

Article

Perception and Attitude of Consumers' Towards Packaged Drinking Water in Addis Ababa, Ethiopia

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Abstract: Descriptive research design was used to select 200 respondents (i.e., 100 from each study places) following purposive sampling technique on two study areas (Market; Living) in Addis Ababa. Personal observation and interview with retailers were done to triangulate the collected data from the formal survey. The collected data was analyzed using SPSS version 20 software program. Descriptive statistical measurements, Index and multinomial regression model was calculated to assess the relationship between customers point of emphasis during packaged water buying and respondents demographic variables. Majority of the respondent who frequently purchase packaged water generated a monthly income of between 5000 and 10000 Birr. Television and radio was ranked first compare to other Media. Living place customers were more health concerned as compared to market place customers. Market place customer's primarily give emphasis to price of packaged water. Almost all (97%) customers did not have the awareness towards packaged water standards. Only 86(43%) of the total respondents checked the chemical composition, of which 74(85%) of the respondents did not understand it. Customers sex, educational level and health status showed significant relationship with choice of packaged water quality -1.42(p<0.05), price -2.45(P<0.01) and health status -1.80(P<0.05) in market place and living places, respectively.

Keywords: Addis Ababa; Living Place; Market Place; Packaged Water; Perception

1. Introduction

Safe drinking water is one of the basic requirements for human health, development and wellbeing (1). Access to safe drinking water and hygienic living conditions is a global concern and these issues are especially serious in developing countries (2). Peoples are growing more health conscious and are more careful of their water drinking habits.

One of the current ways of providing safe drinking water is through Packages. Global bottled water consumption is estimated to have reached nearly 100 billion gallons in 2017 (3). Ethiopia projected water resources per capita/person/year in the year 1960-2007 from 1,355 to 1006m³in 2015 (4). According to UN Millennium Development Goals (MDGs) indicator database, it is expected that urban water access reaches 96 % till 2015. Several water supply models are already established, tested and proven effective in the developed world. Given the prevailing social and technical cost needed to revitalize or put in place functional public institutions, associated technologies and political power, it is much undoubted that the standard industrialized world model for delivery of safe drinking water technology may not be affordable in most of the developing world countries (5). Currently in Ethiopia, people often drink packaged drinking water as an alternative to tap water. Customers think it tastes better (no chlorine taste) and

perceive it to be safer and of better quality. They also look for security. Food scandals in industrialized countries and waterborne diseases in developing countries greatly influence consumers' attitudes. Consumer behavior is the study of when, why, how, and where people do or do not buy a product. It blends elements from psychology, sociology, social anthropology and economics (6).

Even if the significance of packaged water is not doubtful, there are different constraints that customers should consider when buying packaged water. Regularly the problems are arising from the storage and handling schemes of the products (7). In 2014, Ethiopian Ministry of trade (MoTr) secure a certificate for only 14 bottled water brands out of the 33 bottled water brands produced in Ethiopia (8). Previous studies about packaged water mostly focus on its production, regulation, sales and consumption and criticism and concerns of the developed countries. However, few researchers (9; 7; 10) have examined the relationship between consumer use of packaged water and their perception level towards drinking water quality and other factors. Above all, packaged water becomes a huge market success for producers in developing countries. But, customer's choice appropriateness in comparison to the actual condition of packaged water available in the market is not still studied well. Hence, the objective of this study was to (i) assess customer's perception towards their choice of packaged water (ii) Assess customer's level of awareness towards packaged drinking waters trade standards and (iii) Compare and contrast customers habit, perception level and purpose of packaged drinking water between market and living place.

2. Materials and Methods

2.1. Study area

Addis Ababa is the capital city of Ethiopia. It is located in the centre of the country between 8°55' and 9°05'N latitude and 38°40' and 38°50'E longitude and has an area of 540 km. Its altitude ranges from 2000-2800 masl (11). The city has a total population of 3,384,569 according to the 2007 census. The short rain season occurs between March to May, while the main rain season occurs during the months of June to September. The dry season occurs during the months of October to February (12).

2.2. Data collection method

This study employed both primary and secondary source of data. Primary data was collected using questionnaire affecting factors of developed for selected respondents of the survey. Personal observation was also being undertaken to triangulate the data gathered from the survey. The developed questionnaire was semi structured and it was pre tested the before starting the formal survey. The study was also used different secondary information sources such as bulletin and flyers which described about the water access around Addis Ababa in relation to packaged water distribution in and around Addis Ababa city.

2.3. Research and sampling design

The study was survey type, and followed purposive sampling technique considering the collection of genuine and experience based information about customer's perception towards their awareness while purchasing packaged water, respondents selection criteria were purposive based on their experience and frequency of buying. Hence, only respondents who bought a minimum of three and above one liter bottled water per week were considered for this study. The first study area i.e., markets place (i.e., Merkato and Shola) were selected based on the intensity of hosting different dwellers of from the different regions of Ethiopia; and packaged drink water customers due to the availability of frequent transportation services, accessibility of clean drinking water and income status from the market place and a living place which was believed for its safe living environment from Addis Ababa. The second stage was selection of

two Addis Ababa locations which have been well known for their sole living function (i.e., locally known as *CMC* and *Sar-bet*).

A total of 200 customers/ respondents (100 from each study areas) were involved in this study. In addition, triangulation of the collected data were done by interviewing 50 retailers (25 from each study areas) using similar questionnaire. To decrease the error occurred during sampling design, the questionnaire representativeness of the population in terms of gender, age educational level, wealth status, type of career of respondents ...etc.

2.4. Data Analysis

The collected data was debugged and scrutinized before starting the analysis. Descriptive statistics and rank of the variables was calculated to examine the purchase behavior of packaged drinking water. Multinomial logistic regression model was used to analyze customer preference while purchasing packaged water.

$$nij = Xi\beta_j + Zij\gamma \dots \dots \dots (1)$$

SPSS version 20 was used to analyze the collected data from the surveying the study area. Index was computed to provide the overall rank of customer's source of media and preference while purchasing packaged water using the following formula.

$$Index = \frac{Rn \cdot C1 + Rn-1 \cdot C2 + \dots + R1 \cdot Cn}{\sum Rn \cdot C1 + Rn-1 \cdot C2 + \dots + R1 \cdot Cn} \dots \dots \dots (2)$$

Where, Rn = value given for the least ranked level (example if the least rank is 5th, then $Rn= 5$, $Rn-1=4$, and..., $R1= 1$); Cn = counts of the least ranked level (in the above example, the count of the 5th rank = Cn , the count of the 1st rank = $C1$).

3. Results

3.1. Household characteristics

Table 1 describes about the descriptive statistics of the respondents from the study area. The average respondent age that had been purchasing packaged water from both study area were between 34 and 35 years of age. Most female respondents (59%) groups were the best customers in the resident areas of the study area, and male respondents (53%) were the primary customers in market places study area. Majority (27%; 28%) of customer's educational level from the market place and living place were higher than secondary school, respectively. However, higher proportion (35%) of customers from the living places attained after college educational level than the market place (27%). Majority of the respondents from both study areas were supporting their livelihood through private occupation. Much higher (82%) respondents in the living places were purchase packaged water for the consumption of their neonate and pregnant than the market place customers.

Table 1 / Descriptive statistics of respondents from the study area (Mean± SD)

Descriptive variable	Study are		Total (N=200)
	Market (n=100)	Living place (n=100)	
Age	34.86±10.8	34.73±11.33	34.8±11.04
Sex	Male	41	94(47)
	Female	47	106(53)
Educational level	Illiterate	2	7(3.5)
	Elementary	15	36(18)
	Secondary School	47	95(47.5)

	Above college Diploma	27	35	62(31)
Type of occupation	Private	72	83	155(77.5%)
	Public	28	17	45(22.5%)
Family size		4.06±2.24	4.78±1.85	4.42± 2.05
Nature of housing	Private	34	71	105((52.5%)
	Renting	66	29	95(47.5%)
Monthly income/ Birr	Below 5,000	30	25	55(27.5%)
	5,000-10,000	45	26	71(35.5%)
	10,000-15,000	12	37	49(24.5%)
	Above 15,000	3	12	15(7.5%)
Health status(N=73)	Chronic disease	24(70.6)	10(29.4)	34(46.6)
	Pregnant and serving neonate	7(17.9)	32(82.1)	39(53.4)
	Total	31(42.47)	42(57.53)	73(36.5%)

Almost 35.5% of the respondent who frequently bought packaged water generates an income between 5,000 and 10,000 Birr. Among these, majority (35.5%) of respondents from the market place generate a monthly income between 5,000 and 10,000 Birr. In contrast, majority (37%) respondents from the living place generate a monthly income between 10,000 and 15,000 Birr.

3.2. Respondents source of knowledge and awareness about packaged water

Table 2 describes the sources of Medias used for creating awareness. Respondents showed that the major media used for creating awareness were Television and Radio with an index of (0.34) followed by colleagues (0.29), Newspaper and Magazine (0.23) and Window display (0.14). Even if the access of internet showed a great advancement, use of Window display to create awareness through window is still very small.

Table 2 / describes the sources of Medias used to create awareness about packaged water.

Medias	Study areas				Total	
	Market		Living		N(Index)	Rank
	N(Index)	Rank	N(Index)	Rank		
Newspaper and Magazine	215(0.22)	3	235(0.24)	3	450(0.23)	3
Television and Radio	364(0.36)	1	312(0.32)	1	675(0.34)	1
Window display	120(0.12)	4	151(0.16)	4	271(0.14)	4
Colleagues	301(0.30)	2	271(0.28)	2	572(0.29)	2

3.3. Customers reason and preference towards packaged water

Customer reasons and preference of purchasing packaged water is presented in Table 3. People bought packaged water for different reasons, among these the basic ones are while traveling in domestic area and long distance, at the time of water scarcity, when tap water is contaminated, while restaurants and hotels did not provide water while they were giving service. This study revealed that market place respondents were purchasing at the service time of restaurants and hotels was ranked first 603(0.330) followed by travel alone (long journey), scarcity of water, and contamination of water and domestic travel.

Table 3 / presents the rank of customer's reasons and preference of buying packaged water

Reason for purchasing and Preference*	Market (n=100)		Living place (n=100)		Total(N=200)	
	N(index)	Rank	N(index)	Rank	N(index)	Rank
Travel alone	359(0.20)	2	266(0.19)	4	625(0.21)	2
Travel and domestic use	263(0.14)	5	272(0.19)	3	535(0.18)	5
Scarcity of water	285(0.16)	3	292(0.21)	2	577(0.19)	4
Contamination in tap water	315(0.17)	4	302(0.21)	1	617(0.20)	3
Restaurant and Hotel service	603(0.33)	1	264(0.19)	5	667(0.22)	1
Packaging material*	192(0.20)	3	247(0.25)	3	439(0.22)	3
Quality*	183(0.18)	4	282(0.28)	1	465(0.23)	2
Price*	378(0.38)	1	264(0.26)	2	642(0.32)	1
Test*	234(0.24)	2	204(0.20)	4	438(0.22)	4

However, respondents from the living place primary reason for purchasing of packaged water were contamination of tap water. Scarcity of water, domestic travel, travels alone and restaurants and hotel use ranked second, third and fourth, respectively.

3.4. Customer satisfaction against packaged water

The basic customers satisfaction and compliant against packaged water is presented in Table 4. The study indicated that higher amount (11.29±15.05) of packaged water was purchased by respondents from living place than Market place respondents (4.1±3.04). The study also revealed that average of 7.7 liters of water was purchased by respondents used for this study. Majority of the customers were indicated that the purchased water had the satisfaction level of good (27.5%). Respondents from living place indicated that they were satisfied (68%) between the level of good and very good. However, market place respondents showed that money spend on packaged water (401 Birr) was so much lower than living place (1129 Birr). The study revealed that majority of respondents level of satisfaction was 'Good'. The average satisfaction level of market place respondents were 'poor' however living place respondent's satisfaction was in between 'Good' and 'Very Good'.

Table 4 / the amount of packaged water purchased per week and customers attitude towards their level of satisfaction (Mean± SD).

Consumers level of satisfaction			Study areas		Total (N=200)
			Market (n=100)	Living place (n=100)	
Packaged water quantity consumed	Liter/ wk. Money spend/ wk.	4.1±3.04 401	11.29±15.05 1129	7.7±11.41 765	
Level of customer satisfaction	Poor	33	12	45(22.5)	
	Satisfactory	13	09	21(10.5)	
	Good	19	34	53(26.5%)	
	Very good	14	34	48(24)	
	Excellent	21	11	32(16)	

Note that the study use only respondents who purchase 3liters of packaged water

3.5. Customers complaint against packaged water

Table 5 presents customers compliant against packaged water. The present study revealed that an average of 38.5 % of the respondents disclosed their complaint against packaged water. Majority 39 (62%) of respondents from the market place were complained about the price of the packaged water. On the contrary, respondents from the living place complained on the quality 20 (40%) of the purchased packaged drinking water. This study indicated that price 51 (45%) of the packaged water was the primary area of complaint. Almost 158(80%) of the respondents who were complaining about packaged water made producers s responsible for the mentioned complaints. Almost 66% of respondents used for this study shifted their brand for different reasons.

Table 5 / Customers complaint against packaged water (n (%); N (%)).

Complain Against		Study area		Total
		Market place	Living place	
Presence of Complain(n=113)		63	50	113(38.5%)
Area of compliant	Packing	1(1.6%)	12(24%)	13(11.5%)
	Quality	14(22.2%)	20(40%)	34(30.1%)
	Price	39(61.9%)	12(24%)	51(45.13%)
	Taste	9(14.3%)	8(16%)	17(15.04%)
Who is responsible your complaint?	Producer	46(73%)	41(82%)	158(79%)
	Seller	8(12.7%)	5(10%)	21(10.5%)
	Both	9(14.3%)	4(8)	21(10.5%)
Brand loyalty (Yes)		23	76	99(49.8%)
Shifting (Yes)		69	63	132(66%)

3.6. Customers knowledge of packaged water standards

Table 6 describes about customers and retailers knowledge towards packaged water trade standards. The study indicated that an average of only 3.2 % of respondents from the respondents and retailers side can describe packaged water standards and quality. Retailers primarily give emphasis to price (50%) of the packaged water as compared to other information. However, majority 76(38%) of

customers who observed the chemical composition labeled on the packaged drinking water. Among these, 70 % of living place customers primarily focuses on manufacturing date and chemical composition. The study also revealed that an average of 13(15%) of respondents who observed chemical composition of the packaged water understand what labels said about the chemical composition. The primary reason for not understanding the chemical composition was the presentation of the label in scientific writing 31(12.4%). Around 70% of the respondents reported that they were not found what they requested.

Table 6 / Customer and retailer's knowledge towards packaged water trade standards and quality (N (%)).

Knowledge of standards and quality		Customers (N=200)		Retailers (N=50)	Total (N=250)
		Market place	Living place		
Describing trade standards		1(1%)	2(2%)	5(10%)	8(3.2%)
What part of the label do you observe before buying?	None	34	2	8(16%)	44(17.6%)
	Manufacture date	12	14	1(2%)	27(10.8%)
	The chemical composition	20	56	5(10%)	81(32.4%)
	Price	31	11	25(50%)	67(26.8%)
	All	3	17	11(22%)	31(12.4%)
Do you understand chem. composition?(n=86;5)	Yes	4	9	1(20%)	14(15.4%)
	No	50	23	4(80%)	77(84.6%)
Reasons for low level of understanding	Illiteracy	4	1	-	5(2%)
	Scientific writing	22	5	4(80%)	31(12.4%)
	Foreign language	14	4	-	18(7.2%)
	All	17	6	-	23(9.2%)
Do you find what you required?	Yes	10	32	18(36%)	56(28%)
	No	90	68	32(64%)	144(72%)

3.7. Customer's primary emphasis while purchasing packaged water

Table 7 describes about household characteristics in relation to their preference while buying packaged water. Identifying the basic variable which has significant effect which can show producers what the consumers are seeking to find in the market in relation to different factors such as status of living, health status, average income of their regular customers...etc. to inhibit shifting from brand to brand searching for their starting from the production stage in the marketing and consumption process. Price had a negative relationship on both study areas i.e., Market place (-2.45) and Living place (-2.61) with customers educational level at P value of 0.05 and P value of 0.01, respectively. Other demographic variable did not show a significant relationship with customer's primary describing variable while buying packaged water. Female customers' from the market place had a significant relationship (-1.42) with packaged water accessibility. Packaged water quality had a negative relationship (-1.80) with health status of customers of living place.

Table 7/ Customers preference in relation to their demographic characteristics

Customers primary emphasis	Age			Sex(Male)			Education level			Nature of the house(Rented)			Income /month			source of income			Health status		
	B (SE)	Wa Id	Sig .	B (SE)	Wa Id	Sig.	B (SE)	Wa Id	Sig.	B (SE)	Wa Id	Sig .	B (SE)	Wa Id	Sig .	B (SE)	Wa Id	Sig.	B (SE)	Wa Id	Sig.
Price	-0.23 (0.39)	0.33	0.57	-0.13 (0.93)	0.02	0.89	-2.45 (0.84)	8.51	0.004*	0.59 (0.91)	0.42	0.52	-0.19 (0.56)	0.12	0.73	0.15 (0.30)	0.25	0.62	1.32 (1.21)	1.18	0.28
Taste	0.07 (0.51)	0.02	0.89	-0.64 (1.2)	0.29	0.59	-0.71 (1.04)	0.47	0.49	1.59 (1.28)	1.55	0.21	0.53 (0.75)	0.49	0.48	0.14 (0.39)	0.13	0.72	-0.76 (1.25)	0.37	0.54
Accessibility	-0.02	0.00	0.10	0.64 (0.92)	0.49	0.48	-0.71 (0.85)	0.71	0.40	0.75 (0.80)	0.87	0.35	-0.05 (0.48)	0.01	0.92	0.12 (0.27)	0.19	0.66	0.16 (0.94)	0.03	0.86
Quality	-0.20 (0.29)	0.46	0.50	-1.42 (0.72)	3.85	0.050*	0.41 (0.84)	0.24	0.63	-0.02 (0.67)	0.00	0.97	0.45 (0.41)	1.19	0.28	0.21 (0.23)	0.85	0.36	-0.64 (0.80)	0.64	0.43
Price ^x	-0.21 (0.42)	0.26	0.61	-0.86 (0.97)	0.80	0.37	-2.61 (0.96)	7.43	0.01**	0.45 (0.92)	0.24	0.62	0.17 (0.59)	0.09	0.77	0.04 (0.31)	0.01	0.91	0.76 (0.97)	0.62	0.43
Taste ^x	0.26 (0.62)	0.18	0.67	-0.51 (1.25)	0.17	0.68	-0.32 (1.33)	0.06	0.81	2.22 (1.52)	2.14	0.14	0.37 (0.98)	0.24	0.64	-0.07 (0.43)	0.02	0.88	1.92 (1.39)	1.90	0.17
Accessibility ^x	0.17 (0.37)	0.20	0.66	0.62 (0.95)	0.42	0.52	-1.44 (0.97)	2.21	0.14	0.91 (0.86)	1.13	0.29	-0.13 (0.53)	0.06	0.80	0.07 (0.29)	0.053	0.82	-0.44 (0.89)	0.24	0.63

Quality ^x	-0.29 (0.31)	0.90 (0.74)	0.34 (0.74)	-0.54 (0.74)	0.54 (0.74)	0.46 (0.90)	-1.41 (0.90)	2.50 (0.90)	0.113 (0.90)	0.30 (0.90)	0.18 (0.90)	0.67 (0.90)	0.34 (0.45)	0.59 (0.24)	0.44 (0.24)	0.11 (0.24)	0.188 (0.24)	0.66 (0.24)	-1.80 (0.81)	4.93 (0.81)	0.02 [*] (0.81)
Pseudo R ²	Living place		Market place																		
Cox and Snell	0.57	0.461																			
Nagelkerke	0.594	0.491																			
McFadden	0.262	0.227																			

Note that * represents p value of 0.05 and ** represent p value of less than or equal to 0.01; x represents living place.

4. Discussion

Drinking water has no taste and it is challenging to consumer to analyze quality of drinking water using sensory organs (13). The information presented on the label of packaged drinking water gives consumer an insight in terms of mineral content and besides its free from open air contamination. Consumes level of perception varies basically with media accessibility and level of education. Moreover, In developing countries, higher living standards enable people to easily bring packaged drinking water home more frequently (14). The relationship between the incomes generated by the respondents and trends of purchasing drinking water shows that many developing countries are a good market for packaged drinking water with good quality (3). However, delivery of safe drinking water technology may not be affordable by low income generation society groups (5). Besides, many factors including demographic variables, quality of water sources and trust in tap water companies, also seem to influence public behavior (15). Some group of the society might give emphasis due attention to factors such as health, physiology and ecology that inhibit them from consuming above a limited amount of trace mineral. Packaged water's basic quality is working on trace mineral which is necessary for healthy individual in a daily basis. Different organization reported the standardized amount of trace minerals for a liter of packaged water (16). The purchasing stimuli of packaged water are in line with (17) who indicated economical, political and cultural circumstances of a society are the major marketing stimuli. Medias which help to improve customer's awareness might vary with the geographical location and demographic and mass media coverage (18). Respondents from the market place were majorly prefer/ give emphasis to price of the packaged water at the first place followed by test of the water, packing material and quality as a whole. The result of this study is in line with (9) who indicated consumers were charged unfairly higher price of packaged water in a study undertaken in Addis Ababa. However, respondents from the living place primarily giving emphasis to quality of the water which was followed by price, packing material and test of the packaged water. Ecura *et al.* (14) report that domestic water supplies in many developing countries are treated with chlorine and maintain a certain concentration of residual chlorine to disinfect potential bacterial contamination. As to (15) health, taste, water quality, lifestyle, the environment, and perceived alternatives are all correlated with packaged water consumption. In addition, (7) proved that problems related to packaged water quality are arising due to storage and handling schemes of the products. The above two studies are in contrast to our finding in which seller are more responsible than producers for the degradation of water quality rise due to package and storage. However, (9) indicated that respondents are really very comfortable of the taste of the packaged waters marketed in Addis Ababa. The difference in the results between those studies and our study might be due to the methodology used for our study touch specific group of Addis Ababa dwellers (Market places and Living places) rather than studying in general.

The average amount of packaged water (7.7 liters) purchased by customers is a little bit higher than(9) who indicated a purchasing level of 4-5 liters of packaged waters per week. The sales volume of packaged water in developed countries like Singapore hit \$134 million in 2015 (14). Similar study by (9) indicates that dust and stain on packaged water was degraded the quality of packaged water for sell.

Similar to customer's behavior model, many decisions of purchasing different packaged water brands has not been supported by proper awareness of the consumers. In contrast to (18), respondents who were purchasing packaged water were able to understand foreign language such as English. This might be due to our study used respondents who are able to purchase above three liters of packaged water might have a positive relationship with their literacy level.

An increase in customer's level of education attributed to customers demanding packaged water comparably in a low price by an estimate of 2,45 ($P < 0.01$). This suggests that one steps increase in the educational level of customers who frequently purchase packaged water might increase their concern on the price of the packaged water while purchasing. This might be due enhancement in customers educational level would let customers to understand most financial and manufacturing processes with their relative costs. Market place female packaged water customers are more careful in purchasing packaged water which is more accessible as compared to other variables. This can

show female's customers brand loyalty as compared to male customers. Most customers with a health issue ascribed to choose their packaged water in terms of quality as compared to others customers by a rate of 1.8 ($P < 0.05$). However, only customers from the living place give emphasis to quality of the packaged water as compared to the market place customers. The study is in contrast with (19) who reported that color, graphic design, size and shape of packaging significantly influence consumers' purchase decision for bottled water. This is in contrast with (20) study in Sri Lanka who reported customer's educational level has no significant relationship with customer's behavior. The result of (21) is in line with our study who indicated customers are health conscious while aiming to purchase packaged water.

5. Conclusions

Consumers often drink packaged drinking water as an alternative to tap water due to different factors related to accessibility, health issue and contamination or cleanness. This study reveals that the average age of customers who frequently (above three liters per week) buy packaged water is 34 years. Majority of customers who frequently purchase (80 %) packaged water are educated beyond secondary school. Employees of private frequently purchase packaged water as compared to public sector employees. Respondents who generated monthly income between 5000 and 10000 Birr purchase packaged water frequently as compared to other income groups. People monthly income matters to be accessible to clean packaged water. Television and Radio are Medias which primary create awareness about packaged water. Price of packaged water is the primary concern of customers from the market place whereas living place customers prefer quality of packaged water. Living place consumers (70%) purchase packaged water concerning health as compared to the market place customers. Producers are blamed for customer's complaint from both study area. Even if around 43 % of customer check the chemical composition of the packaged water, the majority 77(85%) of the customers does not understand what the chemical composition in the label presents about. Currently customers are not fully aware of what the chemical composition of packaged water is presenting about. Customers Sex, literacy level and health status have significant relationship with customers area of emphasis while purchasing packaged water.

Customer's level of knowledge towards the product they are going to purchase should get serious attention in products that have manufacturing date, chemical composition. Labels of packaged drinking water should consider customer literacy level, understanding level of foreign language and chemical composition. It is recommended that all marketed packaged waters should be monitored for quality (especially on the proportion of heavy metal), identity and be licensed by concerned authorities to safe guard consumers' health. Standards that consider all members of the society in terms of age, physiological level, and literacy level should be indicated clearly in the label. In addition, further studies that focus on the possibility to verify the origin, physical microbiological and authenticity of bottled waters taking into account of increased number of producers and consequences of production without standard and its impact on people health should be given emphasis and different causes of packaged water contamination should be spotted out strict measures should be taken.

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