

Impact of Public Health Awareness on Preventive & Curative Healthcare: A Survey of Literate/Illiterate Samples from Bhakkar, Punjab, Pakistan by

1. Abid Hussian (Ph.D)

2. Aamir Sohail (Ph.D)

3. Ghulam Abbas (Ph.D)

1. Public Administration Department, Gomal University KPK, Pakistan; Director High Aims School System Jahan Khan Bhakkar.
2. Lecturer Department of Commerce, University of Sargodha, Sub-Campus Bhakkar.
3. Lecturer Department of Business Administration, Government College University Faisalabad, Sub-Campus Layyah
4. Assistant, Public Administration Department, Gomal University KPK, Pakistan.

Abstract

The knowledge of healthcare by the citizens results in more preventive healthcare and therefore less curative healthcare by visiting doctors and hospitals. Public Health Awareness (PHA) is not learning about diseases and medicine rather diseases and how to stay away from them. It obviously leads to 'preventive healthcare (PHC)' through food and exercises to prevent from getting sick. 'Curative healthcare (CHC)' is needed when public gets sick and things go beyond individual's control. It is therefore widely assumed and verified that greater the PHA, higher are chances of PHC and lower will be need for CHC. This paper reports the analysis of survey data to verify these set of assumptions regarding the positive link between PHA and PHC while simultaneously negative connection between PHA and CHC. The results have significantly approved the existence of both the interrelationships.

Keywords: PHA (Public Health Awareness), PHC, & CHC

INTRODUCTION

In public health administration, the question of what type and volume of health-related information is needed by citizens "to navigate their lives in the challenging conditions of the 21st century", with regard to healthcare facilities and services (Ansari &Stibbe, 2009). Print and electronic media can be used to launch health awareness programs and give healthcare messages. People with high PHA are in better position to take care of their health and their loved ones therefore health indicators are positive and better (Bonderup et al., 2012; Qidwai, 2013). Increasing PHA is not simple and easy rather needs a lot of efforts on the part of government as well substantive budgets make population more aware of public health problems and the preventive measures they can undertake (Kurji, Premani, &Mithani, 2016; Nawaz, 2017).

In 1978, Pakistan became signatory to WHO (World Health Organization) in the resolve of 'Health for All' (WHO, 1978). This resolve focuses on focuses on prevention of disease, promotion of health, and services for curative and rehabilitative requirements. These policies emerged in Pakistan in 1990s when Pakistan Government gave its ever first National Health Policy (MHGP, 1990; Ronis&Nishtar, 2007; Iftikhar, Sattar, &Nawaz, 2016). National health policy of Pakistan emphasizes on health services in schools; control of communicable diseases; nutrition programs; family planning; malaria control programs; sanitation and safe drinking water (Ahmed, Nawaz, &Irfanullah, 2016a; Qureshi, Nawaz, 2019).

2nd National Health Policy, 1997 (MHGP, 1997) was introduced focusing on health promotion and ‘health education.’ The health promotion focused on health-education and five principles of Ottawa Charter (WHO, 1986) as a guiding framework (Ronis&Nishtar, 2007). Then came National Health Policy 2001 (MHGP, 2001), wherein plan was “to create mass awareness in public health matters using “multimedia to disseminate information (Afzal & Yusuf, 2013). The emphasis were on disseminating preventive information on healthy practices including treating drinking water, washing hand and sanitation (Kurji et al., 2016; Ahmed, Nawaz, & Irfanullah, 2016b).

In this regard, the role of NGOs and private sector is critical in increasing public health awareness in universities, colleges and schools. In 2009, the private Procter, NGO ‘Save the Children’ and Gamble Pakistan built 100 sanitation facilities in 100 days in Lahore, Quetta, and Karachi (Tanwir et al., 2003). Their target was to create health and hygiene awareness among 40,000 school-age children thereby helping in reducing the burden of communicable disease to a large extent (Afzal & Yusuf, 2013; Health Conference, 2018).

To improve the health facilities and services, better monitoring and evaluation is indispensable but increasing PHA fare more needed and should be placed on top priority (Tanwir et al., 2003). Pakistan developed Health Monitoring Information System (HMIS) in 1992 funded by USAID, however, it should be noted that our system for public health surveillance is still weak and incompetent provide required data for informed decisions about public health (Ansari &Stibbe, 2009; Callen et al., 2013). Researchers conducted intervention at a BHU to watch public sector worker absenteeism using smartphone technology thereby virtually increasing the inspections of clinics (Iftikhar et al., 2016; Nawaz, 2017).

This paper is an effort to highlight the need for public health awareness with a view to help public health sector in implementing health related programs with the support and understanding of the general public. Educated and well-informed citizens respond more powerfully to the public health initiatives by extending full cooperation through their awareness about the sensitivity of the health issues and the efforts made by the government to handle those issues effectively (Ahmed et al., 2016a; Kurji et al., 2016). It is well-established that public health awareness affects preventive healthcare campaigns positively making the people able to control health issues before they strike them. Likewise, informed citizens are better position to handle curative healthcare and thereby assist public health sector to work effectively in cooperation with community.

2. RESEARCH DESIGN

Positivism is the most popular and commonly adopted research philosophy in social sciences to conduct qualitative but numerically supported research. As per positivism, knowledge is verifiable and can be collected, recorded and communicated through observational methods. Survey approach was applied for data collection, both qualitative and quantitative. Likewise, ‘thematic-analysis’ (Stirling, 2001) has been used to analyze qualitative data coming from literature while statistical tools of correlation and regression were applied to get answers from quantitative/field data.

LITERATURE REVIEW

Public Health Awareness

Prevention is better than cure is commonly understood reality and every rational citizen knows that if measures are taken at the environmental hygiene and food levels (preventive healthcare), the vulnerability to diseases is reduced to maximum extent (Tanwir et al., 2003). In advanced countries, citizens are bombarded with updated

healthcare information to keep their preventive level of healthcare updated in terms of awareness (Nishtar, 2010). In developing countries like Pakistan where health related facilities and services are very limited and poor in quality (Khalid & Sattar, 2016), the tool of public awareness about their healthcare measures and issues can help a lot in better handling health of the nation (Ahmed et al., 2016a; Health Conference, 2018).

At the moment mass media and more widely, the social media has become most powerful tool in disseminating health-related information to all types of stakeholders including children to adults and old-age citizens simultaneously (Bonderup et al., 2012). As per WHO reports, developing countries as Pakistan are behind the targets regarding healthcare and human development, such as life expectancy is 65.4 years in Pakistan (a developing state), as compared with Japan where it is 83 years (a developed country) (WHO, 2013; Iftikhar et al., 2016).

The ‘community needs’ must be unfolded through involving the community in the process. If communities are given the ownership of their healthcare, they can successfully surface their health needs thereby improving their health status (Tanwir et al., 2003). Healthcare delivery models, based on community needs based are best for financial acceptability and sustainability (Bawden & Lindsay, 2007). Research proposes public-private partnership model likely to be successful to improve health in Pakistan-like developing countries (Qidwai, 2013; Ahmed, Nawaz, & Irfanullah, 2016c).

Preventive Healthcare

The most effective and what characterizes advanced healthcare systems of the world, is the maximum public health awareness before the diseases strike the society at the preventive levels of healthcare both in terms of food management and preventive vaccinations (CDC, 2011). A citizen with higher level of public health likely to be vigilant of his/her health and family. It is surprising that the best health indicators in South Asia emerge from Sri Lanka where life expectancy is 72 years due to having very ‘high literacy rate’ as well as better support, facilities and services at primary healthcare (Khalid & Sattar, 2016). Pakistan can learn from the experiences of Sri Lanka as workable model address native health issues (Kurji et al., 2016; Nawaz, 2017).

Curative Healthcare

As far as curative healthcare is concerned, the community should be aware of all the healthcare facilities available at the primary, secondary and tertiary layers. Public awareness about hospitals, clinics, medical stores, and patient help centers along with contact information so that health related help should be sought as quickly as possible in the moments of emergency. Likewise, public awareness is also needed and continuously updated about the medicines, drugs sold in the markets (Ronis & Nishtar, 2007; Bonderup et al., 2012; Khalid & Sattar, 2016). Measures must be taken by the public health authorities display latest information on the drugs commonly available in the market through print media, social media, Bill-boards in public places, educational institutions and markets of consumer products (Ahmed et al., 2016a; Qureshi, Nawaz, 2019).

Availability of healthcare facilities and services at the primary level are more critical and need to be robust alongside maximum and updated awareness of general public regarding the facilities and schedules of healthcare services (Ansari & Stibbe, 2009). In Family Planning and Primary Healthcare Program, 103,000 lady health workers (LHWs) were recruited by March 2012. 76 percent of the target population is now covered by LHWs, thereby accelerating immunization across the country and bringing improvement (Khan, 2012; Afzal & Yusuf, 2013). The training of LHWs is conducted at the BHUs (Basic-health-units), however, insufficient supply of medicines at BHUs show that a lot of patients are unable to get preventive and curative treatment (Ahmed et al.,

2016c;). The quality of services delivered by the LHWs also requires regular monitoring and evaluation—processes that are yet to be strictly implemented (Ahmed et al., 2016b; Nawaz, 2017).

Demographic Impacts on Behaviors

Demographic differences have also been reported as to change the opinion of the respondents regarding health care variables (Kurji et al., 2016). In this study the researcher has tested ‘education’ and ‘occupation’ to the extent they affect the response of the subjects (Khalid & Sattar, 2016). The results are significant and critical in revealing the demographic impacts on comparative opinion of different groups.

FINDINGS OF THE STUDY

2.1 Reliability and Validity of Data & Instrument

Reliability

	Construct	Items	Alpha
1	Public Health Awareness	9	0.966
2	Preventive Healthcare	9	0.762
3	Curative Healthcare	8	0.925
4	Total	28	0.718

Validity

a. Factor Analysis (PHA)

KMO and Bartlett's Test			Component Matrix (PHA)	
			Items	Loadings
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.923	Know about preventive measures.	.987
Bartlett's Test of Sphericity	Approx. Chi-Square	1928.90	Know common diseases.	.809
	df	36	Know seasonal health issues.	.811
	Sig.	.000	Where to go for healthcare.	.852
			Read and learn health issues.	.897
			Watch TV on health tips.	.884
			Healthcare is a top issue	.923
			health information is shared	.862
			parents keep watch on health	.933

b. Factor Analysis (PHC)

KMO and Bartlett's Test			Component Matrix	
			Items	Loadings
Kaiser-Meyer-Olkin Measure of Adequacy of Sample.		.758		
Bartlett's Test of Sphericity	Approx. Chi-Square	541.623	Prevention is better	.923
	df	36	Healthcare via food	.262
	Sig.	.000	Maintain good health.	.063
			Exercise is must	.474

			Use of vegetables	.566
			Read about PHC tips.	.605
			PHC is inexpensive	.749
			PHC stops diseases	.769
			PHC is personal	.737

Items with loadings of <0.4 were excluded from the analysis.

c. Factor Analysis (CHC)

KMO and Bartlett's Test			Component Matrix	
			Items	Loadings
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.890	Know about the clinics.	.975
Bartlett's Test of Sphericity	Approx. Chi-Square	1246.763	Know doctors & treatments.	.579
	df	28	Know about the medicine	.748
	Sig.	.000	Visit doctors for check-up	.733
			Keep common medicine	.754
			Take prescribed medicine	.910
			Use medicine available	.935
			I instantly visit doctor	.837

Descriptive Results

Occupation/Literacy Cross-tabulation

		Literacy		Total
		Literate	Illiterate	
Occupation	Employee	48	40	88
	Businessman	31	50	81
Total		79	90	169

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Public Health Awareness	169	2.00	5.00	3.5431	.80182
Preventive Healthcare	169	2.22	4.11	3.0493	.42619
Curative Healthcare	169	1.00	4.00	2.7648	.81716

Testing of Hypotheses

H1: PHA is significantly associated with PHA & CHC

Correlations (n=169)

		Public Health Awareness	PHC
Preventive Healthcare	Pearson Correlation	.735**	
	Sig. (2-tailed)	.000	

Curative Healthcare	Pearson Correlation	-.657**	-.455**
	Sig. (2-tailed)	.000	.000

** . Correlation is significant at the 0.01 level (2-tailed).

ANALYSIS: The results are significant with both positive and negative statistics supporting the hypothesis assumed about the relationships. So the first hypothesis is substantiated statistically.

H2: PHA significantly (positively) predicts PHC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.735 ^a	.541	.538	.28970	196.598	.000 ^b

a. Predictors: (Constant), PHA

a. Dependent Variable: PHC

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.665	.101		16.441	.000
	Public Health Awareness	.391	.028	.735	14.021	.000

ANALYSIS: The relations between PHA and PHC have emerged as positive and significant thus second hypothesis is also supported and accepted as true.

H3: PHA significantly (negatively) predicts CHC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.657 ^a	.431	.428	.61819	126.550	.000 ^b

a. Predictors: (Constant), PHA

a. Dependent Variable: CHC

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.136	.216		23.771	.000
	Public Health Awareness	-.669	.059	-.657	-11.249	.000

ANALYSIS: The relation between PHA and CHC was assumed negative. This link has also emerged significantly strong and therefore third hypothesis also stands true and accepted.

Impact of Education on Variables

Group Statistics

	Literacy	N	Mean	Std. Deviation	Std. Error Mean
Public Health Awareness	Literate	79	4.0309	.52447	.05901
	Illiterate	90	3.1148	.75881	.07999
Preventive Healthcare	Literate	79	3.2729	.36367	.04092
	Illiterate	90	2.8531	.37903	.03995
Curative Healthcare	Literate	79	2.4288	.64478	.07254
	Illiterate	90	3.0597	.84139	.08869

H4: Educated are Scoring Higher on PHA & PHC

Independent Samples Test

		F	Sig.	t	df	Sig. (2-tailed)
Public Health Awareness	eva	16.126	.000	9.006	167	.000
	evna			9.217	158.625	.000
Preventive Healthcare	eva	.021	.886	7.320	167	.000
	evna			7.340	165.662	.000
Curative Healthcare	eva	6.773	.010	-5.413	167	.000
	evna			-5.506	164.109	.000

ANALYSIS: Educated respondents have scored higher on PHA and PHC with significance however, it is surprising that illiterates have given higher scores on CHC significantly. The demographic differences visible thus hypothesis is accepted as true on all three variables.

Impact of Occupation on PHA, PHC & CHC

Group Statistics

	Occupation	N	Mean	Std. Deviation	Std. Error Mean
Public Health Awareness	Employee	88	3.6364	.81017	.08636
	Businessman	81	3.4417	.78508	.08723
Preventive Healthcare	Employee	88	3.1149	.44042	.04695
	Businessman	81	2.9781	.40078	.04453
Curative Healthcare	Employee	88	2.7116	.81017	.08636
	Businessman	81	2.8225	.82582	.09176

H4: Employees are Scoring Higher on PHA & PHC

Independent Samples Test

		F	Sig.	t	df	Sig. (2-tailed)
Public Health Awareness	eva	.091	.763	1.584	167	.115
	evna			1.586	166.551	.115
Preventive Healthcare	eva	1.107	.294	2.107	167	.037
	evna			2.115	166.980	.036
Curative Healthcare	eva	.011	.917	-.881	167	.380
	evna			-.880	165.263	.380

ANALYSIS: Employed subjects scored significantly higher on PHA (test is however insignificant on PHA) and PHC however, it is again weird that businessmen or self-employed respondents gave high scores on CHC. The demographic effects are thus proved so hypothesis 5 is partially accepted as true on two variables.

DISCUSSIONS & CONCLUSIONS

The MDGs (Millennium Development Goals) suggest scheduled objectives to control poverty as well as spread education, and security as mentioned in the Universal Declaration of Human Rights. Furthermore, political devolution within Pakistan provides a greater opportunity for public healthcare to address issues related to system-planning, healthcare delivery structures, programs, and services (Ali & Khan, 2012). Given the fact that developing countries like Pakistan (Khalid & Sattar, 2016) are not able to provide all required health facilities and services to all citizens of the country in length and breadth of the country’s landscape so there is acute need to prepare community in assisting the public health authorities in handling healthcare issues collectively (Kurji et al., 2016). This is only possible if ‘public health awareness’ programs are launched using multiple sources and ways of approaching diversity of communities through that media which is in access of a specific community (Iftikhar et al., 2016).

Thus, community participation in public health programs is widely considered as the best way to help citizens in having best possible healthcare services in both advanced and developing countries like Pakistan (Khalid & Sattar, 2016). Social media has become the dominant form of communication with billions of users possessing a smart phone to access multiple platforms like facebook, WhatsApp, twitter, and many more. Millions of Pakistani citizens are already ‘international-citizens’ by having and using ‘Smart Phones’ exchanging a diversity of messages about different shades of life like educational, social, political, religious, cultural, technological as well as ‘health-tips.’ Public health authorities must explore different ways to use social media for ‘public-health-awareness’ to access masses simultaneously with the intention to ‘kill the possibility of bad health than bad health itself.’

References

1. Afzal, U. & Yusuf, A. (2013). The State of Health in Pakistan: An Overview. The Lahore *Journal of Economics*, 18: SE (September):233–247.
2. Ahmed, Nawaz, & Irfanullah (2016c) The Challenges Concerning the HealthCare Leadership towards: Innovation in Developing Countries like Pakistan. *Advances in Life Science and Technology*, Vol 40, 1-4. ISSN 2224-7181 (Paper) ISSN 2225-062X (Online). At: www.iiste.org.
3. Ahmed, Z. Nawaz, A. Irfanullah, K. (2016a). The Complications and Challenges Confronted by Healthcare System in Khyber Pakhtunkhwa, Pakistan: A Review. *Journal of Medicine, Physiology and Biophysics*, Vol.23. PP-1-6.

4. Ahmed, Z., Nawaz, A. & Irfanullah, K. (2016b). The Leadership and the Health Services: A Systematic Review. *Journal of Medicine, Physiology and Biophysics*, Vol.24. pp. 1-4.
5. Ali N, Khan MS. 2012 Devolution and health challenges and opportunities- a year later. *Pakistan Journal of Public Health*, 2(2):62-5.
6. Ansari, W.E. &Stibbe, A. (2009). Public Health and the Environment: What Skills for Sustainability Literacy – And Why? *Sustainability*, 1, 425-440; doi:10.3390/su1030425.
7. Bawden R, Lindsay E. (2007). Patient empowerment: a general practice perspective. *Br J Community Nurs* 2007; 12:S28-30.
8. Bonderup AM, Hangaard SV, Lilholt PH, Johansen MD, &Hejlesen OK. (2012). Patient support ICT tool for hypertension monitoring. *Stud Health Technol Inform*, 180:189-93.
9. Callen, M., Gulzar, S., Hasanain, A., & Khan, Y. (2013). The political economy of public employee absence: Experimental evidence from Pakistan. Unpublished manuscript. At: <http://econ.ucsd.edu/~mjcallen/pdfs/pea.pdf>.
10. CDC, (2011) The Health Communicator’s Social Media Toolkit. Center for Disease Control and Prevention. At: <http://www.cdc.gov/eval/resources.htm>.
11. Glaser, B., Strauss, A., 1967. The Discovery of Grounded Theory. Aldine Publishing Company, Hawthorne, NY.
12. Health Conference (2018). Malnutrition Free World: Challenges and Options. International Conference on Public Health (Health Conf 2018). Date: 22nd—23rd March 2018; Venue: Global Towers Hotel. Organized By Official Airline Partner, Colombo, Sri Lanka.
13. Iftikhar, A. Sattar, A. Nawaz, A. (2016). Occupational health and safety in industries in developing world. *Gomal Journal of Medical Sciences*, Oct-Dec, 14(4): 223-226.
14. Khalid, M. & Sattar, A. (2016). Households Study on Out-of-Pocket Health Expenditures in Pakistan. *Forman Journal of Economic Studies*. Vol. 12, pp. 75-88.
15. Khan, A. (2012). Health and nutrition. In Pakistan economic survey 2010–11. Islamabad, Pakistan: Finance Division.
16. Kurji, Z. Premani, ZS. &Mithani, Y. (2016). Analysis of the health care system of Pakistan: lessons learnt and way forward. *J Ayub Med Coll Abbottabad* 2016; 28(3). At: <http://www.jamc.ayubmed.edu.pk> 601
17. Ministry of Health, Government of Pakistan (1990). National Health Policy. Government of Pakistan.
18. Ministry of Health, Government of Pakistan (1997). National Health Policy. Government of Pakistan.
19. Ministry of Health, Government of Pakistan (2001). National Health Policy. Government of Pakistan.
20. Ministry of Planning, Development & Reforms [MPDR] (2016). National Health Vision 2016-2025, Pakistan.
21. Nawaz, A. (2017). Public health awareness: a precursor to better preventive & curative health care in Pakistan. Review article. *Gomal Journal of Medical Sciences*, July-September, 15(3):151-154.
22. Nishtar, S. (2010). *Choked pipes: Reforming Pakistan’s mixed health system*. Karachi, Pakistan: Oxford University Press.
23. Qidwai, W. (2013). Healthcare delivery system improvements: A way forward to improve health in developing countries and Pakistan. Editorial. *Journal of the College of Physicians and Surgeons Pakistan*, 23(5):313-314.
24. Qureshi, Nawaz & Others (2019). User’s e-readiness for E-Health and traditional healthcare: a case of Dera Ismail Khan, Khyber Pakhtunkhwa, Pakistan. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, (Sami, Asim, Rafaqet, Mazhar, Imran.). 10(5):607-

615. ISSN 2228-9860; eISSN 1906-9642 <http://TUENGR.COM/V10/607.pdf> DOI: 10.14456/ITJEMAST.2019.57.
25. Ronis K.A. & Nishtar S. (2007). Community health promotion in Pakistan: a policy development perspective. *IUHPE – PROMOTION & EDUCATION*, Vol. XIV, No. 2.
26. Stirling, J.A. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative Research*. SAGE Publications. London, Thousand Oaks & New Delhi. Vol. 1(3): 385-405.
27. Tanwir, F., Saboor, A., & Shah, M.H. (2003). Water Contamination, Health Hazards and Public Awareness: A Case of the Urban Punjab, Pakistan. *International Journal of agriculture & Biology*, 5(4):460-462. <http://www.ijab.org>.
28. WHO (1978). Declaration of Alma Ata. Geneva, WHO.
29. WHO (1986) Ottawa Charter for Health Promotion. Geneva, WHO.
30. WHO (2013). Global health observatory data repository. Available at: <http://apps.who.int/ghodata/?vid=3000&theme=country>.