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Perception of Herbal Medicine in the Management of Ocular Hypertension: A Case Study of Egor Local Government Area, Edo State

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Abstract

Traditional medicine is "the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures. This study was to determine the perception of preference for traditional medicine to modern medicine in the management of ocular problems amongst adults aged between 18-80 years, in Egor local government area, Benin city. A cross-sectional study was conducted on adults residing in Egor local government area, Benin city with the use of an interview-based questionnaire. The results of this study showed that 39 representing 16.9% of the respondents in the study population used traditional medicine while 180 representing 77.9% without the use of traditional medicine. However, there was no statistically difference between the socio-demographic variables and the use of traditional eye medicines (P>0.05). In conclusion, this study will help clinicians to gain knowledge on the reasons for preference of traditional medicine to orthodox medicine in the treatment of eye problems. It would enable Eye care practitioners increase advocacy on the possible consequences of their choices in order to help the people make informed decisions. It is therefore recommended there should be public enlightenment on the possibility of adverse effects in traditional medicine for the management of ocular problems.

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Keywords: Herbal Medicine, Modern Medicine, Ocular Problem, Egor Local, Edo State

INTRODUCTION

Indigenous populations around the world have a long history of using traditional medical systems, which include all forms of folk medicine, unconventional medicine, and healing modalities that have been passed down through tradition within a community or ethnic group (Ebeigbe, 2013; Temitayo et al., 2021). It typically involves the use of locally produced plant medicines, animal parts, and minerals that are used to treat a variety of medical issues with different causes. The therapeutic benefits of CAM are enhanced by practices that include both the mind and body (Balcha et al., 2014). Despite the common misconception that herbs are "natural" and therefore safe, a wide range of side effects have been documented due to active substances, pollutants, or drug interactions (Kassaye et al., 2007; Thorsen and Pouliot, 2016).

In Nigerian folk medicine, *Rauwolfia vomitoria* (Afzel) and *Ocimum gratissimum* L. are used to treat hypertension, stroke, sleeplessness, and convulsions, respectively (Bannerman et al., 1980). Pure honey treated infected wounds more quickly than eusol; dried seeds of *Carica papaya* L. are effective in treating intestinal parasitosis; and the analgesic and inflammatory effects of Garcinia kola (Gupta et al*.,* 2017; Samson et al., 2021). Urinary tract infections that are resistant to conventional antibiotics can be treated with the seeds of *Citrus parasidi*, Macfad, Aloe vera mill gel is just as effective as benzyl benzoate in the treatment of scabies, and heckel is known to increase its use in the treatment of osteoarthritis (WHO, 2005; Bandaranayake, 2006). Similarly, traditional birth attendants (TBA) in South Africa use plant extracts with muscle-relaxing qualities. The rise in popularity of medicinal herbs and other procedures including bone settings, manual manipulations, massage therapies, and phytomedicines may be attributed to the rising cost of healthcare and Nigerians' inability to access to mainstream therapies (Shih et al., 2012; Marmot, 2005, Carvalho et al., 2009). Despite being widely disseminated in other areas of the world, medicinal plants are widely grown in Nigeria due to its lush vegetation. The indigenous inhabitants of Nigeria employ herbal remedies made from decoctions of these plants' aerial sections (Pankhurst, 1996; Bantupalli et al., 2012; Okoli et al., 2016).

MATERIALS AND METHODS

Research Design and Material

A cross-sectional survey study design was adopted for this study. It involved obtaining different variables from a single population.

Sampling Technique

Convenient sampling technique was used for the selection of participants based on their meeting up with the inclusion criteria and the willingness to participate in the study.

Study Population, Location and Duration

The study consisted of people within the ages of 18- 20 years who fulfill the inclusion criteria. A total number of 350 patient were seen. The study was conducted in Egor community, a local government area in Benin –city, Edo state, Nigeria with its headquarters in Uselu. The study was carried out within the period of one month.

Sample Size

A sample size of 350 questionnaires were shared but 230 were answered.

Description of Procedure

Ethical clearance obtained from the department research and ethics committee of the department of optometry from the ethics committee of the department of optometry, university of Benin, Benin city in accordance with the tenets of the declaration of Helsinki. All procedure performed on the participants were in line with the public interest and did not inflict harm to them.

Informed consent of all subjects was obtained before any procedure was done on them to ensure their full cooperation. Participants were assured of confidentiality of the data that was collected from them.

Inclusion criteria

The inclusion criteria includes; individuals who gave informed consent to participate in the study, individuals who reside in Egor local government area and individuals who were18 – 80 years of age.

Exclusion criteria

The exclusion criterai are individual who were not between the age of 18 – 80 years of age and individuals who reside outside Egor local government area.

Statistical Analysis

The data collected was analyzed using the statistical package for social sciences (SPSS) version 22.0. Descriptive statistics (frequencies, percentages, mean and standard deviation) was used to summarize the variables. Continuous variables were expressed as the mean ± standard deviation for those that displayed normal distribution. Association between the categorical parameters was analyzed using the Pearson correlation (X2) test. The p-values less than 0.05 was considered statistically significant.

RESULTS

Demographics of the Respondents

Three hundred and fifty structured questionnaires were distributed for this study however two hundred and thirty (230) participants within the age range of 18–80 years from Egor Local Government Area, Edo State, participated in this study. The mean age of the participants is 32.66 ± 15.75.

TABLE 1: Age range among participants

AGE RANGE	MALE	FEQUENCY	FEMALE	FREQUENCY
18 – 36	29	12.6%	123	53.5%
37 – 54	29	12.6%	16	69.6%
55 – 72	22	9.57%	6	2.61%
73 – 80	3	1.31%	2	0.87%
TOTAL	83	36.09%	147	63.91%

TABLE 2: Age range of participants who used traditional eye medicine

AGE RANGE	MALE	FREQUENCY	FEMALE	FREQUENCY
18 – 36	2	5.12%	14	35.9%
37 – 54	5	2.17%	3	7.69%
55 – 72	4	1.74%	6	1.54%
73 – 80	3	1.31%	2	5.12%
TOTAL	14	35.9%	25	64.1%

TABLE 3: Mean Age among Participants

Mean	N	Std. Deviation
32.6565	230	15.74994

The participants had a mean age of 32.66 ± 15.75.

The distribution of gender among participants showed that the majority of the participants were female (147,63.91%). Also, the majority of the respondents were single (113, 57.89%), followed by married (93, 40.43%), divorced (2, 0.87%), widowed (1, 0.81%), and separated (1, 0.81%).

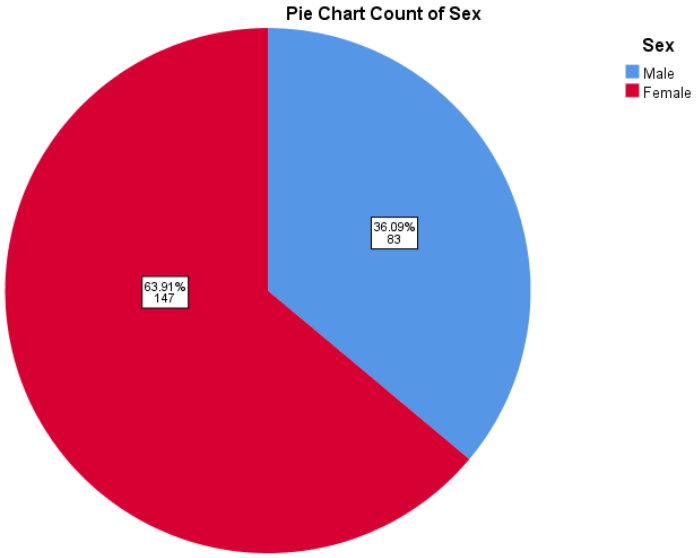

FIGURE 1: showed that majority of the participants (n = 147; 63.91%) were females while 83(36.09%) were males.

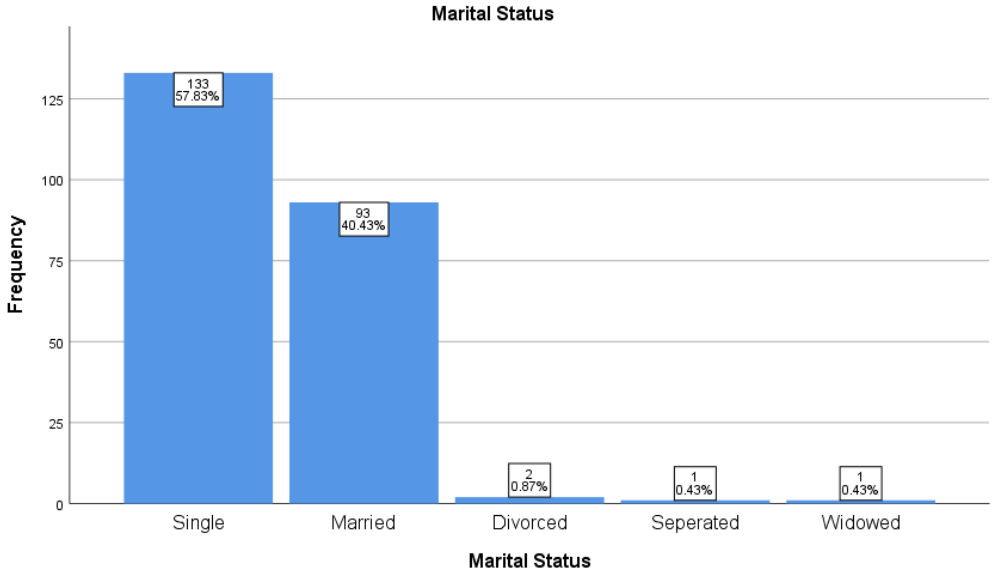

FIGURE 2: Showed that majority of the participants (n = 113; 57.89%) were single, 93(40.43%) were married, 2(0.87%) were divorced, 1(0.87%) was separated while 1(0.43%) was widowed.

The distribution of occupation among participants showed that the majority of the respondents (107, 46.52%) did not indicate their occupation (chose others); this was followed by trading (46, 20%). Also, the number of participants who lived in the urban area was higher (198, 86.09%) than those living in the rural area.

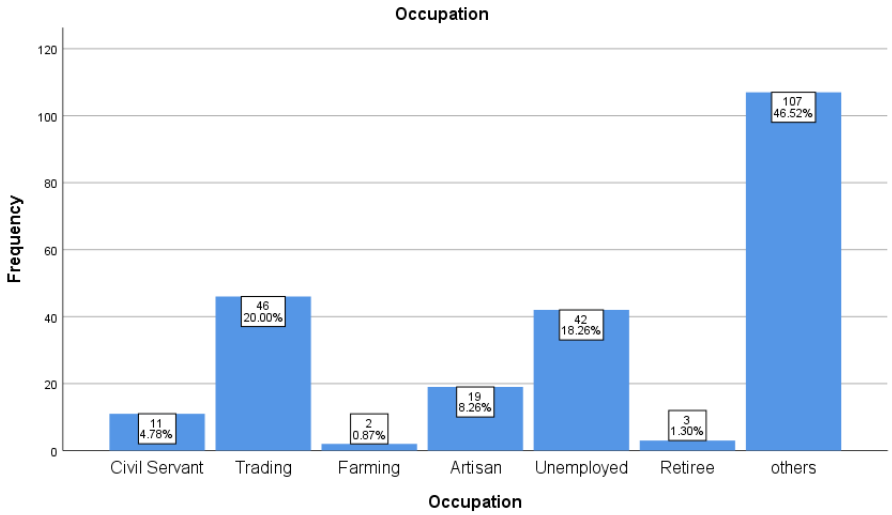

FIGURE 3: showed that most of the participants were traders 46(20.00%), 42(16.26%) were unemployed, 19(8.26%) were artisans, 11(4.78%) were civil servants, 3(1.30%) were retirees while 107(46.52%) had other jobs like keke drivers, students and housewives.

The educational status of the participants revealed that a significant number of participants (128, 55.65%) had completed tertiary education, followed by secondary school level (72, 31.30%).

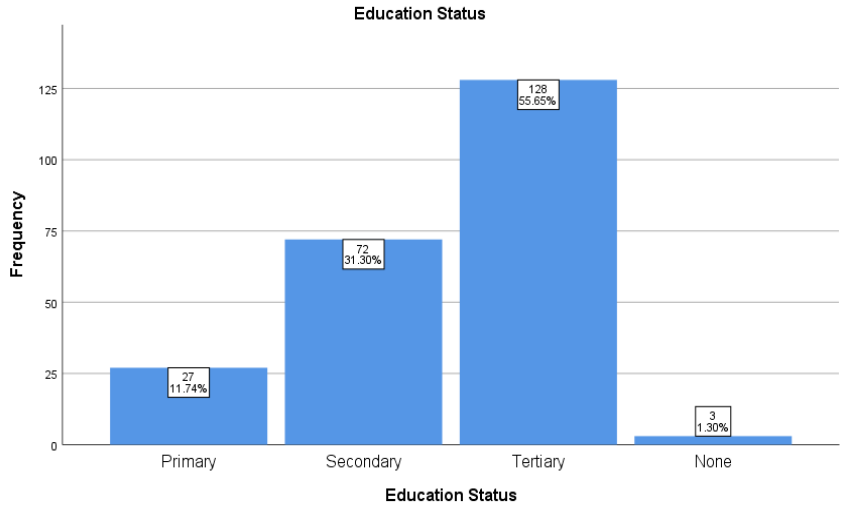

FIGURE 4: showed that a significant number of participants (n = 128; 55.65%) had completed the tertiary level of education, 72(31.30%) had completed secondary level while 27(11.74%) had completed primary education.

The distribution of participants that used traditional eye medicine in this study were 39 in number by which majority were females 25(6.41%) while 14(35.9%) were male.

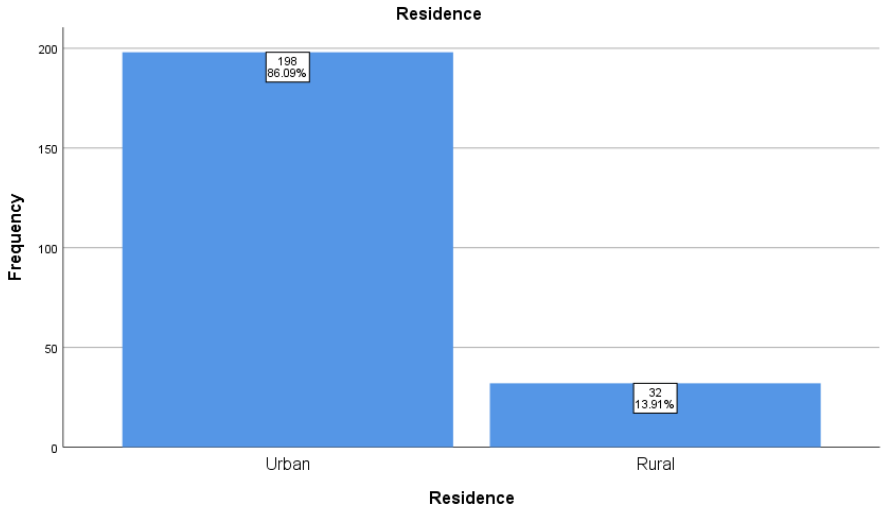

FIGURE 5: showed that over three quarters of the participants resided in urban areas (n = 198; 86.09%) while 32(13.91%) resided in rural areas.

Table 4 showed that 143(62.2%) of the participants had ocular problems while 87(37.8%) had no ocular problems. The highest length of the ocular problem was > 3 months with 59(25.5) while the lowest length was 1 month with 1(0.4%). Respondents with HBP were the highest with 7(3.0%) while the respondents with DM and other diseases like ulcer were the lowest with 3(1.3%). The respondents who visited medical doctors were the highest with 100(43.3%) while the number of respondents who visited traditional healers were 9(3.9%). Respondents who were given medicine were the highest with 91(39.6%) while respondents who were not given medicine were 23(10.0%).

TABLE 4: Answer to clinical profile questions

		Frequency	Percent
Had Ocular Problems	Yes	143	62.2
	No	87	37.8
	Total	230	100.0
Length of Ocular Problem	<2weeks	40	17.4
	2-5weeks	15	6.5
	1month	1	0.4
	1-3months	6	2.6
	>3months	59	25.7
Medical Conditions Experienced	HBP	7	3.0
	DM	3	1.3
	Asthma	6	2.6
	Other	3	1.3
Person Visited	medical doctor	100	43.5
	traditional healer	9	3.9
Medicine Given	Yes	91	39.6
	No	23	10.0

Table 5 showed that 39(16.9%) respondents have used traditional medicine at one point or another in their life while 180 (77.9%) had not used. Respondents who used other traditional methods like akpu water, onions etc. were the highest with 18(7.8%) while respondents who used eye drops were the lowest with 3(1.3%). 21(9.1%) respondents used

instillation which was the highest while the lowest was respondents who used the aural method with 1(0.4%). 25(10.8%) respondents were advised by relatives which was the highest while the lowest was 1(0.4) who was advised by clergyman. 21(9.1%) respondents chose traditional medicine based on the belief on potency while 17(7.4%) chose T.M based on the fact that others benefited. 28(12.1%) respondents were the highest duration of use for <2 weeks while respondents that used the T.M for 1 month and > 3 months were the lowest with 1(0.4%). 19(8.2%) respondents discontinued the use of T.M while 19(8.2%) respondents did not discontinue the use of T.M. 5(2.2%) stopped using the T.M due to no improvement, 2(0.9%) were advised to stop, 3(1.3%) had adverse reaction while 9(3.9%) were due to other reasons like the eyes improving. 3(1.3%) respondents had adverse reaction to the T.M while 31(13.4%) had no reaction.

TABLE 5: Answer to profile of traditional eye medicine use questions

	Responses	**Frequency**	**Percent**
Used Traditional Medicine	Yes	39	16.9
	No	180	77.9
Medicine used for eye treatment	herbal mixture	12	5.2
	eye drop	3	1.3
	urine	8	3.5
	others	18	7.8
Mode of application	instillation	21	9.1
	oral	7	3.0
	face wash	8	3.5
	per aural	1	0.4
	others	2	0.9
Advised by…	traditional healer	3	1.3
	clergyman	1	0.4
	friends	8	3.5
	relations	25	10.8
	others	2	0.9
Reasons for choosing traditional Medicine	others benefited	17	7.4
	belief in potency	21	9.1
Length of Use	<2weeks	28	12.1
	2-5weeks	6	2.6
	1month	1	0.4

	>3months	1	0.4
Use of traditional medicine discontinued	Yes	19	8.2
	No	19	8.2
Reasons for discontinuation	No improvement	5	2.2
	advised to stop	2	0.9
	Adverse reaction	3	1.3
	Others	9	3.9
Adverse Effect Present	Yes	3	1.3
	No	31	13.4

TABLE 6: Chi Square test to determine the relationship between demographics and use of traditional eye Medicines

Variables	**Chi-Square P-Values**
Sex	0.498
Age	0.650
Marital Status	0.187
Occupation	0.515
Education Status	0.078
Residence	0.967

There was no statistically significant difference between the socio-demographic variables and the use of Traditional Eye Medicines. ($p>0.005$)

DISCUSSION

Data from this study indicate that 143(62.2%) 0f the respondents had ocular problems by which 39(16.9%) used traditional eye medicine. Of the 39 respondents, 25 (6.41%) of whom were female and 14 (35.9%) of whom were male, employed traditional medicine to treat their eye problems (Abdullahi, 2011; Ekor, 2014). According to table 4.3, the majority of men who use traditional eye medicine are between the ages of 37 and 54, while women tend to use it between the ages of 18 and 36 (Pankhurst, 1996; Bantupalli et al., 2012). This is often a result of recommendations from family and friends. In this study, 27 (11.74%) of the respondents had primary school qualification, 72 (31.30%) had secondary education, while 128 (55.65) had tertiary qualification. Recent studies have shown that level of education has no influence on an individual's choice to use herbal medicine. This is

probably due to the general belief among the populace that orthodox medicine has not been able to treat some diseases, thereby making the people to seek alternative medical attention (Aborigo et al., 2015; Ezekwesili-ofili and Okaka, 2019).

In terms of occupation, 11(4.78) of the respondents were public servants, 46(20.00%) were traders, 19 (8.26%) were artisans, 2 (0.87%) were farmers, 3(1.30%) were retirees, 42 (18.26%) were unemployed while 107(46.52%) were employees of other jobs (Aborigo et al., 2015). This means that economic status does not influence an individual's choice to use herbal medicine. However, this study shows that respondents of various wage status used herbal medicine. This is probably because of the perception of the people that herbal medicines are safe and efficacious. It may be due to the increasing awareness, perception and access to medicinal herbs in Nigeria (Adesina, 2009).

The result from this study indicate that 39(16.9%) have used traditional eye medicine at one point or another in their life while 180(77.9%) had not used. The low prevalence of the use of traditional eye medicine observed in this study may be attributed to the fact that there is a wide awareness of the dangers of TEM and the preference of orthodox medicine (Amorha et al., 2016).

The type of traditional eye medicine used by the participants in this study are herbal mixture which was used by 12(5.2%) respondents, 3(1.3%) used eyedrops given by traditional healers, urine was used by 8(3.5%) respondents while others like onions, akpu water, alum water and tiro were used by 18 (7.8%) respondents. This shows that the different substances were placed in the eyes in order to treat ocular problems. From this study, 25(10.8%) respondents obtained information about herbal medicine mainly from relations, 8(3.5%) respondents obtained information from friends, 1(0.4%) obtained information from clergyman while 2(0.9%) respondents obtained information from others like mass media (Chitindingu et al., 2014). This means that family members and friends shared information, knowledge and perceptions about herbal medicine among themselves. Mass media proved to be the least source of information on TEM. This finding is in agreement with another research finding, who have reported that herbal medicines were mainly recommended by family and friends. Therefore, family has a major influence on the creation of awareness of herbal medicines. The danger here is that the family may not have adequate professional training to advice members on the use of herbal medicine. There is a need to enlighten the public on the dangers of this practice (Ibrahim et al., 2011).

The length of use of the TEM by 28(12.1%) respondents was in less than 2 weeks, 6(2.6%) respondents used the TEM for 2-5 weeks, 1(0.4%) respondent used the TEM for 1 month while 1(0.4%) respondent used it for >3 months. This finding shows that TEM was just used based on the duration of the eye problem. i.e. participants still continued using the TEM until the eye problem was managed (James et al., 2018).

The results from this study indicate that 21(9.1%) of the respondents use herbal medicines because they believed in the potency while 17(7.4%) used herbal medicines because other people benefited from it. Therapeutic benefit from other TEM users and patients' belief in the potency of TEM contributed more to the decision to use TEM than cost and awareness barriers to access orthodox eye care (Kemzi et al., 2020). This implies that, although the traditional medical practitioner is the originator of TEM therapy, societal input plays a crucial role in the perpetuation of the practice . The data from this study also indicate that 19 (8.2%) of the respondents discontinued with the use of herbal medicine while 19(8.2%) of the respondents did not stop using the traditional eye medicine (Mustapha et al., 2016). Also, 5(2.2%) of the respondents discontinued with the use of herbal medicine because of no improvement in the ocular problem, 2(0.9%) respondents discontinued due to being advised to stop, 3(1.3%) respondents discontinued due to adverse reaction while 9(3.9%) respondents discontinued because of the eyes improving. 3(1.3%) respondents experienced adverse reaction while 31(13.4%) respondents had no adverse reaction to the TEM. This is probably because herbal medicines have little or no adverse effects such as nausea, vomiting, diarrhea, headache, like the orthodox drugs do (Nworu et al. 2014).

It has been reported that herbal products are less toxic, less concentrated and more natural than orthodox drugs. Most side effects of herbal substances emanate as a result of their misuse or overuse. Although the present survey did not document much adverse effect of TEM, their use may constitute a great hazard to the eye even though there are probably some definite therapeutic benefits inherent in their use. This suggests that products used as TEM should be subjected to analytical research to isolate, purify, and characterize their active contents for possible use in allopathic medicine (Ogunsola and Egbewale, 2018).

CONCLUSION

The incidence of TEM use among residents living in Egor local government area, Edo is low. Chemical substances and plant products rather than animal products were more frequently used as TEM. Traditional medicine practitioners were the main prescribers of these TEMs. To reverse the trend, the authors suggest strengthening of promotive and preventive eye care programs, even distribution of eye care resources, active and continuous collaboration with traditional medical practitioners, and intensification of pharmacological research efforts, to establish the efficacy or otherwise, of the of the "supposedly potent" TEMs.

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