

POSITIVE KNOWLEDGE AND PRACTICE OF FEMALE DOMESTIC FOOD HANDLERS REGARDING PERSONAL HYGIENE

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ABSTRACT

Background: Contaminated food is an important cause of human morbidity and mortality. One of the risk factors of food contamination is poor personal hygiene of the food handler. The objective of the study was to assess the positive knowledge and practice regarding personal hygiene of domestic food handlers.

Material & Methods: This descriptive cross sectional study was conducted in Gomal Medical College, D.I.Khan from 1st Sep 2014 to 30th Dec 2014. A total of 100 respondents were chosen by purposive sampling technique. Data collecting tool was questionnaire. Our socio-demographic variables were age, education, income, residence and language. Our research variable was positive knowledge and practice, having attributes of hygiene of hands, personal attire, health of food handler and habits of respondents. SPSS version 20 was used for descriptive statistics. Data being categorical was expressed in frequency and percentages.

Results: All the 100 respondents answered all the questions, so there was no missing data. The frequency of young age group was 46(46%), middle age 44(44%) & old age 10(10%). The frequency of literates was 76(76%) and illiterate 24(24%). The frequency of urban population was 82(82%) and rural 18(18%). Saraiki speaking were 65(65%), pushto speaking were 20(20%) and urdu speaking were 15(15%). Respondents of middle income status were 62(62%), 20(20%) were of low income status and 18(18%) were of high income status. The overall score of positive knowledge and practice about personal hygiene was 71% & 54.5% respectively.

Conclusion: There is a gap between knowledge and practice of the female domestic food handlers.

KEY WORDS: Hygiene; Food safety; Food borne diseases; Knowledge; Practice.

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INTRODUCTION

Food hygiene is a global issue and it is known fact that food borne diseases are not only directly responsible for human diseases and deaths but also affecting country's economy by increasing health care expenditure both in public and private sector hospitals.^{1,2} Food borne illnesses whether caused

by a toxin or infection are related to intake of food.³ Food may become unsafe by its handler, environment (water, air, soil), tools/ utensils we use for its preparation, insects and rodents.⁴ Poor knowledge leading to adoption of wrong practices is responsible for spread of food borne illness.⁵ Food handler is the person who is involved in any step of process of food making beginning from production to processing, packaging and distribution or comes in contact with tool or utensils used in food preparation.^{6,7} Many determinants including personal, environmental and traditional factors need to be considered in order to improve food handler's behavior towards food handling.⁸⁻¹¹ An analysis conducted in US from 1998 to 2008 to assess role of different risk factors that are responsible for unhygienic food showed that three risk factors are highly prevalent. These are poor

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personal hygiene, improper food handling and use of contaminated tools/utensils.¹² In US 42% of such outbreaks from 1975 to 1998 were the result of poor hand hygiene.¹³

Food borne diseases are showing rising trend. Health and economy of developing countries is more compromised as compared to developed countries as a result.¹⁴ Intake of unhygienic water and food was responsible for 1.8 million deaths globally by gastroenteritis in year 2005 alone.^{15,16} According to an estimate, there occur 76 million food borne diseases in US in a year. In 10-20% of food borne illnesses outbreaks in Malaysia food handler is found to be the culprit. These diseases are responsible for morbidity of 30% population of developed countries only.^{17,18} In terms of medical expenditure and days of work loss, it costs billion of dollars.¹⁹ Home is emerging as important place where our attention can resolve many public health and hygienic issues and in last 10 years this recognition is gaining much attention. Although food may become injurious at any point from production to preparation, role of persons involved in food preparation is very important as their body parts may carry germs and their behavior may compromise food safety. Personal hygiene of food handler preparing food in their own kitchen is very important aspect of proper food handling. Personal hygiene includes hygiene of hand, clean attire, health of handler and his/her behavior and habits.^{20,21} The importance of knowledge, attitude and practice of domestic food handler becomes very substantial and the fact that majority of us consume homemade food on most of the times, a study on personal hygiene of domestic food handler was required. As no study regarding this is available in our local set up, so assessment of knowledge and practice regarding personal hygiene of domestic food handlers was important. The objective of this study was to assess the positive knowledge and practice regarding personal hygiene of domestic food handlers.

MATERIAL AND METHODS

This descriptive cross sectional study was conducted in Gomal Medical College, D.I.Khan from 1st Sep 2014 to 30th Dec 2014. A total of 100 respondents were chosen by purposive sampling technique. Only those food handlers were included who were involved in major meal preparation for family. Refusal was the only exclusion criteria among them. Verbal consent was sought from all the subjects. Data collecting tool was questionnaire. Our socio-demographic variables were age, education, income, residence and language. Our research variable were positive knowledge and practice. Age group had three attributes of young, middle & old age. Young age was 20 yrs to 40 yrs, above 40 yrs to 60 yrs was middle age and above 60 yrs was old

age. Education had two attributes of Literate and illiterate. Any person who can read and write with understanding in any language was considered literate. Residence had two attributes of urban and rural. Income had three attributes of low, middle and high income status. A monthly income of up to Rs. 20,000 was considered lower class income, above Rs. 20,000 to 50,000 was considered middle class and more than Rs. 50,000 was considered upper class. Language had three attributes of Pashtu, Saraiki and Urdu. Positive knowledge and practice had four attributes each; hand hygiene, personal attire, personal habits and personal health. Residence, education and language were nominal, age group & income were ordinal while positive knowledge and practice were nominal data. SPSS version 20 was used for descriptive statistics. Data being categorical was expressed in percentages.

RESULTS

All the 100 respondents answered all the questions, so there was no missing data. The frequency of young age group was 46%, middle age 44% & old age 10%. The frequency of literates was 76% and illiterate 24%. The frequency of urban population was 82% and rural 18%. Seraiki speaking were 65%, pushto speaking were 20% and urdu speaking were 15%. Respondents of middle income status were 62%, 20% were of low income status and 18% were of high income status.

Regarding hand hygiene 98% acknowledged hand washing with soap and water before handling food, after visiting toilet 100%, after touching body parts 88%, after handling raw food 48% as given in table1.

Table 1: Percentage of respondents with positive Knowledge and practice regarding hand hygiene

Washing hands with soap and water	Knowledge %	Practice %
Before handling food	98	74
After visiting toilet	100	96
After touching body parts	88	54
After handling raw food	48	40

A total of 90% respondents were aware of importance of covering head while preparing food, to tie back hair was acknowledged by 88%, wearing clean clothes 100%, to wear apron 34%, to keep nails short and clean 98%, not to wear dangling jewelry 56% and only 54% acknowledged not to wear loose hanging clothes while preparing food.

Table 2: Percentage of respondents with positive Knowledge and practice regarding personal attire.

Attribute	Knowledge %	Practice %
Head covering use	90	76
Keeping hair tied back	88	88
Wearing clean clothes	100	62
Keeping nails short and clean	98	68
Not wearing jewelry (rings, Bangles)	56	38
Not wearing loose hanging clothes	54	0
Wearing apron	34	0

Number of respondents who knew that food handler health is important for prevention of food borne diseases was 82%. Of them 84% knew not to handle food when having diarrhea/vomiting, not to handle food while having intestinal worm infestation 4%, only 3% acknowledged typhoid carrier should not handle food, number of respondents who knew to wear gloves or water proof bandage while having hand lesions was 84%, those who acknowledged covering of nose and mouth while having cough or cold were 100% but only 30 acknowledged routine use of masks while cooking. Only 30% knew not to handle food bare handed.

Table 3: Percentage of respondents with positive Knowledge and practice regarding role of food handler's health

Food handler's health	Knowledge %	Practice %
Not to handle food while having gastroenteritis	84	78
Not to handle food while having typhoid carrier state	4	0
Not to handle food while having worm infestation	3	0
Wearing mask routinely during food preparation	30	0
Covering face while coughing and sneezing	100	78
Not touching food with bare hands	30	0
Use of gloves or/bandage to cover hand lesion	84	90

A total of 98% acknowledged the role of personal habits or addiction in prevention of food borne diseases, respondents positive about not to smoke in kitchen area were 98%, not to blow nose in kitchen area 96%, acknowledged not to chew pan/ naswar in kitchen 88%, not to spit in kitchen 90%.

While assessing practice of washing hands with soap and water, after visiting toilet 96(96%) practiced it, after touching body parts 54(54%), before handling food 74(74%), after handling raw food 40(40%). Regarding personal attire, wore apron 0%, kept hair covered 76(76%) and 88 (88%) kept them properly tied up, kept nails short and clean 68(68%), wore clean clothes 62(62%), did not wear dangling jewelry 38(38%). All the respondent 100(100%) wear loose hanging clothes in kitchen. Regarding personal health, do not handle food while having gastroenteritis 78 (78%), cover hand lesions with bandage 90 (90%), no one 0(0%) wears mask routinely but 78(78%) cover face while coughing/ sneezing, while 32(32%) gave history of typhoid fever or worm infestation, no one 0(0%) got oneself checked for typhoid carrier state or intestinal worm infestation. Personal habits assessment results were; did not spit in kitchen 80 (80%), did not blow nose in kitchen 88 (88%), did not smoke in kitchen 96 (96%), did not chew pan in kitchen 96 (96%) and 98 (98%) did not use Naswar in kitchen.

Table 4: Percentage of respondents with positive Knowledge and practice regarding role of food handler's personal habits

Personal habits	Knowledge %	Practice %
Not to smoke in kitchen	98	96
Not to blow nose in kitchen	96	88
Not to chew pan or naswar in kitchen	88	96
Not to spit in kitchen	90	80

Overall score of knowledge and practice about personal hygiene was 71% & 54.5%.

DISCUSSION

This study was conducted to assess knowledge and practice of domestic food handlers regarding personal hygiene. But studies are available regarding KAP of professional food handler and this very important segment of domestic worker is ignored. Lack of literature regarding KAP of domestic food handler was limitation of study.

In our study 98% acknowledged food handler could be source of infection, these findings are consistent with findings of study by Sharif L et al whereas 94% considered food handler to be an important

source of infection to food.⁵ Knowledge level about proper hand hygiene was high (92%) in a study by Norazmr MN et al whereas in our study 100% food handlers acknowledged to wash hands with soap and water after visiting toilet and 98% before handling food only 48% knew to wash hands after handling raw food.³

In our study only 54% acknowledged that loose hanging dress is not suitable for cooking, 56 (56%) said they should not wear dangling jewelry. Again 90% of respondents acknowledged covering of head and 88(88%) to tie back hair which can be due to religious or cultural reasons apart from other reasons. In a study by Pengetahuan P and Sani A 46% acknowledged the importance of proper attire.⁴ In our study only 4% knew not to handle food while having worm infestation and 3% knew not to handle while being a typhoid carrier. Reason may be that these people are apparently healthy so they are not considered a risk for others by general population. In our study 84% knew not to handle food while having diarrhea and in study by Akonor PT and Akonor MA 48% knew not to handle food in case of diarrhea.²¹

Regarding personal habits 12% did not know not to chew Pan or Naswar in kitchen area. Only 2% did not know not to smoke, 10% did not know not to spit in kitchen, 4% did not know not to blow nose in kitchen. These findings are consistent with findings of study done in Egypt, Alexandria in which 14% knew not to smoke, 12% person knew not to spit.²²

In our study 96% used soap and water for hand washing after visiting toilet while in study by Al Rabbadi et al 99% used this and in another study in Maharashtra, India 99.38% used soap for hand washing.^{1,18} In a study by Gul R 60% washed hands with soap and water in upper class restaurant and only 2% washed hands in lower class restaurants.⁸ In another study by Pengetahuan P and Sani A 75.4% washed hands with soap and water.⁴

In our study 76% kept hair covered and 88% tied them back. Nobody wore apron or used gloves routinely in kitchen. In a study conducted in Owerri Nigeria 42.7% did not use apron and 52% did not cover head and 19% wore jewellery.²³ In a study by Sultana A et al on street restaurants workers, 1% used gloves and 30% wore apron.²⁴ In a study conducted in Selangor, Malaysia 10.7% of respondents used hair restraints and 53% used aprons which is contrary to our findings.¹² In our study no one used gloves while in a study by Tan SL et al 18.7% used gloves but in a study done in Jordan 60% of respondents used gloves.^{1,12}

In a study conducted in Maharashtra, India, percentage of food handlers with one or more addictions or habituation (smoking, chewing pan or Naswar) was high about 64%.¹⁶ In our study only 4% chewed pan or Naswar but Indian study

was on professional workers whose majority was male (70%), while our study was on domestic female workers.

CONCLUSION

There is a gap between knowledge and practice of the female domestic food handlers.

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CONFLICT OF INTEREST

Authors declare no conflict of interest.

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None declared.

AUTHORS' CONTRIBUTION

Conception and Design:	SQ, JK, IA,
Data collection, analysis & interpretation:	SQ, HN, AN, MNA
Manuscript writing:	SQ, MWS, AM