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EFFECTS OF WATER CONSUMPTION BEHAVIOR ON AVAILABILITY OF DRINKING WATER IN FAISALABAD, PUNJAB PAKISTAN

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ABSRACT
The water consumption behavior is needed to be monitor to avoid the clean water scarcity. The proposed research is being conducted to assess the clean water consumption behavior of people. The nature of study was Quantitative. It is concluded that strong negative relationship exists between independent variables (Household Income, Large size of family, family type, Consumption behavior of water on different activities) and Dependent variables (Availability of Drinking Water). Results of the study also revealed the strong positive relationship between independent variable (Awareness regarding water) independent and dependent variable (Availability of Drinking Water).
Keywords: Drinking Water Availability, Water Consumption Behavior, Water Related Awareness Water Consumption

INTRODUCTION
Water is required for people, animals, and plants to flourish, this odorless, tasteless, and colorless liquid must be present. Since it is impossible to create additional water, water management should be a top priority for the development and maintenance of any area. This is a major problem since 97% of all the water on Earth is salty, leaving just 3% as fresh water, of which slightly more than two-thirds is locked up in glaciers and polar ice caps. Groundwater makes up the vast majority of the world's remaining unfrozen fresh water supply; surface water accounts for just a fraction of the total. Unfortunately, fresh water sources are dwindling over the globe. There has been a dramatic increase in the use of available water. This is because there are now more people in the globe than there were in 1900, and those people are eating more meat and vegetables. Water consumption is also very competitive because of industrialization, urbanization, and agricultural crops. More water will be needed to grow crops in the future to feed the world's projected 9 billion people by 2050 (Asian Development Bank, 1993).

Sixty-seven percent of the global population will be experiencing mild to extreme water scarcity by 2025, and half of that will have to make do with inadequate fresh water sources. The provision of fresh water sources to the whole population of the globe from now until 2030 is acknowledged as a clearly highlighted and important problem since the amount of fresh and drinking water sources is just one percent of the world's total water, which is handled poorly and haphazardly. Increases in both use and demand, as a consequence of factors like urbanization and climate change, will place a pressure on the world's fresh water supplies, making them inadequate in many regions (Kumpel et al., 2017).

There is a serious problem with urban water waste in developing countries like Pakistan. In order to encourage policy responses and decision making in the field of efficient water delivery to urban residences, it is helpful to identify inefficiencies in water supply and consumption, as well as other connected environmental and health problems. It is also the obligation of the state or local government to ensure that all citizens have access to safe drinking water, as recommended by international development best practices (UNESCO, 2014).

There has been a decline from 1992 to 2012 in the country's per capita water availability, which is now at 1090 m3 (Kamal et al., 2012). Approximately 10% of the population does not have access to safe drinking water, as stated in the Human Development Report in 2010. If you look at the quality of drinking water across 122 countries, Pakistan comes in at position 80 (Azizullah et al., 2011). Over the course of human history, population growth, industrialization, and other factors have influenced widespread changes in how water is used across the world. Efforts have been undertaken by both public and commercial entities to increase water use per person. Worldwide, but especially in Pakistan, there has been a decline in the amount of water available per person. The average amount of water available per person in Pakistan fell from 5,050 m3 in 1956 to 1,100 m3 in 2005. It was just over the internationally recognized scarcity threshold (Ahmad et al., 2010).

Water pressure, population density, and temperature all have a role in shaping regional differences in per-capita water use. There is no universally accepted bare minimum for the amount of water required to maintain human life, much alone promote economic and social development.

The World Health Organization (WHO) recommends 20 liters of water consumption per person per day for proper cleanliness. Assuming a daily water consumption rate of 120 liters for a typical Pakistani family, 62 of those liters would be used for laundry and cleaning duties alone to maintain minimal hygiene standards. Per capita water consumption for home purposes may be evaluated more accurately with the help of the figure, which illustrates a variety of categories of individual water demand as well as standard amounts of water need specified by WHO.

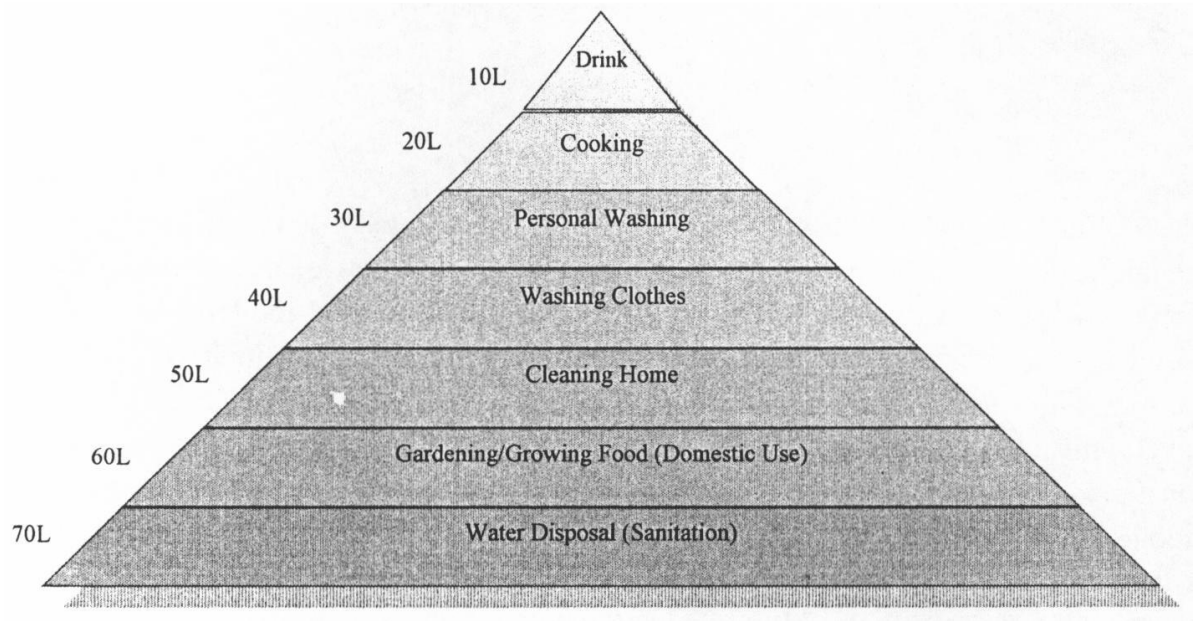

Fig. Pyramid of Lowest Water Necessities for Domestic Usages
Source: World Health Organisation Report (2006).

Home water use habits also differ. Fresh water may be difficult to come by for the poor, who often resort to gathering it from great distances. In most cases, the quantity and quality of water accessible to the poor is compromised. It is surprising, however, to see that careless water use habits in urban settings remain (GOP, National water policy 2018). Socioeconomic status, cultural norms, and religious beliefs might all have a role in shaping how a family uses water. The most important water-using appliances will be described in depth here because of the vital roles they play in water use and conservation. A rise in the demand for water used in bathing and showering may be attributable to the combination of modern plumbing, en-suite facilities, and changes in lifestyle (Bello-Dambatta et al., 2014).

There has been a huge increase in the availability of private vehicles and other forms of urban transportation (such as vans, rickshaws, buses, and trucks) in Pakistan during the last two decades. More and more car wash facilities have sprung up around the nation as a result of the rising number of cars and other vehicles on the road. These facilities are mostly operated by individual, micro-entrepreneurs. There is no water conservation or treatment at these vehicle washes, thus they use a lot of clean water.

Water consumption per vehicle washed at a car wash may vary from 0.15 m3 (150 L) to m3 (600 L), reflecting the industry's growth (Lau et al., 2013; Zaneti et al., 2011; Al-Odwani et al., 2007; Karakulski and Morawsk, 2003). Every sector of the business and ecosystem relies on a reliable water supply. The vast majority of the water that people use goes toward agriculture. Most scientists agree that irrigation water accounts for between 85% and 100% of all human water usage. Producing food relies on this water immensely. In 2000, over 18% of the world's cropland, or around 270 million hectares, was irrigated (FAO, 2002). Urbanization, industrialization, and the proliferation of agricultural uses have all increased the competition for available fresh water. By 2050, the world's population is projected to exceed 9 billion, necessitating increased water use in agriculture to keep up with food demand.

The average annual water supply in Pakistan dropped from 5,000 cubic meters in 1951 to 1038 cubic meters in 2010, which is just slightly more than the internationally recognized water scarcity threshold of 1000 cubic meters. Also, the Water Stress Index classifies a nation as water-scarce if its fresh water availability is less than 1000 m3 per person per year, and as very water-scarce if it is less than 500 m3 per person per year. Wasted water is a big problem in metropolitan areas in developing countries like Pakistan. In order to encourage policy responses and decision making in the field of efficient water delivery to urban homes, it is important to identify inefficiencies in water supply and use as well as other connected environmental and health problems. In addition, international development best practices recommend that governments should provide their citizens with safe drinking water (UNESCO, 2014).

According to the Strategic Development Plan 2006-2011, Faisalabad is the third largest city in Pakistan, with a total population of around 5.43 million (including suburbs) and a forecasted figure of 8.79 million in 2023. The study aims to assess the Effects of water consumption behavior on availability of drinking water in Faisalabad.

Research Objective

1. To assess the factors affecting the clean water.
2. To assess the water consumption practices of respondents
3. To explore the appropriate strategies to develop the proper clean water consumption behavior

REVIEW OF LITERATURE

According to Syme et al., (1990/1991), there are strong correlations between how husbands and wives feel about their gardens and how much water their home uses annually. Families who thought their garden contributed more to their home's market value used more water throughout the year. Bole (2006) asserts that wealthier households wash their clothing more frequently.

Abedin and Rakib (2013) discovered that the daily water use in Dhaka city was 200 to 300 liters per person per day in middle-class families. Shan et al., (2015) discovered that males and children used less water in the shower than females, demonstrating that the more females in a family, the more water is consumed by the household.

Deyà-Tortella et al., (2017) founded that the little rise in water use across families with moderate and high incomes was bigger than the relatively modest decrease in water usage among families with higher living standards. As a result, the initiative had little effect on lowering water consumption, and many families increased their consumption in reaction to higher prices.

Jethoo, (2011) commented that Family water consumption is directly related to the wealth of different classes. Keshavarzi et al., (2006) explored that descriptive factor including "household size" and "age of household's head" were strongly correlated with water use. With more than half of all water usage occurring at the kitchen sink, dishwashing appears to be the most water-intensive household activity.

Al-Amin et al., (2011) discovred that Water use is correlated with socioeconomic factors such household size, home design, and income. Housing quality, household size, monthly income, and the usage of piped water were all shown to have an influence on water use in the study region's rural areas. The quantity of water used per person for bathing and laundry might be reduced by increasing community awareness.

Singh and Turkiya (2013) discovered that washing clothes uses the most water. Hota (2014) discovered that individuals use more water than is necessary due to ignorance. According to Hota's research, the consumption of water in the home is strongly related to the economic level of various

groups. Harlan et al., (2009) investigated the relationship between household income and consumption, which was controlled for by the size of the home.

Shaban & Sharma, (2007) noted that Indian cities' (especially big cities') water use is far below the guidelines; as a result of less water availability, individuals change their consumption behavior to accommodate the available water and are pleased.

Nnaji (2013) revealed that factors affecting water use in the Nsukka metropolis include average monthly income, the amount of time spent acquiring water, the size of the residence, the cost of the water, the capacity of the storage tank, and the frequency of refills. The average daily water use in the Nsukka metropolitan area is 34.9 litres. This amount is considerably less than the 50 lpcd minimum water demand.

de la Cruz et al., (2017) identified that Housing, gender, cost, and water service type are all factors impacting household water use in Hermosillo. According to the study, there is an upsurge in water usage at residence as the number of bathrooms in the family grows, as does the number of female members. Similarly, decreasing the cost of water use may result in increased use.

Vallès-Casas et al., (2017) resulted that consumption is negatively impacted by the number of elderly people, household size, and a proxy for environmental behaviour, whereas the annual population has the anticipated beneficial impact.

Age, proximity to a water facility, education, and water connections are among the factors that Ahmad et al., (2016) stated are used to evaluate the variances in water consumption among groups. According to Peters et al., (2010) research, household size influences domestic water consumption, while the size of the property's outside space influences seasonal use, which represents outdoor water use.

According to Rahayu & Rini (2019), there are many factors that determine how much water a family in Surakarta uses, including the age of the family's breadwinner, the family's monthly income, the type of housing they have, the number of people living in the home, and the number of people in the household who are employed.

Household size, the number of bathrooms, the presence of a pool (including the usage of a drip water system), awareness of drought, and wealth all affect domestic water use, as noted by Wang and Dong (2017). Syme et al. (2004) looked at how demographics like household size and access to swimming pools affect water use. It was shown that the amount of water used outside was directly related to a person's way of life, their level of interest in gardening, and their level of leisure activity in the garden.

In her research, Kaur (2014) found that household income significantly influenced water use. The amount of water a family uses is directly proportional to their disposable income. High- and middle-income households use the most water because they have access to more appliances that need it. These two income groups, on the other hand, use a disproportionate amount of water on lawns and gardens and to clean their cars. Higher-income groups are more likely to spend more for better water quality and quantity, suggesting that these groups will increase their water use in the near future.

It was noted by Stoker & Rothfeder (2014) that industrial users and hospitals accounted for the bulk of water use in some major cities. Annual water consumption was lowest for single-family houses. Per capita water usage rises with wealth and falls with population, according to Wa'el et al., 2016. Gregory & Leo (2003) found that low-water-use families are more aware of water conservation issues, make more deliberate water use decisions, and engage in other activities that are correlated with reduced water use.

According to Pakula and Stamminger (2010), Japanese families use the most water for laundry washing than any other country. Syme et al., (2004) stated that Owner-occupied residences, bigger block sizes, higher-income families, better-rated gardens, households with a swimming pool, and households with more advanced lawn watering systems all use more water. According to Otaki's (2008) research, there is a positive significant association between household size and water consumption, implying that a bigger family consumes more water, which provides context.

METHODOLOGY

A list of areas where WASA supplied water, was obtained by WASA regional office and randomly areas were selected from list. Purposive sampling technique was used to draw the sample of 150

households from urban area of Faisalabad which were using WASA water supply. A Google form was used for online data collection. Industrial and commercial stakeholders were excluded.

RESULTS AND DISCUSSION

Table 1. Socio-economic characteristics of the respondents (150).

Characteristics	Number	%
Gender of the respondent		
Female	**55**	**36.7**
Male	**95**	**63.3**
Household Income of the respondent. (Monthly)		
Up to 20,000	**21**	**14.0**
40,000	**28**	**18.7**
60,000	**33**	**22.0**
80,000	**34**	**22.7**
Above 80,000	**34**	**22.7**
Size of House in Marla.		
Up to 5	**77**	**51.3**
6-10	**58**	**38.7**
11& above	**15**	**10.0**
Family Type of Respondent.		
Nuclear/Single	**81**	**54.0**
Joint	**58**	**38.7**
Extended	**11**	**7.3**
Family Size		
Small (1-4)	**15**	**10.0**
Medium (5-8)	**94**	**62.7**
Large (Above 8)	**41**	**27.3**

Table 1 shows the socio-economic status of the respondents. Table one shows that majority of the respondents were male belongs to middle income family living in 1350 square feet household with nuclear family having 5 to 8 family members. The socio-economic characteristics of respondents indicated that the majority of them belongs to middle class families with medium family size. The review of literature suggested that the middle income families used more water than poor class and less than high income families, literature also suggested that family size is positively associated with water usage.

Table 2. Scores on Availability of water Scale (150).

Characteristics	Number	%
Color		
Excellent	14	9.3
Very Good	10	6.7
Good	65	43.3
Poor	58	38.7
Very Bad	3	2.0
Taste		
Excellent	11	7.3
Very Good	11	7.3
Good	47	31.3
Poor	75	50.0
Very Bad	6	4.0
Regularity		
Excellent	8	5.3

Very Good	22	14.7
Good	42	28.0
Poor	73	48.7
Very Bad	5	3.3
Pressure		
Excellent	9	6.0
Very Good	15	10.0
Good	61	40.7
Poor	59	39.3
Very Bad	6	4.0
Purity		
Excellent	6	4.0
Very Good	9	6.0
Good	37	24.7
Poor	44	29.3
Very Bad	54	36.0

Table 2 shows the availability and quality of available water as per the opinion of respondents. The table statistics shows that 43.3% of respondents have opinion that the color of the supplied drinking water by Water and Sanitation Authority is good and 38.7% have opinion that the color of the water is poor. The majority of the respondents (50%) identify that the taste of the water is poor and 31.3% of respondents have the opinion that the taste is good. 48.7% respondents said that regularity of water is poor and 28% mark it as good. 40.7% respondents have opinion that the pressure of the supplied drinking water is good but with mere difference 39.3% respondents said that the pressure of water is poor. Majority of respondents (36%) indicated that the purity of water is very bad, 29.3% said it is poor and 24.7% were satisfied with the purity of water and have opinion that the purity of the water is good.

Table 3. household water uses for following activities other than Drinking.

Characteristics	Number	%
While brushing your teeth		
Let water run all the time	14	9.3
Close the tap	95	63.3
Both, it depends	41	27.
While taking a shower		
Let water run all the time	54	36.0
Close the tap	43	28.7
Both, it depends	53	35.3
While washing clothes		
Let water run all the time	33	22.0
Close the tap	60	42.0
Both, it depends	57	38.0
While Dish washing,		
Let water run all the time	64	42.7
Close the tap	40	26.7
Both, it depends	46	30.7

Table 3 shows the WASA water usage other than Drinking purpose. Table shows that majority of respondents used always WASA water in cooking (62.7%), laundering (64.7%), bathing (62%), motorbike/car washing (62%) and for home sanitation (62%). 51.3% respondents never used WASA supplied water for toilet flushing and flower watering. Table 1 statistics shows that majority of

respondents live in small houses up to 1350 square feet with large family so it is logical that they do not have space to manage gardens due to small house, might be it is the reason to not use of WASA water for flower watering.

Table 4. Respondents' water uses behavior for following activities (150).

Characteristics	Number	%
Cooking		
Always	94	62.7
Occasionally	23	15.3
Never	33	22.0
Laundering		
Always	96	64.7
Occasionally	24	16.3
Never	30	20.0
Bathing		
Always	93	62.0
Occasionally	22	14.7
Never	35	23.3
Toilet Flushing		
Always	49	32.7
Occasionally	24	16.0
Never	77	51.3
Flower Watering		
Always	49	32.7
Occasionally	24	16.0
Never	77	51.3
Motor bike/Car Washing		
Always	93	62.0
Occasionally	20	13.3
Never	37	24.7
Home Sanitation		
Always	93	62.0
Occasionally	20	13.3
Never	37	24.7

Table 4 shows the water usage behavior of respondent in different activities. Table shows that majority of respondents (63.3%) close the tap while brushing the teeth, 36% respondents let the water run all the time during shower and 35.3% said sometimes they close and sometimes let the water run, 42% respondents close the tap while washing clothes and 38% choose the option both, it depends which means sometimes they close the tape while washing clothes and sometimes they let the water run during washing clothes. Majority of the respondents (42.7%) let water run all the time during dish washing. Review of literature also indicated the similar results about the water usage.

Bivariate Analysis

Table 5: More the Household Income Less will be the satisfaction about the Availability of Water

Household Income of the respondent. (Monthly)		Availability of Water % (Frequency)					
		Excellent	**Very Good**	**Good**	**Poor**	**Very Bad**	**Total**
1	**up to 20,000**	38.1(8)	42.9 (9)	0.0 (0)	(4.8) 1	(14.3) 3	**100.0 (21)**
2	**40,000**	0.0 (0)	7.1 (2)	60.7 (17)	14.3 (4)	17.9 (5)	**100.0 (28)**
3	**60,000**	0.0 (0)	0.0 (0)	36.4 (12)	54.5 (18)	9.1 (3)	**100.0 (33)**
4	**80,000**	0.0 (0)	0.0 (0)	0.0 (0)	82.4 (28)	17.6 (6)	**100.0 (34)**
5	**Above 80,000**	0.0 (0)	0.0 (0)	0.0 (0)	94.1 (32)	5.9 (2)	**100.0 (34)**
	Total	**5.3 (8)**	**7.3 (11)**	**19.3 (29)**	**55.3 (83)**	**12.7 (19)**	**100.0 (150)**

Chi-Square: 174.483, Sig. Level: 0.000, Gamma: -0.600, Sig. Level: 0.000

There is a substantial correlation between household income and water availability, as shown in the table by the chi-square value of 174.483 at the 0.000 significance level. The gamma value of -0.600 at the 0.000 level of significance indicates a very significant negative correlation between household income and water availability. A closer examination of the data in the table reveals a definite decline in the proportion of Availability of Water as household income rises. The amount of water a family uses is strongly correlated to their average monthly income. Lifestyle shifts are mostly responsible for the rising rate of consumption (Jethoo, 2011). How much water a household uses is directly related to its economic level. Household water use is negatively related to per capita income. Most people in the upper and middle classes use more water than those in the lower income brackets because they have access to more appliances that need a lot of it. However, a large portion of the water used for irrigation of lawns and gardens and for washing cars is paid for by those in these two income brackets (Kaur, 2014).

Table 6: large family size negatively affects the Availability of Water

Total number of family members living in home		Availability of Water					
		Excellent	**Very Good**	**Good**	**Poor**	**Very Bad**	**Total**
1	**1-4**	46.7 (7)	0.0 (0)	0.0 (0)	40.0 (6)	13.3 (2)	100(15)
2	**5-8**	1.06 (1)	11.7 (11)	30.8 (29)	50 (47)	6.38 (6)	100 (94)
3	**Above 8**	0.0 (0)	0.0 (0)	0.0 (0)	73.2 (30)	26.8 (11)	100(41)

	Total	**5.3 (8)**	**7.3 (11)**	**19.3 (29)**	**55.3 (83)**	**12.7 (19)**	**100.0 (150)**

Chi-Square: 115.364, Sig. Level: 0.000, Gamma: -0.704, Sig. Level: 0.000

This table also shows similar results the Chi-square value (115.364, sig 0.006) shows significant association between variables and Gamma value (-0.704, sig 0.002) shows a strong negative relationship between size of family and Availability of Water. The number of faucets in a household and the size of the family were found to be key factors in predicting household water consumption; it was discovered that households with many members and a large number of taps used more water in general. The overall residential water usage is negatively associated with education level, according to the findings (Narmilan et al., 2020).

Table 7: Large Size of House (in Marla) Negatively affects the Availability of Water

Size of House (in Marla)		**Availability of Water**					
		Excellent	**Very Good**	**Good**	**Poor**	**Very Bad**	**Total**
1	**Up to 5**	10.4 (8)	14.3 (11)	37.7 (29)	28.6 (22)	9.1 (7)	**100 (77)**
2	**6-10**	0.0 (0)	0.0 (0)	0.0 (0)	81.0 (47)	19.0 (11)	**100 (58)**
3	**11 and above**	0.0 (0)	0.0 (0)	0.0 (0)	93.3 (14)	6.7 (1)	**100 (15)**
	Total	**5.3 (8)**	**7.3 (11)**	**19.3 (29)**	**55.3 (83)**	**12.7 (19)**	**100 (150)**

Chi-Square: 69.331, Sig. Level: 0.000, Gamma: -0.736, Sig. Level: 0.000

Water accessibility is correlated with household size in the following table. The table shows that there is a statistically significant relationship between the independent (Household size) and dependent (Water Availability) variables, with the chi-square value of 69.331, sig 0.000 indicating this. The Gamma value of -0.736, sig 0.000 further illustrates this strong negative relationship. The size of the home and the age of the household's head were both shown to be significant predictors of water use. Factorial feature analysis found that garden size, greenhouse size, and the number of times monthly that gardens are watered with tap treated water are all connected to home water use (Keshavarzi et al, 2006)

Table 8: Traditional Family Type of Respondent negatively affects the Availability of Water

Family Type of Respondent.		**Availability of Water**					
		Excellent	**Very Good**	**Good**	**Poor**	**Very Bad**	**Total**
1	**Nuclear**	9.9 (8)	13.6 (11)	35.8 (29)	32.1 (26)	8.6 (7)	**100.0 (81)**
2	**Joint**	0.0 (0)	0.0 (0)	0.0 (0)	82.8 (48)	17.2 (10)	**100.0 (58)**
3	**Extended**	0.0 (0)	0.0 (0)	0.0 (0)	81.8 (9)	18.2 (2)	**100.0 (11)**
	Total	**5.3 (8)**	**7.3 (11)**	**19.3 (29)**	**55.3 (83)**	**12.7 (19)**	**100.0 (150)**

Chi-Square: 60.328, Sig. Level: 0.000, Gamma: -0.768, Sig. Level: 0.000

The chi-square value (60.328, sig 0.000) in this table demonstrates the significant association between variables and Gamma value (-0.768, sig 0.000) shows a strong negative relationship between family type and Availability of Water. This table illustrates that with the increase of family size there

is decrease of Availability of Water because more member consumes more water. It was discovered that households with many members and a large number of taps used more water in general. The overall residential water usage is negatively associated with education level, according to the findings (Narmilan et al. 2020).

Table 9: More the Awareness regarding water shortage more will be the Availability of Water

Awareness regarding water		Availability of Water					
		Excellent	**Very Good**	**Good**	**Poor**	**Very Bad**	**Total**
1	**Not at all**	50.0 (5)	10.0 (1)	10.0 (1)	30.0 (3)	0.0 (0)	**100.0 (10)**
2	**To Some Extent**	1.9 (1)	14.8 (8)	46.3 (25)	37.0 (20)	0.0 (0)	**100.0 (54)**
3	**To a Greater Extent**	2.3 (2)	2.3 (2)	3.5 (3)	69.8 (60)	22.1 (19)	**100.0 (86)**
	Total	**5.3 (8)**	**7.3 (11)**	**19.3 (29)**	**55.3 (83)**	**12.7 (19)**	**100.0 (150)**

Chi-Square: 100.983, Sig. Level: 0.000, Gamma:0.823, Sig. Level: 0.000

This table shows the relationship Awareness regarding water and Availability of Water. Chi-square value (100.983, sig 0.000) shows strong association between variables and Gamma value (0.823, sig 0.001) demonstrates the strong positive relationship between independent and dependent variables. Households with lower water consumption are more conscious of water conservation concerns, are more active in the choice to use water, and establish behaviors linked with lower usage levels (Leo and Gregory (2003).

Table 10: More the use of WASA supplied water other than Drinking purposes less will be the Availability of Water

Household use WASA water for (Cooking Laundering, Bathing Toilet Flushing, Flower Watering, Motor bike/Car Washing, Home Sanitation)		Availability of Water					
		Excellent	**Very Good**	**Good**	**Poor**	**Very Bad**	**Total**
1	**Never**	7.5 (6)	11.3 (9)	25.0 (20)	47.5 (38)	8.8 (7)	**100.0 (80)**
2	**Occasionally**	5.1 (2)	2.6 (1)	10.3 (4)	82.1 (32)	0.0 (0)	**100.0 (39)**
3	**Always**	0.0 (0)	3.2 (1)	16.1 (5)	41.9 (13)	38.7 (12)	**100.0 (31)**

Total	**5.3 (8)**	**7.3 (11)**	**19.3 (29)**	**55.3 (83)**	**12.7 (19)**	**100.0 (150)**

Chi-Square: 38.544, Sig. Level: 0.000, Gamma: -0.453, Sig. Level: 0.000

This table illustrates the availability and use patterns of water for the following uses. Chi-value square's (38.544, sig 0.000) and Gamma's value (-0.453, sig 0.000) show that there is a very significant negative link between the independent (Consumption behaviour) and dependent (water availability) variables, respectively. There are two types of buildings that use up water: homes and businesses. Water is used for everything from drinking and cooking to bathing and flushing toilets to watering flowers and washing cars and motorcycles at home. In homes, water is used for a variety of tasks, including sanitation, laundry, dishwashing, and personal hygiene (such as cooking and drinking). Residential uses up the majority of a city's water supply (Walker, 2010)

Table 11: More the water Consumption on following activities (Brushing teeth, taking a shower, washing clothes, Dish washing) Less the Availability of Water

Consumption Behavior of water on following activities (Brushing teeth, taking a shower, washing clothes, Dish washing)		**Availability of Water**					
		Excellent	**Very Good**	**Good**	**Poor**	**Very Bad**	**Total**
1	**Close the tap**	12.8 (6)	21.3 (10)	51.1 (24)	10.6 (5)	4.3 (2)	**100.0 (47)**
2	**Both, it depends**	2.0 (1)	0.0 (0)	5.9 (3)	82.4 (42)	9.8 (5)	**100.0 (51)**
3	**Let water run all the time**	1.9 (1)	1.9 (1)	3.8 (2)	69.2 (36)	23.1 (12)	**100.0 (52)**
	Total	**5.3 (8)**	**7.3 (11)**	**19.3 (29)**	**55.3 (83)**	**12.7 (19)**	**100.0 (150)**

Chi-Square: 93.982, Sig. Level: 0.000, Gamma: -0.746, Sig. Level: 0.000

In this table chi-square value 93.982 at significance level of 0.000 shows a strong association between Consumption Behavior of water usage and Availability of Water. The gamma value -0.746 at significance level of 0.000 shows the strong negative relationship between Consumption Behavior of water on different activities and Availability of Water. If we look at the content of table, we come to know that with the increase in Consumption Behavior there is clear decrease in the percentage of Availability of Water. Per capita consumption varies considerably with household type and size. Water used in bathing/showering represented the highest proportion of water consumption in both stand-alone houses and apartments (Sadr et al. 1750). primary components of water use comprised washing clothes, bathing, sanitation, and cooking (Haziq & Panezai 2017).

CONCLUSION

The study in hand concluded that family income, family size, household size, family type, WASA water usage other than drinking and more usage of water during brushing, shower, clothes washing and dish washing, is negatively associated with availability of drinking water. Whereas awareness regarding water shortage is positively associated with WASA water availability.

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