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Research Article

### FACTORS LEADING TO LACK OF PRACTISE OF WASHING HANDS AFTER VISITING TOILET

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#### Abstract:

Lack of practice of washing hands, after visiting toilet is a serious problem, predisposing the community to a greater number of infections. This leads to increase in burden of hospitals both in Public and Private sector. **Objectives:** To identify various factors leading to lack of washing of hands after visiting toilet, make suggestions to solve the problems and aware the community regarding importance of washing hands after visiting a toilet. **Study Design:** Population based case-control study **Place and Duration:** In Urban population of Lahore from June 2012 to September 2012. **Subjects and methods:** A population based case-control study with 1:1 case to control ratio was conducted. A total of 100 persons (50 cases and 50 controls) were recruited in the study. Selection was made on laid down criteria from people living in Urban Lahore after taking due consent. Interviews were conducted through a pretested questionnaire by a team of 8 members (batch 6), 4<sup>th</sup> year MBBS students of King Edward Medical University, Lahore, under direct supervision of Department of Community Medicine, KEMU. Data was collected, compiled and analyzed through SPSS version 20. **Results:** Of total people investigated 42% were males and 58% were females. Lack of washing hands after visiting toilet was found more in males (60%) and lesser in females (40%), more in children (60% of total children investigated were cases) and old age individuals (56% of total old age individuals investigated were cases). 48% of total investigated students, office workers, educated house wives lacked the habit of washing hands after visiting toilet while lack of washing hands after using toilet was found in 60% of laborers, maids, gardeners, sweepers and others with low socioeconomic status involved in survey. In bivariate analysis, lack of washing hands was found significantly associated with poverty (OR: 0.202, 95%CI: 0.053-0.768), hypochondria (OR: 0.534, 95%CI: 0.146-1.954), lack of public toilets (OR: 0.510, 95%CI: 0.226-1.149), lack of health education (OR: 0.182, 95%CI: 0.048-0.685), illness (OR: 0.516, 95%CI: 0.184-1.443), literacy (OR: 0.396, 95%CI: 0.113-1.384), anxiety (OR: 0.780, 95%CI: 0.351-1.734) or hurried nature (OR: 0.286, 95%CI: 0.094-0.868) etc. However in multivariate analysis while controlling all other risk factors, lack of health education (OR: 0.182, 95%CI: 0.048-0.685), poverty (OR: 0.202, 95%CI: 0.053-0.768) and hurried nature (OR: 1.157, 95%CI: 0.095-14.048) were found significantly associated with the lack of washing hands after using toilet.

**Conclusion:** Lack of washing hands after using toilet was found significantly associated with health education, poverty and hurried nature.

**Key words:** Lack of washing hands, poverty, health education, factors, illness, nocturia, hygiene, water supply, toilet facilities.

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**INTRODUCTION:**

Despite the presence of number of washrooms or washing places close to or near the toilets, there is constantly lack of practice of washing hands after visiting toilet, although the techniques involved in hand hygiene are simple. The problems need to be addressed as hand washing is the simplest, most effective measure for preventing the spread of bacteria, pathogens, and viruses. Even with this knowledge, many people do not wash their hands. Recent studies [1] by the American Society for Microbiology (2000) indicate that only 67% of Americans wash their hands after going to the bathroom. Such behavior results in approximately 2,400,000 nosocomial infections occurring in the U.S. each year, which cost over \$4.5 billion annually in extended care and treatment. It has been estimated that in the next 40 to 50 years infections such as *Streptococci*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Enterobacter* sp., and *Klebsiella pneumoniae*, which have been problematic for years, will become even more of a problem. This rise is due to several factors like the shift to outpatient care, aging population, growing populations, and increase in global travel.

Several studies showed that there are same factors leading to lack of washing hands after visiting toilets. A study [2] shows that age is involved in poor washing of hands. As both extremes of age physically weakens the individual being not able to wash hands properly. In addition the study shows that poor literacy rate is also responsible. In a similar study household, economic Status, water supply, cultural benefit, religious practices make promotion of health work complex. Other studies [3] have determined that the factors affecting adherence to proper procedures is rooted in individual's behavior. And hand cleansing patterns are most likely established in the first 10 years of life. Moreover, an individual's religious and cultural background influences his perceptions about hand washing (WHO, 2006). It predicts that adherence to recommended hand hygiene procedures of healthcare organizations has been unacceptably poor (Pittet, 2001; WHO, 2006).

There was little data available on factors leading to lack of practice of washing hands after visiting toilet.

So, there is a dire need to conduct a research study to find out the factors leading to lack of practice of washing hands after visiting toilet. Moreover, the psychological factors that contribute to lack of practice of washing hands also need to be determined so that preventive measures may be adopted to promote hand washing.

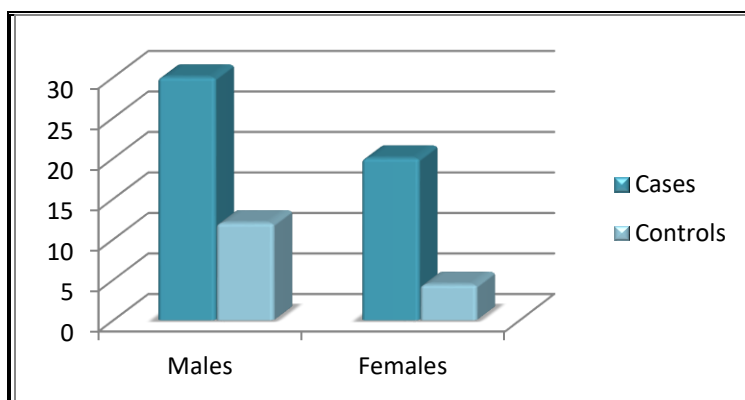
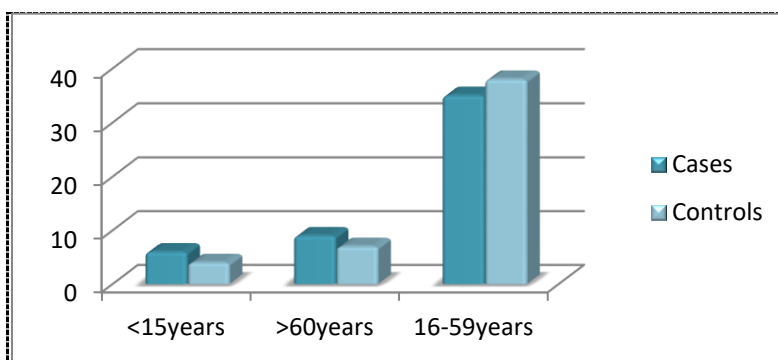
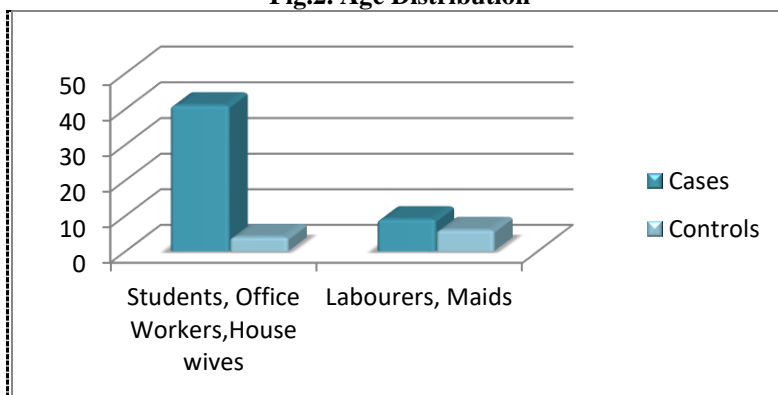
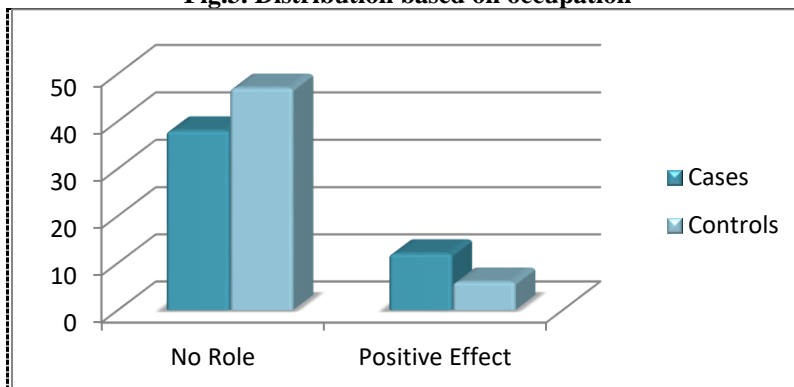
**Subjects and methods:**

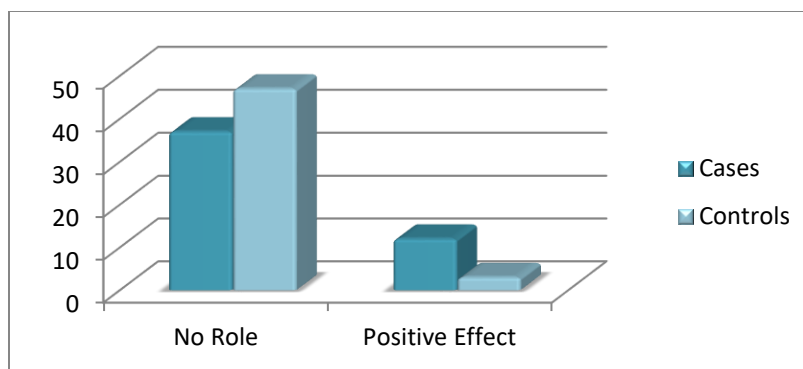
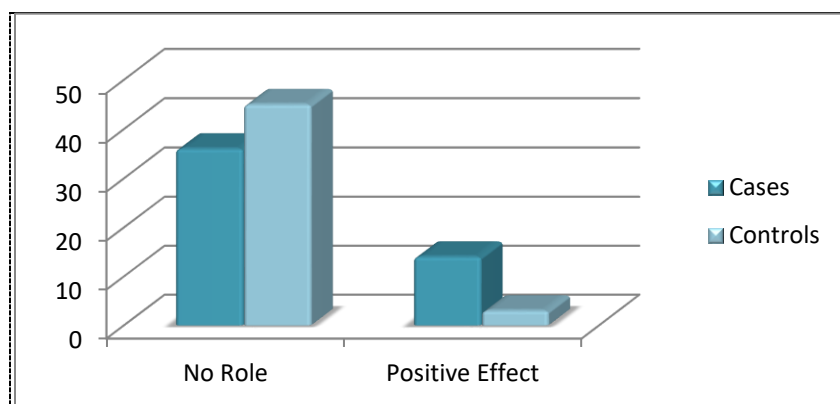
A case-control study was conducted to identify various factors associated with lack of practice of washing hands in urban community of Lahore from June 2012 to September 2012. The study included people who were fulfilling the criteria laid down earlier according to which patients of depression, schizophrenia, and paralysis and insane were excluded. The study population was placed in two groups. The control group comprised of people who washed their hands regularly after visiting toilet. And the cases were those who did not wash hands after visiting toilet. Total number of patients were 100(n=100), each group containing 50 subjects.

A random sampling approach was used to select the subjects and consent was obtained from all selected study subjects. Data was collected by interviews, conducted by the members of batch 6 of 4<sup>th</sup> year MBBS students of King Edward Medical University Lahore; using pretested and close ended questionnaire, while keeping all ethical and social considerations in mind. Data collection was supervised by the staff of Department of Community Medicine King Edward Medical University, Lahore. Data entry and analysis was done by statistical software SPSS version 20. After describing the demographic characteristics using frequency tables, simple and multivariate logistic regression was used to calculate odds ratio and their 95% confidence intervals.

**RESULTS:**

Among lack of washing hands, cases were mostly males (60%), children (60%), old age (56%), laborers, maids, sweepers and others with low socioeconomic status (60%). In the control group majority belonged to females (60%), students, office workers and house wives (88%) and young adults (70%). See Fig.1, 2, 3.

**Fig.1. Gender Distribution****Fig.2. Age Distribution****Fig.3. Distribution based on occupation****Fig.4. Poverty**

**Fig.5. Health Education****Fig.6. Hurried Nature**

In bivariate analysis, factors that were found significantly associated with lack of washing hands after visiting toilet were poverty (OR:0.202, 95%CI: 0.053-0.768), hypochondria (OR: 0.534, 95%CI: 0.146-1.954), lack of public toilets (OR:0.510, 95%CI: 0.226-1.149), lack of health education (OR: 0.182, 95%CI: 0.048-0.685), illness (OR: 0.516, 95%CI:0.184-1.443), literacy (OR:0.396, 95%CI: 0.113-1.384), anxiety (OR: 0.780, 95%CI: 0.351-1.734) or hurried nature (OR: 0.286, 95%CI: 0.094-0.868) etc. However in multivariate analysis while controlling all other risk factors, lack of health education (OR: 0.182, 95%CI: 0.048-0.685), poverty (OR: 0.202, 95%CI: 0.053-0.768) and hurried nature (OR: 1.157, 95%CI:0.095-14.048) etc. Whereas

depression, overcrowded houses, emotional stress, traditional values, racial differences and cultural practices were not found to be associated with lack of washing hands after using toilet.

Multivariate logistic regression model was used to control for possible confounding effect. It was observed that there were some changes between the crude odds ratios and the adjusted odds ratios. It was observed that after controlling for all the factors studied the strongest statistically significant association was exhibited by, lack of health education (OR:0.182, 95%CI: 0.048-0.685), poverty (OR: 0.202, 95%CI: 0.053-0.768) and hurried nature (OR:1.157, 95%CI:0.095-14.048).

No.	factors	Lack of washing hands after using toilet		Bivariate analysis			Chi-square Values
		Case n=50	Control n=50	Crude odd's ratio	95% CI		
					Lower	Upper	
1	Hypochondria	7	4	.534	.146	1.954	.919
2	Poverty	12	3	.202	.053	.768	6.353
3	Lack of public toilets	24	16	.510	.226	1.149	2.667
4	Health education	13	3	.182	.048	.685	7.440
5	Illness	12	7	.516	.184	1.443	1.624
6	Literacy	9	4	.396	.113	1.384	2.210
7	Anxiety	22	19	.780	.351	1.734	.372
8	Hurried nature	14	5	.286	.094	.868	5.263

No.	factors	Self medication		Multivariate analysis		
		Case n=50	Control n=50	Adjusted odd's ratio	95% CI	
					Lower	Upper
1	Health education	13	3	.182	.048	.685
2	poverty	12	3	.202	.053	.768
3	Hurried nature	14	5	1.157	.095	14.048

### DISCUSSION:

The factors leading to lack of washing hands after visiting toilet can differ from country to country or even from one community [10] to another. They depend on a number of factors such as health awareness, socioeconomic status [11], lack of education and lack of proper washing facilities [12] such as water supply. More commonly men were found to have the habit of not washing hands after using toilet. Lack of washing hands was also related to age as was more common in young children and old people. It was also common in illiterates or people having education below primary level. It was more common in the people belonging to lower class such as maids, laborers, drivers, sweepers, cleaners and gardeners. Furthermore, our study showed that lack of washing hands was significantly associated with poverty, lack of health education and hurried nature of individuals. It was also shown that lack of public toilets, laziness [13] and certain illnesses also predispose to lack of washing hands after using toilets. Other factors with some relation to lack of washing hands included lack of training by mothers of their children and busy lifestyles [14].

Not much data is available on this topic as not much study has been conducted on factors leading to lack of washing hands after using toilets. However, little data that is available suggests that young children with uneducated mothers especially lack this habit due to lack of awareness to diseases that can be acquired by this malpractice [15].

Several studies showed that factors effecting adherence to proper procedures is rooted in individual's behavior. One of these studies shows that lack of washing hands was also related to sedentary life style, lethargy [16], laziness and mechanical human lifestyle. Previous analysis showed that lack of washing hands after visiting toilet is related to morality [17], ethics [18] and metaphysical philosophy [19,27] and matters [20] that cannot be proved through science and empirical observation [21].

A previous study conducted by a group of students showed that lack of washing hands after using toilet was more common in people suffering from diseases causing the need of frequent use of toilets such as dysentery<sup>22</sup>, diabetes insipidus<sup>23</sup>, diarrhea<sup>24</sup> and

nocturia<sup>25</sup>. Another study conducted by a group of undergraduate students at duke university school of medicine in Durham, North Carolina reported that lack of washing hands costs \$1.77 Million per hospital per year in U.S.A. [26] indicating a dire need of initiating more awareness programs related to this unhygienic malpractice and its outcomes.

Stress, depression and emotional breakdowns were found to have very little association with the practice of lack of washing hands after visiting toilets and no previous data is available related to them.

### CONCLUSION:

Lack of washing hands after visiting toilets was found more in males, children below 15 years of age, old people above 50 years of age and in people with low socioeconomic status like laborers, maids, gardeners etc. The determinants of lack of washing hands after visiting toilets identified include lack of health education, hurried nature, extreme poverty, illiteracy, lack of public toilets and illness; while the emotional stress, traditional values, depression and overcrowded houses were not found to be significantly associated.

### REFERENCES:

- 1) Marcus M C, Ibrahim M, McMillon V J, Baker GG, Patterson. Reducing the Spread of Infectious Disease through Hand Washing. Journal of Extension [online]2009[cited February 2009];V47 Available from URL: <http://www.joe.org/joe/2009february/rb7.php>
- 2) Nixon O, Achieng and Foye T. Handwashing Research on utilization of Bush Proof Handwashing Containers (BPHWC) in humanitarian Emergencies. Oxfam [online]2007[cited November 2007];V24 Available from URL: [http://www2.wsp.org/scalinguphandwashing/enablingtechnologies/docs/5\\_Hand\\_Washing\\_Research\\_on\\_Bush\\_Proof\\_HWC\\_-\\_Zim.pdf](http://www2.wsp.org/scalinguphandwashing/enablingtechnologies/docs/5_Hand_Washing_Research_on_Bush_Proof_HWC_-_Zim.pdf)
- 3) Ashley G. Education. Dictionary [online]2008[cited June 2008];V20:138 Available from URL: <http://dictionary.reference.com/browse/education>
- 4) Andrew D. Disease Prevalance. Dictionary [online]2011[cited July 2011];V10:189 Available from URL: <http://dictionary.reference.com/browse/purelyill>
- 5) Dudley R. Poverty. Health [online]2009[cited March 2009];V21:120 Available from:
- 6) Alexander B. Health education. Community Health [online]2010[cited February 2010];V09:35 Available from URL: [http://app2.nea.gov.sg/cop\\_copeh\\_pt.aspx](http://app2.nea.gov.sg/cop_copeh_pt.aspx)
- 7) Fringer V. Education. Health [online]2000[cited July 2000];V67:56 Available from: <http://medicaldictionary.thefreedictionary.com/health+education>
- 8) Samatha K. Anxiety. Health [online]2004[cited August 2004];V22:23 Available from URL: <http://www.innerhealthstudio.com/definition-of-anxiety.html>
- 9) Singer Z. Hypochondria. Dictionary [online]2000[April 2000];V34:6 Available from: <http://www.thefreedictionary.com/hypochondria>
- 10) Harrison AA, Arnold T, Kate A. Capacity development for health research in Pakistan: community. Health Policy and Planning [online]2003[cited 2010 March 16]
- 11) Berry AL in NI. Factors affecting socioeconomic status. A literature review [electronic] 2009 May, 8 [2010 Feb 15]. Available from: URL: <http://www.ddrn.dk>
- 12) Research Achievements in health facilities. Annual report [online] 2008 [cited 2010 May 14]; page 37. Available from: URL: <http://www.uaf.edu.pk>
- 13) Nate HT. Laziness related behaviour in student. J Soc Sci [online]2009 Sep 17 [cited 2010 May 18];19(1). Available from: URL: <http://www.krepublishers.com>
- 14) Vaggomer AL. The Lancet. Canada lifestyles influences [electronic]2010 [cited 2010 May 25]; 334 (9695): 1053-1054. Available from: URL: <http://www.thelancet.com>
- 15) Achievements in health malpractice abolition. Annual report [online] 2008 [cited 2010 May 14]; page 37. Available from: URL: <http://www.uaf.edu.pk>
- 16) Beggs CB, Tigua RA, Hibbard LV, Bigger JT. Barriers, Gracan, and Incentives for Research Participation: A Report On Lethargy and its Associations. ASION [online]2009 Feb 27 [cited 2011 Feb 28];22(4):432-45. Available from: URL: <http://www.jabfm.org>
- 17) W H Jaismee. Morality and its associations [Internet] 2010, February, 2 [2010, May, 23] Available from: URL: <http://blog.hbr.org>
- 18) Goldmann S, Munascca LJ, Baggins KT.

- Incentives for Ethical Significance: A Report from The New York Times. KPL [online]2009 march 23 [cited 2011 feb 23];22(4):436–45.Available from: URL: <http://www.jabfm.org>
- 19) Valkenshiff j.Review of metaphysical activity reveals lack of sanitation.FRAYS BOOKLET [cited 2007 March 20] Available from:URL:<http://www.bayjournal.com>
- 20) J M Pokinns. Team Matter Lack Data, Structure. [Internet] 2008, February, 23[2010, May, 23]; Available from: URL:<http://blog.hbr.org>
- 21) Wakzen S, Lanana RA, Jusacca LV, Bicer JT. Barriers, Empirical Observation for Hygiene: A Report from The New York Times. JABFM [online]2009 april 1 [cited 2010 feb 2];22(4):436–45.Available from: URL: <http://www.jabfm.org>
- 22) R H Tames. Protection Children from Dysentery. [Internet] 2010, February, 2[2010, May, 23]; Available from: URL:<http://blog.hbr.org>
- 23) Hobert HJ. Pandey, Vuart I. Vethneifer. The Impact of Diabetes Insipidus On Health' Interest in New Information Technologies. [online]. 2006 [2010 May 25]; <http://www.questia.com>
- 24) Needham D. Protecting Children Diarrhea Risk Factor: The Role of Hand Washing Promotion in Health Sanitation Programmes [internet]2003[2010, dec 20]: available from: URL:<http://www.buzzle.com>
- 25) Drake JK.Hand Hygiene.Doctors [online]2009[cited march 2009];Vol8. Available from: URL:<http://www.doctorsaputo.com/a/lack-of-hand-washing-in-hospitals-can-be-fatal>
- 26) Baggins KB.Health Care.Promotion of Health Facilities [internet]2008[cited may 2008];Vol86. Available from: URL:<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aqdxEDN0hxxM&refer=healthcare>
- 27) Umbridge J.Metaphysical Philosophy.Philosophy of Science [online]2010[cited july 2010];Vol7:89 Available from: URL: <http://www.pbs.org/faithandreason/gengloss/metaph-body.html>