinking [7]. Heavy drinkers of alcohol could be related to how long they have been involved in drinking, turning to addiction, which could have effect on the health [8,9].

Furthermore, majority of the respondents have been consuming at the frequency noted above for more than 4 years (see Table 3) for different reasons (see Table 4), which could be regarded as addiction as corroborated by Ciubara et al [10]. It is a dysfunctional pattern that has an undeniable impact on the overall functionality of the victim. Thus addiction could be responsible for the heavy drinking of the Ogogoro reported in the year categories of 1 - 2 years and 3 - 4 years, buttressing the fact that most of the respondents are habitual Ogogoro consumers and could be an addictive influence on their daily living which raises question on why they drink the local gin [10]. Ciubara, et al. posited as part of criteria for categorizing addiction to include persistent desire, continued drinking despite deficiency both relational and professional [10].

Addiction to Ogogoro brings the individual into an abnormal state, which was assessed in this study (see Fig. 1). Feelings from Ogogoro consumption differs with an individual, social, health and financial level, which usually makes people feel happy only at a specific time [11]. Feelings from Ogogoro were highlighted for analysis as 'feel on top of the world', 'feel depressed', 'feel different', 'feel sick' and 'feel relieved of burden'. Following the 'urge to feel high', is the indescribable feeling consumers derive from Ogogoro. This means that most of the respondents do not know how to explain the effect of Ogogoro on the state of their psycho-social being but surely not how they would feel if they had not taken the gin [12]. Only 2% of the respondents indicated that consuming Ogogoro makes them feel sick but they would still take it more than once every day. This exemplifies the addiction capacity of the gin as revealed in the earlier analysis and could have impact on their health and despite the unimaginable danger it poses, people still engage in it [13,6].

Idonije et al and Alshammari had earlier identified problems associated with alcoholism to

include mental problems, job trouble, amnesia, frequent blackouts, loss of control which has led to social ills and vices and political violence [14,11]. Health problems identified in this study include chest burn, delirium tremens, liver problem, mental problem, loss of weight, depression, low blood sugar level, excessive sleeping, excessive appetite, poor vision, cancer of any type, excessive urination, loss of consciousness, headache, and loss of memory. These health effects are not exclusive of one another, as an individual could exhibit more than one of these health problems at a time. From the analysis in Fig. 2, all the respondents indicated that they have never suffered mental problem, loss of memory and cancer of any type. This might not be unrelated to the fact that some of the respondents do not know their health condition as majority seldom go for medical checkup and even when a psychiatric issue such as mental problem and loss of memory are setting in, they might not know and they could assume themselves as normal [15]. Also, some cancer issue might not be detected early enough and when medical examination is not carried out, the individual might not be aware of the medical condition [8]. Majority of the respondents indicated that the commonest health effects is excessive urination as evidenced by the presence of unsanitary and makeshift urinary in the local bars [16]. Also, 81% of the respondents indicated that they experience excessive appetitive for food after consuming Ogogoro. Yeoman had earlier noted that the mechanism determining alcohol ability to stimulate hunger at short-term has not been verified by research [17]. However, this can be attributed to individual differences in genetic composition and physiological makeup that drives different alcoholic behaviours in people. 78% of respondent had Chest burns which reinforces findings of Piano that alcohol intake complicates health condition of the cardiovascular system thereby leading to chest burns, heart-related diseases like cardiomyopathy, hypertension, stroke, among other that are capable of leading drinkers to complex health conditions and sudden death [18]. Only 4% reported delirium tremens (severe shaking) implying that 96% which is a majority percentage do not suffer from severe shaking. This can be attributed to the near absence of regular medical check practices among the respondents as difference studies have revealed that high intake of alcohol leads to stroke which is symptomized with body shakes. Also, McIntosh and Chick identified close relationship between high intake of alcohol and

seizure [19]. The authors revealed that there are higher dangers of epileptic seizure among the heavy drinkers which also manifest during alcohol drinking withdrawal period. They noted that this can gradually manifest from structural changes in the brain which weakens the brain functions.

Ogogoro consumption and by extension other local gin have been linked to some family, social, secular misnomer. This study examined the effect of drinking Ogogoro under the following situation; divorce, loss of friends, quarrel with people, fought with people, poor physical appearance, belonging to a clique of drunkards, arrested by the police, reporting late to work, always broke, people seeing them as drunkard and causing public nuisance (see Table 5). From the analysis, none of the respondents indicated that consumption caused led to divorce in their marriage. This could be due to bias which might have caused respondents to be secretive on their family matter or being defensive on the cause of their marital mishaps and wouldn't want to take responsibility for it [12]. Notably, result showed low affirmative responses on impact of Ogogoro consumption on their job. These include, late resumption to work, job underperformance, issues at work, loss of employment and compulsive consumption during work. This might be since majority of Ogogoro consumers are unemployed, under employed or operating personal business. This makes them not to feel responsible to any job and they could spend as much time as they desire at the 'drinking joints' which reflects the society [20,8]. Notable is the fact that all the respondents indicated that they have not been arrested by the police but the 88% response of having quarreled with people, 11% of fighting with people brings an antithesis to the fact that they have not been arrested by the police as a result of drinking the local gin however, some previous studies had associated aggressiveness that could lead to criminal acts with drinking gin [14,12]. It might however be because they preferred to protect their criminal record from the researcher.

## 5. CONCLUSION

This study analyzed the pattern and health effects of local gin (Ogogoro) consumption in Rivers State of Nigeria. The result showed that majority of respondents consumes Ogogoro more than once every day for an average of 3 years; the quantity consumed is usually 5 to 6 cups of 30mls which placed them in the category

of heavy drinkers as shown in previous studies; most consumers indulge in it to satisfy cravings due to addiction over the years; the common health effects are chest burns, loss of weight, excessive urination and excessive sweating; the social, family and secular consequences are quarrelling and fighting with people, belonging to a clique of friends and compulsive drinking. It is recommended that public advocacy and sensitization should be increased in order to educate the populace the downside of addiction to alcohol; provision of counselling and rehabilitation services to addicted consumers; philanthropists on health-related matters should organize regular medical examination for consumers to know their health status; there should be societal reorientation on standard of responsibility of individuals, creating special incentive for not indulging in excessive and compulsive consumers. The strength of this research lies in the high response rate (100%) by the participants. This afforded the study ample sources of critical information and opinion that strengthened its internal validity. Future research might investigate the relationship between the consumers opinion in this study and the physico-chemical constituents of Ogogoro in the body tissues of consumers.

## 6. LIMITATIONS

The potential for selection bias by the author and respondent bias by the participants constitutes a limitation. Respondent bias potentially occurs in the attempt to conceal sensitive opinion their consumption pattern and health effects. Participant might have covert and latent morbidities that were undiagnosed before the study but became obvious as health effects during the study. Selection bias, however, was mitigated by involvement of dealers and drinking joint (local club) dealers during recruitment of participants as they personally know their customers.

## CONSENT

Respondents were given adequate information about the study before obtaining informed written consent.

## ETHICAL APPROVAL

This study approved by research advisory Committee of the Department of Pharmacology at the University of Port Harcourt, Rivers State, Nigeria.

## COMPETING INTERESTS

Author has declared that there is no competing interest.

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