

Knowledge, Attitude & Practices towards Safe Water, Sanitation and Hygiene Conditions in South Punjab Pakistan

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Abstract *Affordable and sustainable access to water, sanitation and hygiene (WASH) is a key public health issue and focus of Sustainable Development Goals. Literature showed that households having prior knowledge and an acceptable attitude towards WASH practices have less number of diseases. The main objective of the study was to explore the level of respondents' knowledge, attitude and practices towards safe Water, Sanitation and Hygiene Conditions in South Punjab, Pakistan. The study was mixed-method research. SPSS also applied, and results demonstrate that there was very lack of knowledge about safe WASH practices; the majority of respondents have a traditional attitude. Whereas only 27.3% of respondents have always access to safe drinking water, 96% of respondents were not using any domestic water treatment method, 22.9% were defecating in the open, and the percentage of always handwashing with soap was found to only 29.6%. Social Mobilization programs along with government action to ensure safe WASH conditions are recommended.*

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Introduction

Affordable and sustainable access to safe water, sanitation and hygiene (WASH) is a very important public health issue within international development; hence it is the focus of Sustainable Development Goal (SDGs). Recent discussions focusing on the post-2015 agenda regarding development plans have caused us to notice disregarded health issues and have been greatly concerned about the significance of consensus towards Water, Sanitation, and Hygiene (WASH) markers and targets. (Bastien et al., 2016).

The significant approach to reduce water-borne diseases, e.g. diarrhoea in poor setting areas, is to make sure easy access and advancement of low-cost skills regarding water and sanitation along with hygiene promotion at the level of individual, households and community. (Peal, Evans and van der Voorden, 2010). Safe drinking water, satisfactory sanitation and adequate hygiene are the primary foundations of development with respect to the

health and socio-economic conditions of any society. Having access to improved sanitation results in lowering health system costs, saving time by mitigating illness that can be invested in work or school and eliminating the ratio of open defecation by reducing queue time in order to avail access to shared facilities of sanitation. (Mara et al., 2010).

As of now, the many developing counties that have faced a shortage of adequate and satisfactory water infrastructure have started their efforts to subsist with consistent shortages of drinking water. As the rate of population growth and urbanization is very high in these developing countries, so these counties are facing more pressure of limited water resources, which become the cause of poor access to safe drinking water as well as safe sanitation and hygiene practices at the community level because the safe practices of hygiene are purely dependent upon availability of safe water in

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these developing counties (Eid, 2015). Hygiene causes a worldwide wellbeing challenge, particularly in developing countries; it has become the priority of the international development agenda because of its importance; for example, hygiene practices like handwashing with soap always in critical timings could save many of lives of people annually (Kumwenda, 2019).

Pakistan ranks 6th among the top ten countries with the longest queues for toilets. 46% population of Pakistan does not have a handwashing facility at home with soap and water. 88% cases of diarrhoea are imputed by non-availability of safe drinking water, unsatisfactory sanitation and poor practices of hygiene in Pakistan. Whereas the rate of child mortality under the age of five because of diarrhoea are high, i.e. 39000 children under the age of 5, every year die due to diarrhoea. The rate of underweight children is 45%, and the stunting is 11% among the under age of 5 years' children attributed to poor WASH practices in Pakistan (WASH situation in Pakistan: Water aid Report 2016).

Besides the fact that the quality of drinking water is very associated with the survival of human beings in order to cope with water-borne diseases, but in Province Punjab, Pakistan, according to MICS 2018, the water sources at the household level without E. coli contaminations were found around 63.8 percent (i.e. for rural

areas, 66.6 percent and for urban areas, 60.8 percent). The rate of open defecation in said province was found 13 per cent. However, it was also found in MICS Punjab, Pakistan 2018, that there was great disparity between the availability of water and use of soap for hand washing in rural areas between poorest (74 percent) and richest (98 percent).

South Punjab, Pakistan has been fairly dismissed in the arrangements of financial foundations and administration. Most regions of South Punjab, Pakistan, have declined in their general advancement positioning in the territory. The level of poverty in South Punjab is 43 percent contrasted with 27 percent for the entire of the territory Punjab, Pakistan (Dawn, 2017). The conditions of water, sanitation and hygiene are worst in south Punjab because of poor knowledge of people and traditional living style as south Punjab is backward region of Punjab, Pakistan. For example, there is a problem of water contamination as the presence of E-coli in the household drinking water, and the ratio of open defecation is also very high in South Punjab as compared to Province Punjab, Pakistan. Table 1 indicates the water contamination details in each of the districts along with the ratio of OD. That showed that the Lodhran is the district that has most ratio of households (90.3%) containing the E-coli in water and District Rajanpur has high ratio (38.4%) of open defecation. (MICS, Punjab, Pakistan, 2018)

Table 1. District wise Distribution of household population at risk of faecal contamination based on number of E. coli detected in household drinking water and OD Ratio in South Punjab, Pakistan

District	Percentage of HHs having E-coli in Drinking Water	OD Ratio
Bahawalpur Division		
Bahawalpur	47.6	20.8
Bahawalnagar	88.7	22.4
RY Khan	59.2	20
DG Khan Division		
DG Khan	63.1	34.1
Layyah	59.0	15.5
Muzaffargarh	49.5	29.1
Rajanpur	60.7	38.4
Multan Division		
Multan	67.8	11.4
Khanewal	39.4	13.6
Lodhran	90.3	23.3
Vehari	33.5	13.9

(Source: MICS, Punjab, Pakistan, 2018)

The level of knowledge and attitude counts a lot in practicing safe habits towards water, sanitation and hygiene. Studies showed that, the households having prior knowledge along with positive, learnable and acceptable attitude towards WASH practices have less number of diseases. Examples of this household-level knowledge include hand washing stations to encourage handwashing with soap (Watt, 1988); household-based water treatment with filters or chemical additives; chlorine dispensers for point-of collection treatment of water from wells or standpipes (Clasen et al., 2007).

In South Punjab, Pakistan, household water storage facilities are inadequate, specifically in rural areas. People hardly have knowledge of the factors of water contamination and use the least household-level measures for water treatment. Open defecation, unhygienic latrines, and unhygienic hand washing practices before and after eating and after defecation and non-cleanliness of homes are the common behaviours that become the cause of diseases. Poor sanitation is the biggest contributory factor in water contamination. Knowledge on this is very much limited in people (The WASH Sector Report, HUD & PHED, 2019). It is likewise real in South Punjab, Pakistan, where there have been services given by government and other non-government organizations in regards to safe water and sanitation facilities, yet because of poor preferences and helpless information, the majority of the number of inhabitants in South Punjab, Pakistan not getting legitimate advantages and subsequently pursuing dangerous WASH routines. Which thus builds the high rate of water-borne diseases and wastage of immense financial plans. Thus, the main objective of the study is to explore the level of respondent knowledge, attitude and practices towards the safe water, sanitation and hygiene (WASH) conditions in South Punjab, Pakistan.

Methodology

With respect to water, sanitation and hygiene conditions, South Punjab, Pakistan, are considered a backward or underdeveloped region of Province Punjab, Pakistan; hence it was taken as the universe of the study. The current study comprises qualitative and quantitative research design. The researcher collected qualitative data by using 8 Focus Group Discussions (FGDS), in which four FGDS were

conducted with WASH service providers (representatives of Public Health Engineering Department, Local Government Department, Social Welfare Department and ex- elected representatives of District Councils) whereas, four remaining FGDS were conducted with representatives of local people of the selected area (one from each selected district). For the selection of focus groups, the researcher used a stratified sampling technique. The collected data through a qualitative approach was analyzed by applying thematic analysis in order to draw results. Each group was comprised of 9 members, who were selected on behalf of different age strata (26-55 years). Moreover, as the current study was mixed research, thus in order to collect quantitative data, the researcher used an interview schedule as a research tool. The sample size, which was taken by using an online scientific sample size calculator, was 480 (households). The respondent was head of household in the current study as he was considered as well-awared about the WASH situation of the household. The researcher applied a multi-stage sampling technique to draw samples from the target population. At 1st stage, the researcher selected 04 out of 11 districts of South Punjab, Pakistan, by using a simple random technique. At the 2nd stage, the researcher selected randomly four tehsils (One from each selected district). At the next stage, researcher selected 16 villages (Four Villages from each Tehsil) randomly. At the last stage, 480 households (30 HHs from each selected Village) were selected by the researcher randomly. To analyze the data collected through a quantitative research tool, the researcher applied descriptive and inferential statistics by using SPSS.

Results and Discussions

Qualitative Analysis

As it was already mentioned in the methodology, the researcher used focus group discussions for the collection of qualitative data, which were analyzed by using thematic analysis. Thus, the main findings of FGDS are as below.

FGDs with WASH Professionals and Service Providers

The focus group discussions with WASH professionals & service providers clarified that the term WASH is a combination of three words,

i.e. water, sanitation, and hygiene. Safe water refers to drinkable water without any contamination like bacterial, physical and chemical contaminations. Safe sanitation means availability & safe use of latrine connected with the septic tank at household level and safe disposal of wastewater. Whereas safe hygiene practices referred to positive hygienic behaviours like washing hands with soap in critical timing, i.e. before intake something, after using latrines or before and after starting domestic works. Moreover, water treatment methods at the domestic level, safe transportation and storage of drinkable water, open defecation free environment and personal hygiene were also discovered as behavioral aspects of WASH during focus group discussion. It was also noticed that the term WASH, overall, is being used for preventive measures of health issues.

The conditions of WASH in selected four districts were found average or developing during discussions. Some of the villages, having a lack of awareness about WASH behaviours were also discovered with very poor conditions of WASH. One respondent from PHED Lodhran who rated the general WASH condition of District Lodhran as 30% worst, 30 % poor, 30% moderate and 10% good/developed on behalf of a district-based survey conducted by their department and told that:

"The conditions of drinking water were found poor because of seepage through very close latrine disposals and physiological changes in underground water after 2010 flood in the selected areas. He also added that safe water for drinking is not used by those who are unaware or not practising the domestic water treatment methods like boiling or keeping the water in a glass bottle for 6 hours in sunlight to make it save from contamination."

FGDs with Rural Community Representatives

During focus group discussions with the local community, it was noticed that the rural people have a poor understanding of safe WASH practices. Safe water, sanitation and hygiene were considered very necessary for life. It was found, according to perceptions of rural people, safe WASH means access of all individuals to facilities like water supply schemes, filtration plants, hands pumps, paved streets and drainage

systems made by the government. Lack of these facilities is considered as a reason for the increase in the rate of diseases like stomach diseases and skin diseases.

The focus group elaborated that One can understand the situation of WASH in any area by observing the level of facilities at the household or community level. According to rural people, at the household level, safe water is available for those who have a personal source of water like water bore, hand pump, motor pump or water connection of any water supply. Whereas safe sanitation at household level means affordability and availability of latrine. Moreover, safe hygiene condition at the household level can be understood by observing the physical appearance of individuals. On the other hand, it was found during focus group discussion, at the community level, the WASH condition in any area may be understood by observing the quality and quantity of development projects like water supply schemes, filtration plants, construction of latrines for needy people, sewerage of area and community aid programs for health improvement like "sehat card".

During focus group discussion, it was found that the WASH conditions in rural areas are poor. In some areas, especially in Bahwalpur and Layyah Districts as compared to other two targeted districts Lodhran and Dera Ghazi Khan, the condition of WASH reported by rural peoples are developing. It was noticed that, overall, the level of the water table is decreasing day by day, so it is hard to afford personal hand pumps or motor pumps for all. As one of the community representatives added that:

"Those who have their own bores mostly have contaminated quality of water. Some have good and clean water to drink, especially those which have a source of water near to canal or rivers. Some portion of the community was found covered with water supply schemes/filtration plants. Almost 20-25 percent rural people are depending upon these water projects."

It was also discovered that sanitation conditions of rural areas are not good because of lack of sewerage channels/schemes. Some areas have sewerage scheme which is disposing contaminated water in agricultural land. The condition of hygienic behavior like hand washing with soap always, were found not good in rural

areas because many of the community members have poor level of awareness about type of good behaviors of hygiene, so they are currently practicing habits on myth or traditional based e.g. as if latrine is not available, the local people defecate in open without any social blame or critique.

Descriptive Analysis

Table 2. Knowledge about the term safe WASH Practices wise Distribution

Categories	Frequency	Percentage
Very Important for Healthy and longer life	245	51.0
Less important for healthy and longer life	62	12.9
Doesn't matter for Healthy & longer life	5	1.0
No clarity about safe WASH	168	35.0
Total	480	100.0

Table 2 revealed that majority of respondents (51.0) percent respondents told that Safe WASH was very important for healthy and longer life. While there were 35.0 percent household heads who viewed that they have no clarity about safe WASH practices. The findings indicated that there is need to educate people about the term safe WASH, and the same was found by [El-](#)

Quantitative Analysis

This portion reveals the analysis of quantitative data in order to explore the level of knowledge, attitude and practice towards safe WASH practices in south Punjab, Pakistan.

[Zanfaly \(2015\)](#) who identified that awareness programs to aware people regarding preventive measures for health were found very successful in decreasing the ratio of diseases even these programs promoted the access to safe water, safe water treatment methods and safe storage of drinking water.

Table 3. Distribution regarding WASH Program Started in Respondent's Area

Categories	Frequency	Percentage
Yes	210	43.8
No	151	31.5
In Process	86	17.9
In Planning Phase	27	5.6
Not Known	6	1.3
Total	480	100.0

Table 3 revealed that only 43.8 percent of respondents positively responded to the question of the WASH program started in the area. They said that the WASH program has started in their area. This also shows their awareness level with the WASH. While there were respondents, 31.5%, who responded no work yet started in their area regarding WASH. There could be the reason that the WASH programs were not spread enough that have reached their areas. This table indicates that

there was a need for a WASH program in the respondent's area to provide services to all without any discrimination. As [Moe and Rheingans \(2006\)](#) forwarded a study in which he put a reference of speech by Kofi Annan General Secretary United Nation, i.e. There are strong need for special water, sanitation and hygiene programs for slums, communities, schools and health centers in order to promote the public health."

Table 4. Distribution Regarding General Condition of WASH in Respondent's Area

Categories	Frequency	Percentage
Worst	172	35.8
Poor	84	17.5
Moderate	176	36.7

Good	48	10.0
Total	480	100.0

The responses demonstrate that there was mix condition of WASH in the respondent's area. Table No four is showing that the majority of the respondents (35.8+17.5=53.3%) claimed there are poor conditions with respect to WASH in their areas. As 35.8 percent of the respondents reported that the conditions of water, sanitation

and hygiene are worst in their area whereas 17.5 percent reported that said conditions are poor. According to table 4, the ratio of respondents who reported WASH conditions are moderate is 36.7 percent and only 10 percent of respondents reported that WASH condition in their respective area can be considered as good.

Table 5. Distribution of Respondents with respect to Pattern of common Behaviors

Categories	Frequency	Percentage
Strict & Rigid	288	60.0
Moderate	127	26.5
Liberal	39	8.1
Any	26	5.4
Total	480	100.0

As the targeted area was rural. The people were bound by strong kinship ties and blood relations. Table 5 revealed that 60 percent respondents were strict and rigid towards their common behavioral patterns. Rigidity means they cannot bear any act against their traditional norms and values. As there were primary relations, so the

people were bound and depended on each other. [Abou-Ali \(2003\)](#) identified that because of cultural-traditional behaviors, the indigenous methods of health care was prevailing, which resulted in poor understanding of WASH and no intentions to hygienic behaviors.

Table 6. Distribution Regarding Gender wise Importance of WASH Education

Categories	Frequency	Percentage
Male	293	61.0
Female	58	12.1
Both	129	26.9
Total	480	100.0

Table 6 indicates the gender-wise importance of WASH education which showed the attitude of respondents. 61 percent of respondents told that male has importance for WASH education, while 12.1 percent told that female has importance for WASH education and 26.9 percent of respondents told that both have WASH education has importance for both. This table reveals that there is a need to educate rural people, and WASH education is more important for females as females at the household level deal more with WASH interventions like storing safe water etc. The findings of [Routray \(2015\)](#) are also in accordance with Table 5 who observed that

many subsidized latrines provided by the government were found without a roof, with poor hygienic conditions and not consistent use. These latrines were also found outside the household boundary. The interest was found in some male heads of household for their females, e.g. newly married daughters-in-law, in order to provide security and privacy, especially for the use of toilet; hence, in this regard, the demand of females count a lot. Thus only providing subsidies or developing infrastructure were not enough until the cultural behaviors regarding ownership and usage were not ensured.

Table 7. Distribution regarding awareness of Respondent about Drinking water Quality

Categories	Frequency	Percentage
Clean & Safe	131	27.3
Not clean & Unsafe	192	40.0
Not Confirmed	147	30.6
Never Noticed	10	2.1
Total	480	100.0

Table 7 revealed that 27.3 percent of respondents were those who were drinking clean/safe water, while 40.0 percent were those who thought that their water was not safe, and 30.6 percent of respondents revealed that they were not confirmed. 2.1 percent of respondents were those who had never noticed. This was due to a lack of understanding about the quality of drinking water as well as poor access to safe

drinking water. As [Daud et al. \(2017\)](#) identified that a huge population in the targeted area were found drinking contaminated water because of water scarcity. The researchers also reported that the quality of drinking water was also influenced due to sanitation practices. The issue can be tackled by educating individuals about safe water and sanitation practices.

Table 8. Distribution regarding availability of toilet facility at home

Categories	Frequency	Percentage
Availed	337	70.2
Not Availed	110	22.9
In process	33	6.9
Total	480	100.0

Table 7 showed 70.2 percent of respondents were availing toilet facility at their home, while 22.9 percent told that they had not availed toilet facility and 6.9 percent told that the toilet facility at their home was in process. The finding of this

the table was in accordance with the results of the report, MICS Punjab (2018), which identified that the ratio of no toilets facilities at home in rural Punjab, Pakistan, was 19.7, whereas, in the south Punjab region, it is 20.5 percent which is almost similar to findings of the current study.

Table 9. Distribution regarding family members use toilet always and family members always wash hand with soap (n=480)

Statements	Up to 25%	Up to 50%	Up to 75%	More than 75%	None
	F (%)	F (%)	F (%)	F (%)	F (%)
Always use of toilet	25 (5.2)	34 (7.1)	47 (9.8)	264 (55.0)	110 (22.9)
always wash hands with soap	50 (10.4)	68 (14.2)	91 (19.0)	129 (26.9)	142 (29.6)

Family practices regarding WASH were measured through the use of toilets and using soap for hand wash. According to the findings of Table No 9, it can be concluded that the ratio of Open defecation in targeted areas is 22.9 percent, as 22.9 percent of the respondents reported that they were not using the toilet. Whereas majority (55 percent) of the respondents claimed that they were using toilets always. From these findings, it can be seen that

the results are in accordance with the MICS report 2018 for province Punjab, Pakistan. On the other hand, usability of soap for hand wash was mixed. 10.4 percent of respondents told that 25% family members were using soap. 14.2 percent respondents told that 50% of their family members were using soap. 19.0 percent respondents indicated that 75% of their family members were using soap and 29.6 percent were using not soap for hand wash. This table is

showing that majority of respondents were not habits to wash hand always with soap. As [Wasonga \(2016\)](#) told that the hand washing with soap was non-existent in rural areas, since it was

the common believe of formers, washing hands always with soap would waste their ability to rare livestock as this work demanded complete care of animals.

Table 10. Distribution regarding using domestic methods of treatment for making drinking water safe from contaminated

Categories	Frequency	Percentage
Yes	19	4.0
No	136	28.3
Not Known	275	57.3
Take never interest	50	10.4
Total	480	100.0

This was asked that whether the respondents were using treatment methods to make drinking water safe from contamination. Only 4.0 percent of respondents said that they were using the technique to make water safe for drinking. 28.3 percent of respondents were those who told that they were not using any technique, while 57.3 percent of respondents revealed that they do not know the technique of converting contaminated water into safe water, and 10.4 percent were those who took no interest. The major reason

could be lack of knowledge for not pursuing the technique for making water safe. As [Khalid et al. \(2018\)](#) identified that community members of Punjab, Pakistan did not treat drinking water before use due to the non-availability of knowledge for the treatment of water. The findings are also the same with the MICS (2017-18) where it was quoted that overall, 4.5 % population of Province Punjab, Pakistan, were using domestic methods of water treatment to make the drinking water safe from impurities.

Bi-Variate Analysis

Table 11. Cross tabulation of respondent’s between start of WASH program and General WASH Condition of Area

Components	General WASH Condition of Area				Chi-square value	P-Value	Df
	Worst	Poor	Moderate	Good			
	F (%)	F (%)	F (%)	F (%)			
WASH program started							
Yes	85 (49.4)	31 (36.9)	72 (40.9)	22 (45.8)	26.775	.008	12
No	44 (25.6)	30 (35.7)	56 (31.8)	21 (43.8)			
In process	27 (15.7)	15 (17.9)	39 (22.2)	5 (10.4)			
In Planning Phase	10 (5.8)	8 (9.5)	9 (5.1)	0 (0.0)			
Not known	6 (3.5)	0 (0.0)	0 (0.0)	0 (0.0)			

Table 11 shows the cross-tabulation between WASH program started in the area and the general WASH condition of the area. The results for the given relation were compared column-wise. It was seen that poor WASH condition in the area has the contribution towards programs of WASH started in the area. Analysis showed

that there is an association between the water, sanitation and hygiene programs started in the area and general water, sanitation and hygiene conditions of the area as the calculated value of chi-square is 26.775 and p-value .008 that is found less than 0.05 at df=12. From the above analysis, it can be seen that the WASH program

started in the area has a profound effect on the general WASH condition in the area. Hence the null hypothesis was rejected on the basis of

analysis, and the researcher accepted the alternative hypothesis.

Table 12. Cross-tabulation of respondent’s between toilet facility at home and patterns of common behaviors of respondents in the targeted area

Elements	The pattern of common behaviors				Chi-square value	P-Value	Df
	Strict & Rigid	Moderate	Liberal	Any			
	F (%)	F (%)	F (%)	F (%)			
Toilet Facility at home							
Availed	211 (73.3)	91 (71.7)	19 (48.7)	16 (61.5)	20.580	.002	6
Not Availed	52 (18.1)	31 (24.4)	18 (46.2)	9 (34.6)			
In process	25 (8.7)	5 (3.9)	2 (5.1)	1 (3.8)			

Table 12 shows the cross-tabulation of respondent’s between toilet facilities at home and the pattern of common behaviors of respondents prevailing in the area. The results for this association were compared column-wise. It was seen that having toilet at home was significantly influenced by the strict and rigid cultural patterns that prevailed in the area. Analysis showed that there is an association

between toilet facilities at home and patterns of common behaviors of respondents prevailing in the area as the chi-square calculated value is 20.580 having p-value .002 that is found less than 0.05 at df=6. Thus, from the above analysis it can be seen that the prevailing f traditional patterns effecting in the targeted areas. Hence the null hypothesis was rejected on the basis of analysis and accepted the alternative hypothesis.

Table 13. Cross tabulation of respondent’s between level of understanding about safe WASH practices and pattern of common behavior as well as toilet facility at home

Socio-cultural Constraints	Level of Understanding about safe WASH practices			Chi-square value	P-Value	Df
	Yes	Neutral	No			
	F (%)	F (%)	F (%)			
Patterns of common behaviors						
Strict & Rigid	174 (63.5)	62 (64.6)	52 (47.3)	19.991	.003	6
Moderate	75 (27.4)	21 (21.9)	31 (28.2)			
Liberal	13 (4.7)	8 (8.3)	18 (16.4)			
Any	12 (4.4)	5 (5.2)	9 (8.2)			
Toilet Facility at Home						
Availed	274 (100.0)	63 (65.6)	0 (0.0)	614.154	.000	4
Not Availed	0 (0.0)	0 (0.0)	110 (100.0)			
In process	0 (0.0)	33 (34.4)	0 (0.0)			

Table 13 demonstrate the cross-tabulation between respondents' level of understanding about safe WASH practices and pattern of common behavior. The results for said analysis were compared column-wise. Analysis showed that there is association between the patterns of common behaviour of respondents and the level of understanding about safe WASH practices. As the value of chi-square is 19.991 and p-value .003, that is found less than .05 at $df=6$. It was also found that there is an association between the toilet facility at the respondent's home and the level of understanding about safe WASH practices. As the calculated value of chi-square is 614.154, which have p-value of .000 that is found less than 0.05. Hence from the above analysis, it can be seen that the knowledge, i.e. level of understanding about WASH and attitude of respondents i.e. common pattern of behaviors has a strong influence on household WASH practice i.e. toilet facility at home. Hence in the light of findings of analysis, the null hypothesis were rejected and researcher accepted the alternative hypothesis.

Main Finding of the Study

According to Focus group discussions with representative of WASH services providing departments and representatives of locals of targeted area, it was analyzed that, the conditions of WASH in selected four districts were found average or developing. Some of villages, having lack of awareness about WASH behaviors were also discovered with very poor conditions of WASH. For example, one respondent from PHED Lodhran who rated general WASH condition of District Lodhran as 30% worst, 30 % poor, 30% moderate and 10% good/developed on the behalf of district based survey conducted by their department. The discussions described that, in rural areas, the local people have poor knowledge of safe water, sanitation and hygiene practices because of their typical and rigid mind set. Very less numbers of people had easy access to sustainable WASH practices. For example, the ratio of people who were using safe drinking water was very low, similarly, the ratio of open defecation was also very high. Habit of hand washing with soap was poor. Personal hygiene had not given much importance in rural areas. The reason behind poor condition of WASH, considered by locals of

targeted areas and representatives of service providing departments were poor knowledge, rigid behaviors and poverty.

With respect to level of KAPS (Knowledge, Attitude & Practices) regarding WASH, it was found through quantitative analysis that, for more than half of respondents (51%), WASH practices are very important for healthy and longer life. The mot of selected community members (43.8%) claimed that WASH program has started in their area. According to mostly (38.5%) respondents 25% work related to WASH has done in their area. With reference to general WASH condition of area, most of the respondents (53.3%) reported that the condition of water, sanitation and hygiene are very poor. The most of respondents (58.1%) were not tested the quality of drinking water from any lab. They were using the water for drinking purpose from different sources according to setting of their area. During the data collection it was observed that some areas have the water supply schemes stand points and wells in their village for storage of water and some have to purchase water for drinking. The most of selected community members (40%) were those who thought that, their water was not safe for drinking, whereas significant (30.6%) respondents revealed that they were not confirmed whether they were drinking water safe or not. The view of most of the selected community members (46.7%) about key timings of handwashing with soap was all mentioned indicators, i.e. before and after eating something, after using the toilet and before & after any domestic work. The most of selected community members (60.4%) claimed WASH education by WASH professionals was very necessary. This was perceived by almost half of the selected population (49.6%) that the provision of a hygienic environment was administrative responsibility. Most of the respondents (44.8%) revealed that it was the behavior that was influencing their health. With reference to the level of WASH practices, most of the respondents (67.7%) have drinking water facilities at their homes. The most (44.2%) selected community members claimed that any of their family members were not using safe water for drinking. Only (4%) respondents were practising domestic techniques/methods to make water safe for drinking, whereas (28.3%) respondents were not using any domestic method. Most of the respondents (57.3%) revealed that they do not know the

techniques/methods of converting contaminated water into safe water at the domestic level. A considerable percentage of selected community members (22.9%) of respondents defecate in the open as they have no toilet at home. The mostly (70.4%) respondents have soap availability for handwashing at their home, while (22.5%) have no soap available all the time for hand washing at their home whereas (7.1%) respondents have never noticed about the soap availability all the time at their home. The only (26.9%) respondents indicated that more than 75% of their family members were using soap always for hand washing.

Conclusion & Recommendations

It was concluded that majority of South Punjab's population were not known about term "Safe WASH Practices" as, according to them: all the underground water is safe for drinking, they were not well-awared about domestic water treatment methods and practice of OD by children were common at their households because of stereotypical and traditional attitude. The current

study concludes, that only (27.3%) target population was using safe water for drinking purpose, and (96%) target population of South Punjab was not using domestic water treatment methods in order to save drinking water from all type of contaminations. It was also concluded that the ratio of open defecation in South Punjab, Pakistan was (22.9%). Whereas, those who had latrines, only (38.3%) have availed septic tank along with latrines for safe disposal and only (29.6%) were always using soap for handwashing in south Punjab Pakistan.

On behalf of the findings, it is recommended that, there is strong need for social mobilization programs along with policy or act regarding the use of drinking water in order to minimize the scarcity of drinking water and address the issues relevant to contaminated water and open defecation. Government should design such policies in which participation of women and marginalized parts of community should consider mandatory because these segments of the community have more chances to adopt, practice, maintain and sustain any WASH behavior or intervention.

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