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# Miraa Use Among Somali Youth Living in Eastleigh, Nairobi Kenya

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**Abstract:** Eastleigh is a suburb in Nairobi inhabited predominantly by Somalis and known for a number of activities that includes businesses, stop over of youth people from the western world on their way to Somalia or to learn the culture and get spouses. Miraa use has been associated with the Somali community. The area of study was chosen as Section 1 from the four Sections that approximately hold 9408 households. 270 households were selected with at least one youth aged between 18-25 years of age. We gave our own developed questionnaire that asked about demographic characteristics and patterns of miraa use to consenting participants. Descriptive analysis was done based on the demographic characteristics. We found that miraa use was high (47.9%) and was more prevalent among the males, those with lower educational level, the single (including the divorced and separated) and those born out of Eastleigh. We also found that miraa use was more prevalent among those whose parents were not married, living alone, with friends, relatives, parents and relatives, the unemployed, those running businesses, the self-employed and those whose families had lower income. Miraa onset was more likely at 18 years or below and was used with other psychoactive substances that include amphetamines, cannabis, heroin, cocaine, shisha, tobacco products and alcoholic beverages. A larger study should be done in this area that includes all the other sections as well. This study advises on targeting prevention of miraa use to youth younger than 18 years.

**Keywords:** Miraa, Khat, Somali Youth

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## 1. Introduction

Miraa also known as khat (*Catha edulis*) is an evergreen plant that grows in Kenya mainly in the Meru region and Ethiopia in Africa. It is an indigenous plant to both Ethiopia and Yemen although now spread to other East African Countries that include Kenya. This plant has been used for many centuries as a mild psycho-stimulant, [1]. The stimulating effect comes from the alkaloid cathinone, that has similar chemical effects to amphetamine, [2]. This stimulating effect is associated with poor sleep among users, among College students in Ethiopia [3]. The fresh twigs with leaves are harvested and chewed or used as a tea. In Kenya, miraa is distinguished to be miraa and muguka, but this study will call all of them miraa.

### 1.1. Effects of Miraa

Miraa use has been associated with being male, Muslim, and having multiple sexual partners, [4-8]. Miraa has been reported to have lots of mental health effects on humans that include inducing psychotic symptoms, depression, dependence increase sleep and negative mood disturbances, higher levels of distress to likely induce memory deficits, and cognitive flexibility, “[9-14]”. In addition, miraa use has been seen to increase physical health problems that include gastrointestinal disorders, high blood pressure, heart failure, autoimmune hepatitis, poor health among those living with HIV/AIDS, poor physical health problems, low birth weight among pregnant women, *H. pylori* infection, and under nutrition, “[15-22]”. All the above lead to increased financial problems, poor academic functioning and poorer quality of life, [23].

Furthermore, miraa use has been seen to be used with other psychoactive substances, that include tobacco, alcohol, and other psychoactive substances, “[4, 19, 24-25]”. Those living with HIV/AIDS and taking ARVs are more likely not to adhere to medication, [4].

### **1.2. Importance of Prevalence of Miraa Use among Somali Youth**

The National Authority for the Campaign Against Alcohol and Drug Abuse, (NACADA), in a rapid situation assessment of the status of drug and substance abuse in Kenya, 2012, [reported that the youth (10-14 years of age) are highly aware of miraa (87.5%) in Nairobi compared to those of the country, (78.5%). The same report indicates a 7.2% upresent use in Nairobi, compared to 4.2% use in the country. In addition miraa use has been reported

Eastleigh is a suburb in Nairobi that was founded in 1921 originally to accommodate the Asian Community created by the colonial government, till independence in 1963. Today, mostly the Somali immigrants, except a few indigenous residents and other immigrants from Ethiopia and Eritrea dominate Eastleigh. The Somali Community engages in businesses that range from small stalls to large shopping malls and night lodges. A number of Somali immigrants from the Western World have a stopover in Eastleigh as they go to Somalia, or young people send to live with other relatives and learn the culture or get spouses in Eastleigh from arranged marriages.

British-Somali young men have been reported to use miraa that offers them a sense of cultural identity and belonging that is done in great secrecy and for leisure practices, [26]. A study among Somali refugees living in Nairobi indicated a high level of Post Traumatic Stress Disorder (PTSD) symptoms among those who frequently used miraa, [27].

## **2. Methodology**

### **2.1. Study Area and Population**

This study was done in Eastleigh suburb in Nairobi city of Nairobi among Somali Community youth, between the ages of 18-25 years.

### **2.2. Study Design and Sampling**

This study is exploratory cross-sectional survey study, which is part of a larger study namely “Prevalence and Patterns of Psychoactive Substance Use and its Associated Demographic Characteristics among Somali Community Youth Living in Eastleigh, Nairobi Kenya”. Out of the estimated 9408 households, 270 households were sampled to identify at least one youth in each household.

### **2.3. Ethical Considerations**

The Kenya Methodist University Research Ethics Committee, which sets forth research ethics concerning individual’s personal data, approved this study. With this

approval, we sought clearance from the Ministry of Education, the research Department before data collection. We also met the Nairobi Provincial Administration, to inform them of the purpose, plan and implication of the study, before asking them in planning data collection.

The participants were met in their households, explained the purpose, plan and implications of the study before asking for their verbal consent. We presented a cover letter to explain the purpose, plan and implications of the study. It was also explained to them that their identity would be kept confidential as no names or numbers would be put in the questionnaires and the results. They will also be informed that participating is voluntary, with no payment, and they can discontinue at any stage of the study, without any penalty.

The questionnaire was pre-tested in Laini Saba, Kibera suburb in Nairobi to determine validity and reliability and the pre-test data was analyzed to determine practicability.

### **2.4. Data Management**

Researcher-developed questionnaire was used to interview the participants while at their homes with the use of research assistants who were very conversant with the area. This questionnaire asked the participants on their demographic characteristics, use of miraa and other psychoactive substances, and pattern of use in the last 12 months. Collected data was cleaned, coded accordingly before entry into SPSS template builder and both descriptive and inferential statistics were performed

## **3. Results**

### **3.1. Introduction**

This study sought to determine miraa use among Somali youth between the ages of 18-25 years of age in Eastleigh a suburb of Nairobi, Kenya. The prevalence of use based on socio-demographic and socio-economic characteristics, comorbidity with other psychoactive substances, and age of onset.

### **3.2. Participants Characteristics**

Most of the participants were between ages, 24-25, (33.8%) followed ages 18-19, (24.4%), then by ages 22-23, (23.9%), then the least were those of ages 20-21 who were 17.8%. The majority was male, at 58.2%. The singles were 65.7%, the married were 25.8% while the separated were 1.9%. 37.6% reported to have secondary education as the highest level of education, while 24.45 had primary and below education; while those with diploma were 15.5%; those with certificate training were 12.2% while those in middle colleges were 7.0% and the post graduate and undergraduate level of education were 2.3% and 0.9% respectively.

The majority (42.7%), were unemployed while 23.9% reported they were students and 18.8% were employed, the self-employed and those engaged in business were 9.4% and

5.2% respectively. Most reported to live with parents, (34.7%), while 12.2% live with other relatives, 10.3% live alone while 9.9% live with parents and other relatives and 8.0% live with friends. The majority 70.9% reported to have moderate family income. 67.1% had married parents; while 56.8% reported do have been born in Eastleigh.

### 3.3. Prevalence of Miraa Use

*Table 1. Shows the Prevalence of Miraa Use.*

	No.	Percentage
Prevalence of Khat (Miraa)	102	47.9%

47.9% participants used miraa

#### 3.3.1. Prevalence of Miraa Use Per Socio-Demographic Characteristics

*Table 2. Prevalence of Miraa Use based on Socio-demographic characteristics.*

Socio-Demographic Characteristics	Khat (Miraa)		
	n	%	
Age	18-19	21	40.4%
	20-21	20	52.6%
	22-23	26	51.0%
	24-25	35	48.6%
Gender	Male	69	55.6%
	Female	32	36.4%
Highest level of education completed	Primary and Below	36	69.2%
	Secondary Education	36	45.0%
	Middle College Education	8	53.3%
	Certificate	10	38.5%
	Diploma	11	33.3%
Marital status	Undergraduate Education	1	14.3%
	Married	14	25.5%
	Single	75	53.6%
	Divorced	10	76.9%
	Separated	2	50.0%
Born in Eastleigh	Widowed	0	0.0%
	Other	1	100.0%
	No	49	53.3%
	Yes	53	43.8%

Based on age, miraa use was high among those of 20-21 years, (52.6%), followed by those of 22-23 years, (51.9%), then 24-25 years, (48.6%), and lowest among those of 18-19 years, (48.6%). The males had a higher miraa use of 55.6% compared to the females that reported a lower use of 36.4%. Highest use of miraa was indicated among those of primary and below educational level, (69.2%), and middle college

education, (53.3%), compared to a lower use of 14.3% among the undergraduate level of education. Higher use was reported among the divorced, (76.9%), the singles, (53.6%) and the separated, (50.0%), compared to the married, (25.5%), and the widowed, (0.00%). Those born out of Eastleigh reported a higher miraa use of 53.3% compared to those born in Eastleigh, (43.8%).

#### 3.3.2. Miraa use Based on Socio-Economic Characteristics

*Table 3. Miraa use based on Socio-Economic Characteristics.*

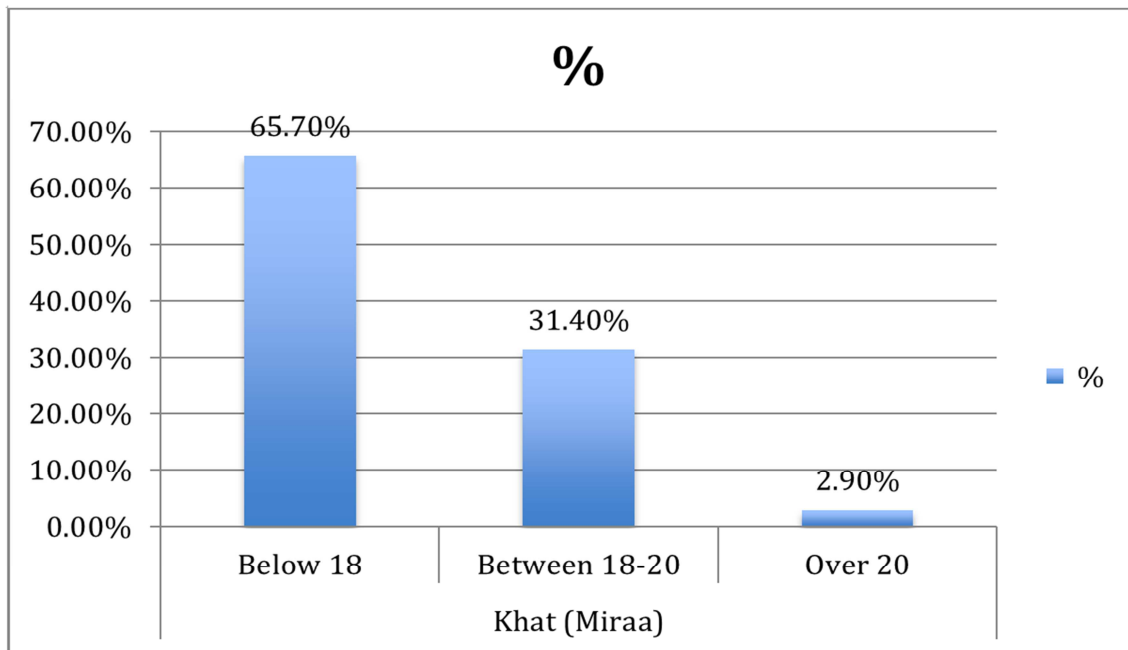
	Khat (Miraa)		
	n	%	
Parents married	No	43	61.43%
	Yes	59	41.26%
Occupation	Self employed	9	45.00%
	Business	6	54.55%
	Employed	13	32.50%
	Unemployed	63	69.23%
Living Conditions	Student	11	21.57%
	I live with my parents	29	39.19%

	Khat (Miraa)	
	n	%
I live with relatives	12	46.15%
I live with friends	12	70.59%
I live alone	16	72.73%
I live with parents and other relatives	9	42.86%
I live with spouse/partner	11	27.50%
Other	13	100.00%
Very High	0	0.00%
High	6	37.50%
Moderate	63	41.72%
Low	18	64.29%
Very Low	10	90.91%
I do not know	5	100.00%

Participants whose parents were not married indicated a higher miraa use compared to those whose parents were married, 41.26%. Based on occupation, higher miraa use was reported among the unemployed, (69.23%), those in business, 54.55%, the self-employed, 45.00%, compared to a lower use among the employed, (32.50%) and students, 21.5%. Higher use was found among participants living alone, (72.73%), living with friends, (70.59%), compared to a

lower use of those living with relatives, 46.15%, those living with parents and relatives, (42.86%), those living with their parents, (39.19%) and those living with spouse/partner, (27.50%). Based on family income, miraa use was higher among those who did not know, (100%), very low income, (90.91%), low income, 64.29%, compared to a lower use among those with moderate income, (41.72%), high income, (37.50%) and very high income, (0.00%).

#### 3.4. Age Onset of Miraa Use



Age onset of miraa use was higher at 18 years and below (65.7%), compared to 19-23 years, (31.40%) and over 23 years of age, (2.9%)

Figure 1. Miraa use age of onset.

3.5. Comorbidity of Miraa Use and Other Psychoactive Substances

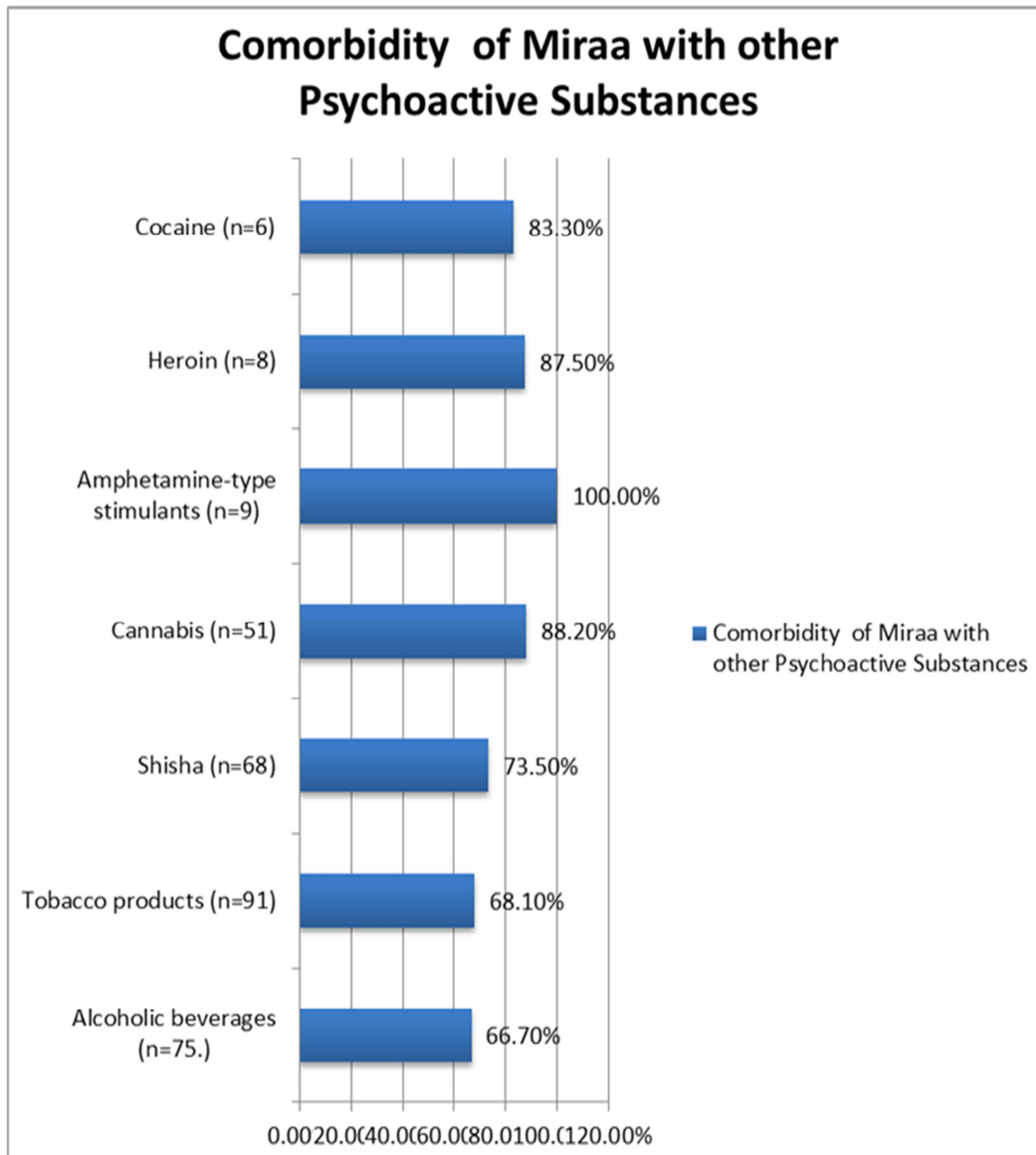


Figure 2. Comorbidity of Miraa use With Other Psychoactive Substances.

Miraa use was used with other psychoactive substances that included, amphetamines, (100.00%), cannabis, (88.20%), Heroin, 87.5%, cocaine, (83.30%) shisha, (73.50%), tobacco products, (68.10%), and alcoholic beverages, (66.7%).

4. Discussion

4.1. Introduction

This study aimed at determining miraa use among Somali youth between the ages of 18-25 years living in Eastleigh, a Nairobi suburb based on demographic characteristics, family social-economic characteristics, the age of onset and comorbidity with other psychoactive substances in the last one year.

4.2. Prevalence of Miraa Use

This study found a high prevalence of miraa use of 47.9%. This is similar to other studies, among Australian youth immigrants from Africa, 44.2%, [20], among individuals in the USA, 35%, [24] but lower than those reported by patients entering HIV treatment in Ethiopia, 65% “[19-20, 24]”. This findings is higher than that found among university students of Gonder in North West Ethiopia, that recorded 16.4%, that indicated by Kassim et

al, 2015, among tobacco users that showed 16-30% use, and that of people in contact with HIV services in South West Ethiopia, 23.0%, “[4, 28-29]”.

#### **4.3. Prevalence of Miraa Use Per Socio-Demographic Characteristics**

This study found that those between the ages of 20-21, 22-23 and 24-24 had a higher miraa use of 52.5%, 51.0% and 48.6% respectively compared to those of 18-19 years of age, which recorded a 40.4%. We did not find any study to compare with, but we attributed this gradual increase to the idea that most miraa users begin to use at an early age and increase use of time. This study reported a higher miraa use of 55.6% among male compared to females, 36.4%. This is similar to other studies, “[4, 28]”.

We found that miraa use was more prevalent among participants who had primary and below education, (69.2%), middle college education, (53.3%), secondary education, (45.0%) and certificate education, (38.5%), compared to a lower use among diploma education (33.3%) and undergraduate education (14.3%). This is similar to other studies; Kinoti et al, 2011 reported the higher level of education was associated with less miraa use among a rural population in Kenya, [30]. In addition, Chege et al, 2017 have also reported a lower educational level to be associated with higher psychoactive substance use among youth receiving rehabilitation treatment in Mombasa in Kenya, [31].

We found that the divorced and those who are single had a higher miraa use of 76.9% and 53.6% respectively; compared to the married, who indicated a lower use 25.5%. This is partly similar to findings of Mihretu et al, 2017 in an expletory study among individuals using miraa in Ethiopia, [25]. They reported that those who were single had higher miraa use of 69.6% compared to the married, 23.5%, but the divorced had a much lower use of 5.9%. However, a study in Saudi Arabia, reported a higher miraa use among the married at 60.8% compared to the single at 32.6%, [32]. This finding is similar to what was reported among patients entering an HIV treatment program in Ethiopia, [19].

This study found a higher miraa use among participants who were born out of Eastleigh, of 53.3% meaning they could have migrated to this area compared to those born in Eastleigh, (43.8%). This is similar to other studies, that indicated that miraa use among immigrants from Eastern Africa and the Middle East to the Western world had higher miraa use, [17]. The same was also pointed by Young et al, 2016 among youth immigrants from Africa in Australia, [20].

We found that participants whose parents are married had a lower miraa use of 41.26% compared to those whose parents were unmarried, 61.43%. We did not find any study on the prevalence of miraa use and parents marital status; however, Kassa et al, 2014 pointed out that family substance use history increased miraa use among Hawassa University students in Ethiopia, [33].

#### **4.4. Prevalence of Miraa Use and Socio-Economic Characteristics**

This study indicated that participants who were unemployed, held a business, and self-employed had a higher miraa use of 69.23%, 54.55% and 45.00% respectively compared to a lower use among the employed, and the students of 32.50% and 21.57% respectively, [19]. This is similar to other studies, Lifson et al, 2017 reported a high miraa use among the unemployed at 60%. However, Haile & Lakew, 2015 also indicated a higher miraa use among those with occupations that includes sales, agriculture, service sector and manual work to have a higher miraa use compared to those with no occupation, [6].

We found that participants with a higher miraa use were those who lived alone, with friends, relatives, parents and relatives of 72.73%, 70.59%, 46.15% and 42.86% respectively compared to those who lived with parents and students at 39.19% and 27.50% respectively. This finding is similar to other findings; Kassa et al, 2014 reported higher use when living alone, while Duresso et al, 2016 reported a high use when living with relatives and Adane et al, 2017 and Duresso et al 2017 found a higher use when living with friends, “[23, 28, 33]”. We found that those with low, very low, and moderate family income, used miraa more than those with high and very high family income. This is similar to findings among university students in Central Ethiopia, Gebremariam et al, 2018, [34].

#### **4.5. Age of Onset of Miraa Use**

Age onset of miraa use was higher at 18 years and below (65.7%), compared to 19-23 years, (31.40%) and over 23 years of age, (2.9%). This is similar to other findings; Lifson et al 2017 indicated an early onset of miraa use to be below 19 years at 54% among patients entering HIV treatment in Ethiopia, [19]. In addition, another study in Ethiopia indicated that about a half (49.0%) of miraa users started to use before the age of 10 years, [25].

#### **4.6. Comorbidity of Miraa Use and Other Psychoactive Substances**

This study found that miraa use is comorbid with other psychoactive substances that include amphetamines, (100%), cannabis, (88.20%), Heroin, 87.5%, cocaine, (83.30%) shisha, (73.50%), tobacco products, (68.10%), and alcoholic beverages, (66.7%). This is similar with other studies, miraa is used with cigarette smoking, “[4, 19, 28-29]”. Miraa has also been found to be used with alcohol in other studies, [19, 28].

## **5. Conclusion**

There is high prevalence of miraa use among these participants, which is associated with being male, having a lower educational level, being single, and being born out of Eastleigh. Miraa use is further associated with living conditions of living alone, living with friends, living with

relatives, living with parents and relatives. Miraa use is associated with being unemployed, those with businesses and the self-employed and those whose families have a lower income. Miraa use onset is mainly at 18 years and below and associated with the use of other psychoactive substances that include amphetamines, cannabis, heroin, cocaine, shisha, tobacco products and alcoholic beverages.

## 6. Recommendations

Parents with young people in Eastleigh should monitor them closely in order to reduce onset of miraa and other psychoactive substances. Policy makers and implementers should target youth younger than 18 years of age to prevent miraa use spread among the youth in Eastleigh. Other researchers should identify other factors associated with miraa use especially other psychoactive substances to determine which substance is used before the others.

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