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## Research Article

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**Posted Date:** October 6th, 2026

**DOI:** <https://doi.org/10.21203/rs.3.rs-10660244/v1>

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**Additional Declarations:** No competing interests reported.

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## **Healthy Lifestyle Practices Among Government Primary School Teachers in Selected Districts of Pakistan.**

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## 1. ABSTRACT

**BACKGROUND:** Deaths due to unhealthy behaviors account for more than one-third of total deaths worldwide. In Pakistan, poor awareness and sanitation are major contributors to the diseases, but a balanced diet, hygiene, and exercise can reduce these risks. The present study aimed to determine the current status of healthy life practices among the teachers of the selected primary school.

**METHOD:** A descriptive cross-sectional study was conducted from February to April 2019 in 600 selected government primary schools of three districts of Sindh: Thatta, Hyderabad, and Mirpur Khas. Two teachers of each school were selected through convenience sampling for the purpose of interviewing through a structured questionnaire.

**RESULTS:** The results revealed a generally moderate level of healthy lifestyle practices among primary school teachers. The majority of the teachers demonstrated good healthy hygiene practices. Statistically, 85% of the teachers practiced washing their hands before meals, and 69% practiced water purification through alum. A majority of the teachers, 82%, claimed to be early risers. Only 14% of the teachers practiced physical exercise.

**CONCLUSION:** Although basic hygiene needs were adequately met, the level of physical inactivity among teachers suggests the need for health education programs for teachers.

**KEYWORDS:** Primary School Teachers, Personal Hygiene, Physical Activity, Healthy Lifestyle Practices, Cross-Sectional Study, Low-And Middle-Income Countries (LMICs).

## **2. BACKGROUND:**

Health is a fundamental component of human well-being and an essential prerequisite for productive living. The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity.

Existing literature documents that adopting a healthy lifestyle can significantly improve quality-adjusted life years and drastically lower the risk of non-communicable diseases (NCDs) [1,2,4]. A healthy lifestyle is generally described as one that combines balanced nutrition, regular exercise, adequate rest, and the avoidance of harmful habits such as smoking [4]. The physical inactivity, unhealthy diets, and the use of tobacco products also account for a large percentage of the world's deaths, which exceed one-third [3]. Tobacco use in particular remains one of the leading preventable causes of death worldwide, killing more than eight million people annually through its direct use and exposure to second-hand smoke [15].

Healthy lifestyle practices such as balanced nutrition, regular physical activity, adequate sleep, maintenance of normal body weight, and avoidance of tobacco play a fundamental role in promoting overall well-being and preventing disease [11].

Regular physical activity has been linked to slower brain aging and better long-term cognitive outcomes [13], while adequate and good-quality sleep has been associated with better regulation of blood pressure reducing reliance on antihypertensive medication [19].

Cardiovascular health, in particular, appears to be most strongly influenced by the cumulative adoption of multiple healthy behaviors rather than any single factor in isolation: a 20-year longitudinal study found that 60% of young adults who avoided smoking, limited alcohol, controlled their weight, stayed physically active, and ate a healthy diet went on to maintain a low cardiovascular risk profile in middle age, compared with only 6% of those who followed one or none of these behaviors, with a related study attributing the majority of cardiovascular health to lifestyle rather than heredity [9].

Globally, the burden of NCDs has risen markedly, particularly in low- and middle-income countries (LMICs) [12]. NCDs, such as diabetes, cancer, chronic respiratory conditions, and cardiovascular diseases, account for about 70% of all deaths worldwide, according to WHO reports [12]. In order to reduce this increasing burden, prevention strategies place an emphasis on lifestyle changes in addition to medical management.

Rapid urbanization, industrialization, and changing work patterns have altered daily routines, often promoting sedentary behavior and unhealthy dietary habits [12]. The prevalence of metabolic risk factors like obesity, high blood pressure, and elevated blood glucose has increased as a result of these changes. Conversely, research indicates that maintaining a normal body mass index, avoiding tobacco use, adequate sleep (roughly seven hours per night), eating a balanced diet like the Mediterranean diet, and engaging in regular physical activity for at least 150 minutes per week

significantly lower health risks [14,16,17,18,20]. Scoping reviews of health-promoting lifestyle practices further emphasize that structured programs, including those delivered through information and communication technologies, can meaningfully support the uptake of such behaviors across populations [6].

Schools provide a crucial platform to foster lifelong healthy practices, with teachers acting as primary role models in developing and reinforcing positive healthy practices among children. Teaching health-related lessons in engaging, accessible ways have been shown to help children internalize facts that protect their lives [5], underscoring the importance of teachers as consistent and credible sources of this information. Current evidence suggests that formal preparation in school health remains limited. Yet studies among students in higher education institutions suggest that adherence to healthy lifestyle practices is often only moderate: a study of Kuwaiti university students found that only half ate a healthy diet, fewer than half slept seven to nine hours a night, and just over a third exercised regularly [22]. A similar knowledge-practice gap has also been reported elsewhere among students in higher education [7].

Among adolescents specifically, healthy lifestyle activities and eating perceptions have similarly been found to correlate with both body mass index and the consumption of low-fat and low-sugar foods [23]. Notably, a comparison of medical and non-medical university students in Karachi found that although medical students scored significantly higher on nutritional knowledge, their diet and lifestyle practice scores did not differ significantly from those of non-medical students, with both

groups citing lack of time as the leading barrier to healthy eating and regular exercise [24]. Broader community-level research reinforces this concern: a survey of South Asian communities in the UK found that over a third of respondents could not explain what heart disease meant and roughly one in five could not name a preventive measure for either heart disease or diabetes, with knowledge gaps particularly pronounced among women and people of Bangladeshi origin [25]. An April 2018 Knowledge, Attitude and Practices (KAP) survey of 520 rural and 185 urban secondary-school teachers found that only 10.38% of rural and 7.57% of urban teachers had received formal school-health training, despite uniformly high positive attitudes toward health (approximately 90%). Practice scores were relatively better among rural teachers (86.67%) compared to their urban counterparts (76.67%). These findings indicate a gap between favorable attitudes and structured training, highlighting the need to assess actual lifestyle practices of teachers in Sindh province [30].

This study aimed to evaluate healthy lifestyle practices among government primary school teachers in the selected districts of Sindh, namely Thatta, Hyderabad, and MirpurKhas, where there is little evidence of such practices, and to guide future interventions for encouraging healthy behaviors in the younger generation, assuming that teachers have sufficient knowledge of these practices.

### **3. METHODS:**

#### **3.1 AIM OF THE STUDY**

The study aimed to evaluate the knowledge, attitudes and practices of primary government school teachers in the selected districts of Sindh.

#### **3.2 STUDY DESIGN AND SETTING**

A descriptive cross-sectional study was conducting using a convenience sampling technique. The research included the primary government schools from Thatta, Hyderabad and MirpurKhas, districts of Sindh.

#### **3.3 STUDY POPULATION**

The study included consenting government school teachers from the selected schools in the districts of Sindh, Thatta, Hyderabad and Mirpurkhas, representing diverse urban, rural, and semi-urban settings to compare lifestyle pattern across different social and ecological contexts.

#### **3.4 STUDY DURATION**

The study was carried out over a period of three months; from February 2019 to April 2019.

#### **3.5 SAMPLE SIZE AND CALCULATION**

A sample size of 384 was calculated using a 95% confidence level, Z value of 1.96, 50% assumed proportion, and 5% margin of error [31,32]. To account for potential non-response, withdrawal, or drop-off, the sample was increased to 600 teachers, with approximately two teachers selected from each participating school.

### **3.6 STUDY TOOL**

A pretested self-administered questionnaire was used for getting the information about the practices of teachers regarding healthy lifestyle. A hundred schools from each district were selected via convenience sampling technique. Two teachers from each school were then randomly included in the study.

### **3.7 DATA COLLECTION**

A structured questionnaire was developed and designed with the help of literature and prevalence of lifestyle practices so that it can be figure out the real practices in towns.

600 interviews were conducted with the government primary school teachers.

Questionnaires were filled at the selected schools of each district after getting consent of head master / mistress of the school along with interviewees. The mean duration of a questionnaire to be completed was 20 minutes.

Before the actual data collection, a pilot study was conducted including ten teachers that were not included in the final studies. The observations during the pilot study helped in rephrasing and modification of the questionnaire. The reliability and validity of the study tool was assessed through pretesting and pilot testing of the questionnaire. Measures were taken at all stages of the study to minimize potential bias. The data collection process followed standardized procedures to maintain objectivity and ensure the collection of accurate and reliable responses.

### **3.8. STATISTICAL ANALYSIS**

Data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0. Descriptive statistics were applied to summarize the data, including calculation of frequency distributions, means, medians, and standard deviations. Responses were presented using descriptive analysis to depict the pattern of healthy lifestyle practices among the study participants.

## **4. RESULTS**

### **4.1 SOCIOECONOMIC DEMOGRAPHY**

Sociodemographic characteristics of the participants are shown in Table 1. The study included a total of 600 government primary school teachers from the districts of Thatta, Hyderabad, and Mirpur Khas. The gender distribution was balanced, with 50% male and 50% female respondents as shown in Figure 1.1.

**[Figure 1.1 insert here]**

In terms of marital status, 82 % of the population were married, while 10.3 % were unmarried and 2.6 % were separated as demonstrated in Figure 1.2.

**[ Figure 1.2 insert here]**

Regarding educational attainment, 46.3% of the participants held a Master's degree, 47.0% were graduates, and 6.6% had completed Intermediate-level education, as illustrated in Figure 1.3.

**[ Figure 1.3 insert here]**

**[Table 01 insert here]**

TABLE 01: Socioeconomic Demograph

|                |              | DISTRICTS    |                 |                  |            |
|----------------|--------------|--------------|-----------------|------------------|------------|
| VARIABLE       | CATEGORY     | THATTA n (%) | HYDERABAD n (%) | MIRPURKHAS n (%) | n (%)      |
| GENDER         | MALE         | 158 (79)     | 82 (41)         | 120 (60)         | 360 (60)   |
|                | FEMALE       | 42 (21)      | 118 (59)        | 80 (40)          | 240 (40)   |
| MARITAL STATUS | MARRIED      | 126 (63)     | 196 (98)        | 200 (100)        | 522 (87)   |
|                | UNMARRIED    | 58 (29)      | 4 (2)           | 0 (0)            | 62 (10.3)  |
|                | SEPERATED    | 16 (8)       | 0 (0)           | 0 (0)            | 16 (2.6)   |
| EDUCATION      | INTERMEDIATE | 16 (8)       | 4 (2)           | 20 (10)          | 40 (6.6)   |
|                | BACHELORS    | 116 (58)     | 86 (43)         | 80 (40)          | 282 (47)   |
|                | MASTERS      | 68 (34)      | 110 (55)        | 100 (50)         | 278 (46.3) |

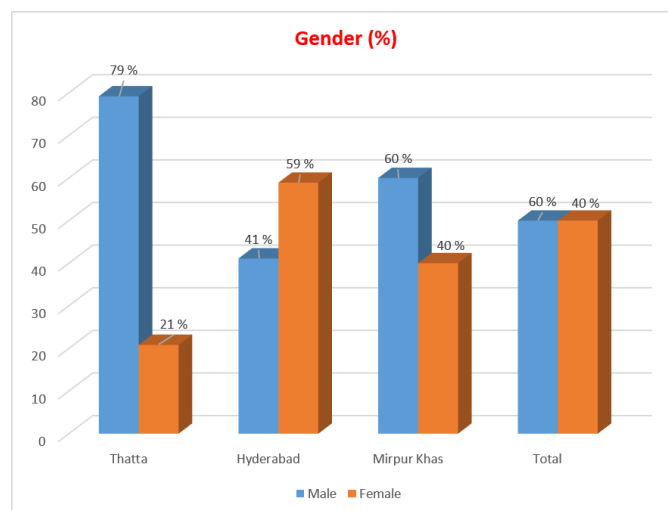


Figure 1.1: Gender distribution of the participants across the three districts.

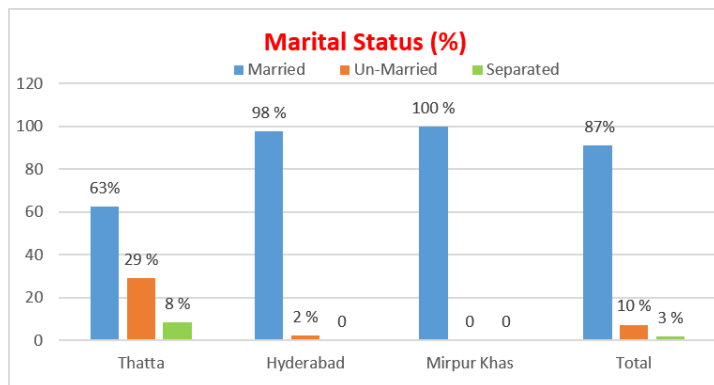


*FIGURE 1.2: Distribution of the participants by marital status across the three districts*

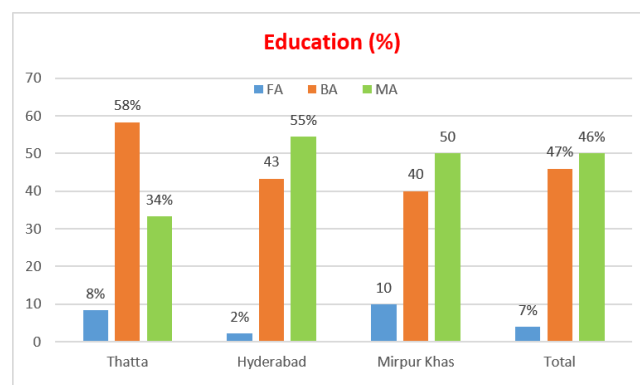


*Figure 1.3 education level of participants across the three districts.*

## 4.2 COMMUNICABLE DISEASES PRACTICES

The practices Among Teachers to Prevent Communicable Diseases are shown in table 2, demonstrating generally positive hygiene behaviors among participants.

**[Table 2 insert here]**

In terms of hand hygiene, as illustrated in Figure 2.1, before eating, the majority of the teachers report good compliance. About 79.8% of the teachers reported to always wash their hands, 17.5% reported that they almost always washed their hands and only 2.6% reported that they seldom observed the practice handwashing before meals. Similarly, handwashing after eating was also widely practiced, with 83.3% of teachers reported that they always washed their hands after eating, 9% reported almost always, and 7.6% reported seldom doing so.

**[ Figure 2.1 insert here]**

The practice of hand hygiene after defecation had the highest percentage of adherence among the participants, as demonstrated in the Figure 2.2. The majority, 95%, washed their hands with soap and water after defecation, which is the appropriate practice for hand hygiene. However, 6% washed their hands with soil and water and 4% with water alone, implying that some of the teachers do not adhere to the appropriate handwashing standards.

[Figure 2.2 insert here]

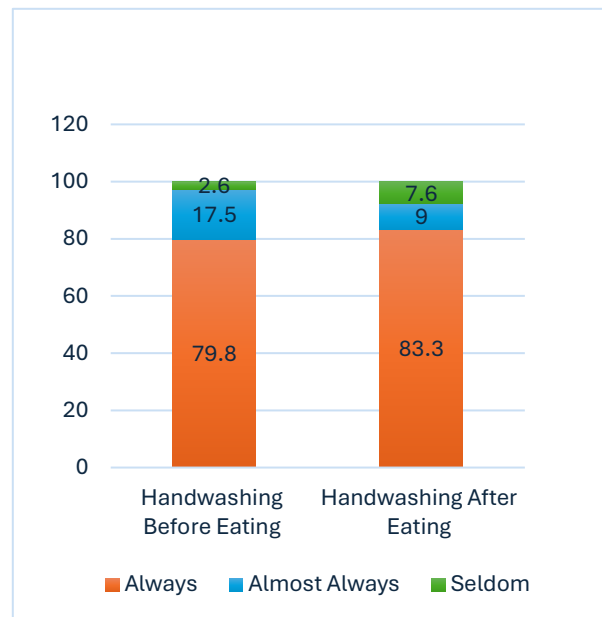
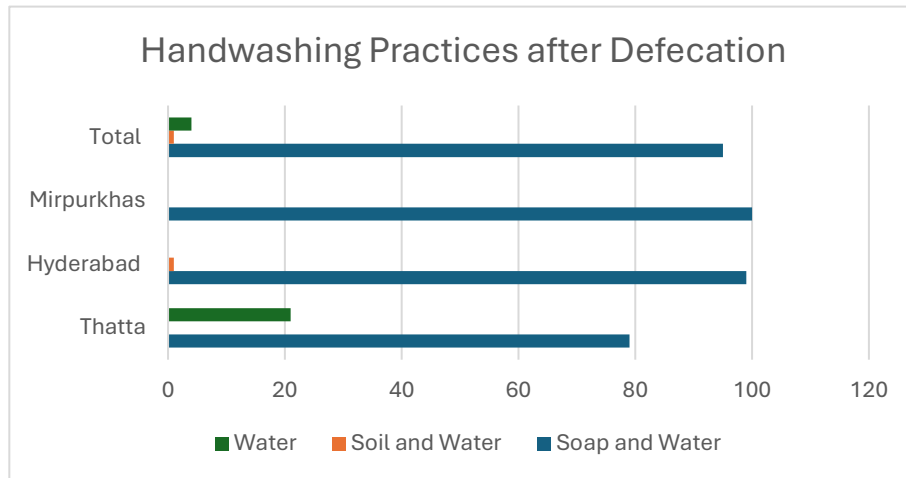


*Figure 2.1 Handwashing Practices Before And After Eating Across Thatta, Hyderabad And Mirpurkhas.*



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*Figure 2.2 Handwashing practices after defecation amongst the three districts*

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With regard to dietary practices, especially with regard to consuming food from vendors, the results revealed that most teachers avoided this practice. Only 3.3% of the teachers stated that they always consumed food from vendors, whereas 13% stated that they consumed food from vendors occasionally. A higher percentage of teachers, that is, 46.3%, stated that they rarely consumed food from vendors, whereas 36.8%, stated that they never consumed food from the vendors.

In terms of environmental sanitation, the practice of maintaining cleanliness within the home was reported by the majority of the teachers. About 40% of the teachers reported

that they always ensured cleanliness within the home, while 57% reported that they sometimes ensured cleanliness within the home, 2% rarely did so, and 1% never did so.

These results suggest that the teachers who participated in the research mostly maintained cleanliness, though the others did so at varying frequencies.

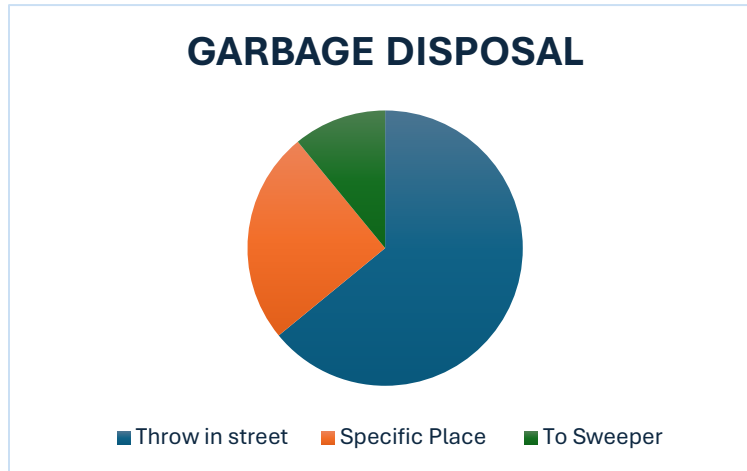
Similarly, with regard to the cleanliness outside the home, 22.6% of teachers reported always maintaining cleanliness in their surroundings, while a substantial proportion of 51.6% reported doing so sometimes. Meanwhile, 22.6% rarely practiced maintaining cleanliness outside their homes, and 3% reported never engaging in such practices.

Regarding the garbage storage practices, the majority of the participants, 62.1%, reported storage in a trash container, while 21.6%, reported to storing the garbage outside the home.

Additionally, 7.16% stored garbage inside the home, 5.6% kept it besides the door, and 3.3% reported other storage practices.

For the garbage disposal practices, illustrated in Figure 2.3, 47.3% of the participants reported disposing it at a designated place, while 41% reported that garbage was disposed of by a sweeper. A smaller proportion, 11.6% reported throwing garbage in the street.

**[Figure 2.3 insert here]**




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*Figure 2.3 Garbage disposal methods amongst teachers across the districts of Thatta, Hyderabad and Mirpurkhas.*

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Figure 2.4 summarizes the main sources for the drinking water, mineral water being used by the majority, reported by 74% of the participants, followed by hand pumps at 11% and tap water by 10%. River water was used by 3% of the participants, while 2% reported using other available sources. No participants reported using well water as a source of drinking water. [ **Figure 2.4 insert here**]

Overall, the results indicate that the teachers generally exhibited appropriate personal hygiene practices, especially in terms of handwashing. The teachers' environmental sanitation and waste management practices exhibited variability.

[**Table 2 insert here**]

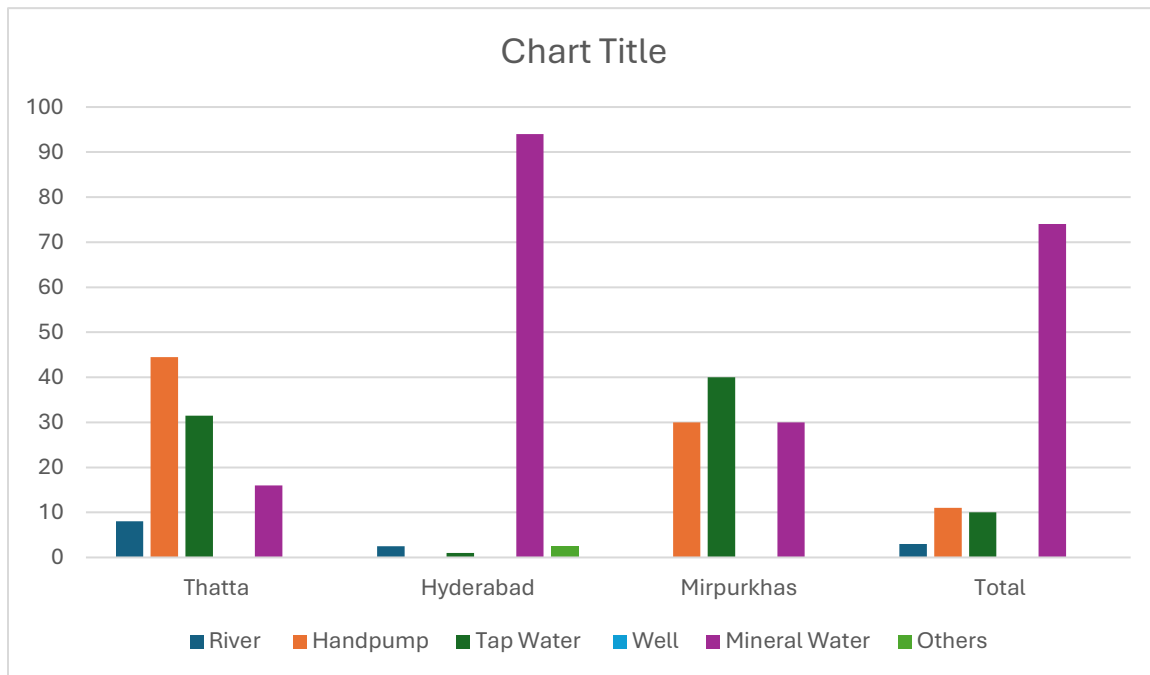


*Figure 2.4 Sources of drinking water across the three districts.*

Table 02: Practices Among Teachers to Prevent Communicable Diseases.

| PRACTICES                  | CATEGORY                         | THATTA n (%) | HYDERABAD n (%) | MIRPURKHAS n (%) | TOTALn (%) |
|----------------------------|----------------------------------|--------------|-----------------|------------------|------------|
| <b>PERSONAL HYGIENE</b>    |                                  |              |                 |                  |            |
| WASH HANDS BEFORE EATING   | ALWAYS                           | 117 (58.5)   | 182 (91)        | 180 (90)         | 479 (79.8) |
|                            | ALMOST                           | 67 (33.5)    | 18 (9)          | 20 (10)          | 105 (17.5) |
|                            | SELDOM                           | 16 (8)       | 0 (0)           | 0 (0)            | 16 (2.6)   |
| WASH HANDS AFTER EATING    | ALWAYS                           | 158 (79)     | 182 (91)        | 160 (80)         | 500 (83.3) |
|                            | ALMOST                           | 16 (8)       | 18 (9)          | 20 (10)          | 54 (9)     |
|                            | SELDOM                           | 26 (13)      | 0 (0)           | 20 (10)          | 46 (7.6)   |
| HANDWASH AFTER DEFECACTION | SOAP AND WATER                   | 158 (79)     | 198 (99)        | 200 (100)        | 570 (95)   |
|                            | SOIL AND WATER                   | 0 (0)        | 2 (1)           | 0 (0)            | 6(1)       |
|                            | ONLY WATER                       | 42 (21)      | 0 (0)           | 0 (0)            | 24(4)      |
| <b>DIETARY HABIT</b>       |                                  |              |                 |                  |            |
| EATING FROM VENDORS        | ALWAYS                           | 16 (8)       | 4 (2)           | 0 (0)            | 20 (3.3)   |
|                            | ALMOST (1-2 TIMES A MONTH)       | 16 (8)       | 22 (11)         | 40 (20)          | 70 (13)    |
|                            | SELDOM (1-2 TIMES A YEAR)        | 101 (50.5)   | 20 (10)         | 160 (80)         | 281 (46.3) |
|                            | NEVER                            | 67 (33.5)    | 154 (77)        | 0 (0)            | 221 (36.8) |
| <b>SANITATION</b>          |                                  |              |                 |                  |            |
| HOME CLEANING              | ALWAYS                           | 116 (58)     | 56 (28)         | 200 (100)        | 240 (40)   |
|                            | ALMOST (MISS 1-2 TIMES A MONTH)  | 58 (29)      | 142 (71)        | 0 (0)            | 342 (57)   |
|                            | SELDOM (DOING 1-2 TIMES A MONTH) | 26 (13)      | 0 (0)           | 0 (0)            | 12 (2)     |
|                            | NEVER                            | 0 (0)        | 2 (1)           | 0 (0)            | 6 (1)      |
| CLEANLINESS OUTSIDE HOME   | ALWAYS                           | 92 (46)      | 4 (2)           | 40 (20)          | 136 (22.6) |
|                            | ALMOST (MISS 1-2 TIMES A MONTH)  | 50 (25)      | 180 (90)        | 80 (40)          | 310 (51.6) |
|                            | SELDOM                           | 42 (21)      | 14 (7)          | 80 (40)          | 136 (22.6) |
|                            | NEVER                            | 16 (8)       | 2 (1)           | 0 (0)            | 18 (3)     |
| GARBAGE STORAGE            | IN HOME                          | 41 (20.5)    | 2 (1)           | 0 (0)            | 43 (7.16)  |
|                            | IN TRASH                         | 75 (37.5)    | 198 (99)        | 100 (50)         | 373 (62.1) |
|                            | OUTSIDE HOME                     | 50 (25)      | 0 (0)           | 80 (40)          | 130 (21.6) |
|                            | SIDE OF THE DOOR                 | 34 (17)      | 0 (0)           | 0 (0)            | 34 (5.6)   |
|                            | OTHERS                           | 0 (0)        | 0 (0)           | 20 (10)          | 20 (3.3)   |
| GARBAGE DISPOSAL           | THROW IN STREET                  | 66 (33)      | 4 (2)           | 0 (0)            | 70 (11.6)  |
|                            | SPECIFIC PLACE                   | 84 (42)      | 20 (10)         | 180 (90)         | 284 (47.3) |
|                            | TO SWEEPER                       | 50 (25)      | 176 (88)        | 20 (10)          | 246 (41)   |
| SOURCE OF DRINKING WATER   | RIVER                            | 16 (8)       | 5 (2.5)         | 0 (0)            | 18 (3)     |
|                            | HAND PUMP                        | 89 (44.5)    | 0 (0)           | 60 (30)          | 66 (11)    |
|                            | TAP WATER                        | 63 (31.5)    | 2 (1)           | 80 (40)          | 60 (10)    |
|                            | WELL                             | 0 (0)        | 0 (0)           | 0 (0)            | 0 (0)      |
|                            | MINERAL WATER                    | 32 (16)      | 188 (94)        | 60 (30)          | 444 (74)   |
|                            | OTHERS                           | 0 (0)        | 5 (2.5)         | 0 (0)            | 12 (2)     |

### 4.3 NONCOMMUNICABLE DISEASE PRACTICES

Physical activity was relatively limited, with 16.7% of teachers reporting daily exercise, while 42.0% exercised occasionally and 21.6% reported no exercise. Personal-care practices were generally well observed, particularly brushing (90.6%), combing (89.3%), prayer (80.3%), changing clothes (77.7%), and bathing (73.0%). Meal practices were generally favorable, with 60.6% and 65.6% reporting daily consumption of breakfast and lunch, respectively. However, evening rest was uncommon, with 44.5% reporting that they never took evening rest. Late sleeping was also prevalent, with 46.6% going to sleep after 11:00 PM and 8.3% after midnight. Milk was consumed daily or very often by 26.6% and 39.6% of teachers, respectively, while fruit consumption was mainly weekly (63.5%) and 32.0% reported daily fruit consumption. Meat was predominantly consumed weekly (76.1%).

Overall, the findings, summarized in table 03, suggest favorable personal-care and meal-related practices, but highlight suboptimal physical activity and sleep-related behaviors among teachers.

**[Table 3 insert here]**

Table 03: Lifestyle Preventive Practices Among Teachers to Prevent Noncommunicable Diseases.

| LIFESTYLE PRACTICES      | CATEGORY          | THATTA n (%) | HYDERABAD n (%) | MIRPURKHAS n (%) | TOTAL n (%) |
|--------------------------|-------------------|--------------|-----------------|------------------|-------------|
| EARLY RISER              | YES               | 108 (54)     | 186 (93)        | 200 (100)        | 494 (82.3)  |
|                          | NO                | 92 (46)      | 14 (7)          | 0                | 106 (17.6)  |
| EXERCISE                 | DAILY             | 58 (29)      | 22 (11)         | 20 (10)          | 100 (16.6)  |
|                          | ALMOST            | 34 (17)      | 44 (22)         | 40 (20)          | 118 (19.6)  |
|                          | OCCASSIONAL       | 42 (21)      | 130 (65)        | 80 (40)          | 252 (42)    |
|                          | NEVER             | 66 (33)      | 4 (2)           | 60 (30)          | 130 (21.6)  |
| MORNING CORE WORKS       | BRUSHING          | 150 (75)     | 194 (97)        | 200 (100)        | 544 (90.6)  |
|                          | FACE WASHING      | 134 (67)     | 192 (96)        | 80 (4)           | 406 (67.6)  |
|                          | BATHING           | 126 (63)     | 192 (96)        | 120 (60)         | 438 (73)    |
|                          | COMBING           | 184 (92)     | 192 (96)        | 160 (80)         | 536 (89.3)  |
|                          | CHANGE CLOTHES    | 158 (79)     | 188 (94)        | 120 (60)         | 466 (77.6)  |
|                          | PRAYER            | 116 (58)     | 186 (93)        | 180 (90)         | 482 (80.93) |
|                          | ALL CORE          | 58 (29)      | 180 (90)        | 40 (20)          | 278 (46.3)  |
| TAKING BREAKFAST         | DAILY             | 166 (83)     | 58 (29)         | 140 (70)         | 364 (60.6)  |
|                          | ALMOST            | 26 (13)      | 140 (70)        | 0 (0)            | 166 (27.6)  |
|                          | OFTEN             | 8 (4)        | 2 (1)           | 60 (30)          | 70 (11.6)   |
|                          | NEVER             | 0 (0)        | 0 (0)           | 0 (0)            | 0 (0)       |
| TAKING LUNCH             | DAILY             | 158 (79)     | 56 (28)         | 180(90)          | 394 (65.6)  |
|                          | ALMOST            | 26 (13)      | 140 (70)        | 20 (10)          | 186 (31)    |
|                          | OFTEN             | 16 98)       | 4 (2)           | 0 (0)            | 20 (3.3)    |
|                          | NEVER             | 0 (0)        | 0 (0)           | 0 (0)            | 0 (0)       |
| TAKING REST AFTER LUNCH  | DAILY             | 158 (79)     | 4 (2)           | 180 (90)         | 342 (57)    |
|                          | ALMOST            | 26 (13)      | 16 (8)          | 20 (10)          | 62 (10.3)   |
|                          | OFTEN             | 16 (8)       | 180 (90)        | 0 (0)            | 196 (32.6)  |
|                          | NEVER             | 0 (0)        | 0 (0)           | 0 (0)            | 0 (0)       |
| TAKING SNACKS IN EVENING | DAILY             | 92 (46)      | 8 (4)           | 20 (10)          | 120 (20)    |
|                          | ALMOST            | 34 (17)      | 28 (14)         | 60 (30)          | 122 (20.3)  |
|                          | OFTEN             | 58 (29)      | 72 (36)         | 40 (20)          | 170 (28.3)  |
|                          | NEVER             | 16 (8)       | 34 (17)         | 60 (30)          | 110 (18.3)  |
|                          | ONLY TEA          | 0 (0)        | 58 (29)         | 20 (10)          | 78 (13)     |
| EVENING REST             | DAILY             | 8 (4)        | 0 (0)           | 0 (0)            | 8 (1.3)     |
|                          | ALMOST            | 34 (17)      | 8 (4)           | 40 (20)          | 82 (13.6)   |
|                          | OCCASSIONALLY     | 58 (29)      | 165 (82.5)      | 20 (10)          | 243 (40.5)  |
|                          | NEVER             | 100 (50)     | 27 (13.5)       | 140 (70)         | 267 (44.5)  |
| SLEEPING TIME            | JUST AFTER DINNER | 16 (8)       | 2 (1)           | 0 (0)            | 18 (3)      |
|                          | AFTER 9:00 PM     | 116 (58)     | 16 (8)          | 120 (60)         | 252 (42)    |
|                          | AFTER 11:00 PM    | 42 (21)      | 178 (89)        | 60 (30)          | 280 (46.6)  |
|                          | AFTER 12:00 AM    | 26 (13)      | 4 (2)           | 20 (10)          | 50 (8.3)    |
| DRINKING MILK            | DAILY             | 26 (13)      | 34 (17)         | 100 (50)         | 160 (26.6)  |
|                          | VERY OFTEN        | 58 (29)      | 160 (80)        | 20 (10)          | 238 (39.6)  |
|                          | OCCASSIONALLY     | 66 (33)      | 6 (3)           | 40 (20)          | 112 (18.6)  |
|                          | NEVER             | 25 (12.5)    | 0 (0)           | 40 (20)          | 65 (10.8)   |
|                          | OTHERS            | 25 (12.5)    | 0 (0)           | 0 (0)            | 25 (4.16)   |
| EATING FRUIT             | DAILY             | 108 (54)     | 4 (2)           | 80 (40)          | 192 (32)    |
|                          | WEEKLY            | 92 (46)      | 189 (94.5)      | 100 (50)         | 381 (63.5)  |
|                          | MONTHLY           | 0 (0)        | 7 (3.5)         | 20 (10)          | 27 (4.5)    |
| EATING MEAT              | DAILY             | 8 (4)        | 4 (2)           | 60 (30)          | 72 (12)     |
|                          | WEEKLY            | 150 (75)     | 187 (93.5)      | 120 (60)         | 457 (76.1)  |
|                          | MONTHLY           | 42 (21)      | 9 (4.5)         | 20 (10)          | 71 (11.8)   |

## **5. DISCUSSION**

The results of the study provide insight into the lives of government primary school teachers in the Sindh province of Pakistan. Healthy lifestyle habits are vital for the maintenance of physical and mental well-being, for the prevention of chronic diseases, and for the promotion of longevity. Research conducted in Pakistan has shown that risk factors for lifestyle-related diseases are common among different segments of the population, including students, adolescents, and adults, and continue to be a major cause of illness and death [27,28,29].

A cross-sectional survey conducted among university students in Karachi, Pakistan, found that a large proportion of students had only moderate levels of adherence to healthy lifestyle habits. According to the findings, although the majority of students were aware of the significance of a healthy diet, regular exercise, and sleep, they did not show good levels of adherence to these healthy habits. For example, a majority (69.1%) of the students had mildly stressful lifestyles, and a large proportion did not consume breakfast, had irregular physical activity, and did not have adequate sleep [27]. This mirrors findings from a comparison of medical and non-medical university students in Karachi, where medical students scored significantly higher on nutritional knowledge yet showed no significant difference in diet and lifestyle practice scores compared to their non-medical peers, with both groups identifying lack of time as their leading barrier to healthy eating and regular exercise [24]. It is interesting to note, however, that female students showed better levels of healthy lifestyle habits than male students, indicating gender differences in health behaviors. These findings indicate that knowledge is not enough to ensure good levels of adherence, and that other barriers such as time constraints, academic demands, and stress

levels play a critical role in influencing lifestyle behaviors [7]. This pattern of moderate adherence is not unique to Pakistan: a study of college students in Kuwait similarly found that only half maintained a healthy diet and just over a third exercised regularly, despite general awareness of healthy lifestyle principles [22].

Likewise, studies carried out on adolescents and young adults in Pakistan emphasize the importance of unhealthy dietary habits and lifestyle practices, a pattern also reported among adolescents more broadly, where healthy lifestyle activities and eating perceptions have been found to correlate with both body mass index and the consumption of low-fat and low-sugar foods [23]. A survey carried out at the family medicine center of Aga Khan University & Hospital in Karachi showed a high rate of risk behavior among the population surveyed [26]. A total of 21% of the study population was found to have low water intake on a daily basis, which may cause dehydration and renal disease. Furthermore, 19% of the study population was found to sleep less than six hours a day. Additionally, 17% of the study population was found to be smoking cigarettes, while 21% were found to be chewing betel nuts, which is a risk factor for heart disease and other metabolic syndromes [29]. This shows a general lack of adherence to preventive health practices among the general population, and reflects patterns observed in other South Asian community settings, where a UK-based survey similarly found that a substantial proportion of respondents could not explain the meaning, causes, or preventive measures for heart disease and diabetes, with women and people of Bangladeshi origin showing the lowest levels of understanding [25].

The results of the present study, in terms of government primary school teachers, are positive, as

the majority of the participants practiced healthy behaviors, including personal hygiene, healthy nutrition, and exercise habits. This is significant not only in terms of the teachers' own health, but also in terms of their impact on their students' health behaviors, as healthy teachers can influence their students' understanding of healthy lifestyles, thus contributing to healthy community outcomes. Overall, the existing literature in Pakistan points to a persistent gap between the knowledge and practice of healthy lifestyles across different population groups. Time constraints, stress, environmental constraints, and a lack of institutional support are some of the factors that continue to impact the practice of healthy lifestyles [27,28,29]. The data collected point toward the need for context-specific interventions, such as health education programs, workplace health programs, and structural support for physical exercise and healthy dietary habits, to promote the practice of healthy lifestyles. The promotion of preventive health practices among teachers, students, and adults in Pakistan can help reduce the disease burden attributable to unhealthy lifestyles and promote health and well-being overall.

## **6. CONCLUSION**

The present study aimed to assess the daily lifestyle behaviors of government primary school teachers across the districts of Thatta, Hyderabad, and Mirpur Khas, with a focus on the good practices as well as the areas that need to be improved. It was revealed that teachers exhibited good personal hygiene practices, such as a high rate of handwashing before meals (85%) and after defecation (95%). However, other aspects of a healthy lifestyle were found to be less satisfactory. For example, only a small percentage of teachers were found to be physically active (14%), whereas the complete morning routine was followed by less than

half of the teachers. Similarly, teachers who avoided street foods were 50%, whereas those who used mineral water for drinking were 74%.

This shows that while the teachers are aware of the basic health and hygiene practices, other factors like age, routine, and work pressure can hinder the development of overall healthy practices. It is essential that the teachers are encouraged to improve their lifestyles not only for their own health but also for the health of the students they teach. This can be done by including health and hygiene education in the training sessions of the teachers and organizing health promotion sessions with the help of the Health Department.

Promoting healthy habits of exercise, hygiene in the mornings, and healthy habits of food and water intake among teachers can have a lasting impact. These practices can lead to the prevention of non-communicable diseases, and a healthy culture can be fostered among the schools. Ultimately, enabling the teachers to adopt a healthy lifestyle can be a starting point for developing a healthy community and a healthy nation.

## **LIST OF ABBREVIATIONS**

**NCDs:** Non-Communicable Diseases; **LMICs:** Low- and Middle-Income Countries; **WHO:** World Health Organization; **KAP:** Knowledge, Attitude and Practices; **SPSS:** Statistical Package for the Social Sciences.

## **7. DECLARATIONS**

### ***ETHICS APPROVAL AND CONSENT TO PARTICIPATE***

Ethical approval for the conductance of study was taken from ethical review committee of SZABIST. All the participants had provided informed consent prior to data collection.

Participation was voluntary and confidentiality of information was ensured. All methods were carried out in accordance with relevant institutional guidelines and regulations.

### ***CONSENT FOR PUBLICATION***

Not Applicable

### ***AVAILABILITY OF DATA AND MATERIALS***

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

### ***COMPETING INTERESTS***

The authors declare that they have no competing interests.

### ***FUNDING***

This research received no external funding. The study was conducted as a part of the requirements for the Master of Public Health Degree.

### ***AUTHORS' CONTRIBUTIONS***

TS conducted the thesis research and contributed to the conceptualization and design of the study, supervised by MA. TS, SRJ and TJK prepared the initial draft of the manuscript. TJK and MA supervised the manuscript draft and provided necessary revisions.

SMN and SA assisted with data collection from the selected government primary schools, coordinating with the schools and administration of the structured questionnaires supervised by

TS and MA. The final manuscript draft was prepared by SRJ, proofread and reviewed by TS, TJK and MA. All authors read and approved the final version of the manuscript.

### ***ACKNOWLEDGEMENTS***

The authors acknowledge the support of the participating schools' teachers and district education authorities for their cooperation during data collection.

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