

Assessment of Personal Hygiene Practices among Primary School Pupils in Umbada locality, Khartoum state, Sudan (2018-2020)

Mariam Saeed Ibrahim Essa^{1*}, Magda Elhadi Ahmed Yousif², M.A. Abdalmagid³

^{1*} Lecturer, Alemam Alhadi University, SUDAN

²Professor, Faculty of Medicine, University of Gezira, SUDAN

³Senior Public Health Specialist, Khartoum State Malaria Administration, SUDAN

*(emmaro2281@gmail.com)

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Abstract

Background: Personal hygiene is the behaviors that must be practiced in daily life, starting from morning to sleep time to protect our health.

Objectives: The current study aimed to assess personal hygiene practices among Primary School Pupils in Umbada Locality, Khartoum state, Sudan (2018-2020).

Materials and methods: An observational interventional study was conducted where a pre- and post-assessment was done. Pre-test and post-test intervention was used to determine the practices of hygiene among primary school Pupils in some selected schools of Umbada locality al emir unit. The targeted population was primary school Pupils in Government schools only. The study populations were the pupils in the Primary public schools by a total number of 37850 Pupils (grade 5, grade 6 and grade7) distributed among 180 public primary schools in the locality. The sample size were consist of (800) pupils during the period of the study. A pre- and post- questionnaire was carefully prepared, tested and directed to the pupils. It covers pupil's age, sex, and the classroom; source of water supply and latrine in the house there, and to obtain data regarding knowledge, attitude, and practices (as regards personal hygiene in both pre and post intervention phases. Data was analyzed using Statistical Package for Social Sciences SPSS Computer Program Version (19.0).

Results: The study revealed that the overall practice of pupils, about personal hygiene was increased from 39% to 61% after intervention of health education sessions.

Conclusion: Health education has significant role in promoting the practice of school pupils regarding personal hygiene. Moreover, motivational approaches and programs to encourage children about their primacy personal hygiene should be adopted and implemented.

Keywords

Personal hygiene, Umbada locality, Khartoum.

INTRODUCTION

Personal hygiene is a concept that is commonly used in medical and public health practices. It is also widely practiced at the individual level and at home. It involves maintaining the

cleanliness of our bodies and clothes. Personal hygiene is personal, as its name implies. In this regard, personal hygiene is defined as a condition promoting sanitary practices to the self. Everybody has their habits and standards that they have been taught or that they have learned from others. Generally, personal hygiene is employed to prevent or minimize the incidence and spread of communicable diseases (Dongre, 2006). For children, maintenance of personal hygiene helps to improve the quality of life and longevity. This is of particular importance in a slum community with compromised living situations.

This study was undertaken to find out the knowledge and practice of personal hygiene among the primary school children living in a slum area, to identify any misconception among them regarding the maintenance of personal hygiene, to find out their morbidity pattern, and also to elicit the relationship between practice of personal hygiene among the children and the literacy status of their mother (Dongre, 2006).

Personal hygiene is the application people perform, to protect their health and keep their life healthy. Personal hygiene is the behaviors that must be practiced in daily life, starting from morning to sleep time to protect our health. To protect health, the body, hair, mouth and teeth must be cleaned regularly and clothes must be washed frequently. Personal hygiene is intimately involved with health. It is known that germs easily grow in unclean bodies and cause illnesses. The germs can quickly increase to 17 million in just 8 hours. (Sarkar et al., 2007) This study aimed to assess of personal hygiene practices among Primary School Pupils in Umbada Locality, Khartoum state, Sudan (2018-2020).

MATERIALS AND METHODS

Study design

An Observational interventional study was conducted where a pre- and post- assessment was done. Pre-test and post-test were used to determine the knowledge, attitude and practices of hygiene among primary school Pupils in some selected schools of Umbada locality al emir unit. The targeted population was primary school Pupils in Government schools only.

Study area

The study was conducted in Umbada locality al emir unit among primary school Pupils in Government schools during the academic year 2018-2019 at the beginning of the school year.

Study population

The study population was primary schools' pupils in Umbada locality.

Inclusion criteria

Primary school pupils in the age (11 to 16 years old), those lived in the study area from 5th to 7th grade in Government schools only in study area al emir unit umbada locality.

Exclusion criteria:

Pupils younger than, (11 years old), and above than, (16 years old) 1st to 4th grade and pupils in 8th grade in schools of study, and pupils in primary privet schools not included.

Sample size

The target population is composed of 5 boys' schools, and 5 girls' schools, and one mixed school. Each was considered as a cluster.

The sample size was determined using the following formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample Size

e= is a marginal error (d =0.05).

So, when it was applied in the equation as below:

$$n = \frac{37850}{1 + 37850(0.05)^2}$$

This resulted in a sample of 400 pupils (boys) and 400 pupils (girls) according to design effect (5th, 6th, 7th Grades)

Distribution of the sample size

The schools of boys and girls listed in two groups, group for boys schools and the sample was selected according to the stratified sample. The sample includes public schools only and we exclude private schools and include classes from the fifth, sixth and seventh grades, and we exclude classes from the first to the fourth and also the eighth grade due to academic pressure and exams.

The sample was chosen from 12 schools, five girls' schools, five boys' schools and two mixed schools. The data were collected from the students according to the stratified sample and according to what was reported by the World Health Organization, the lowest class has 25 students, this means 75 pupils from each girls' schools, 75 pupils from girls' schools and 50 pupils from mixed schools, meaning 25 pupils girl and 25 pupils boy.

Methods of data collection

A pre- and post- questionnaire was carefully prepared, tested and directed to the pupils it covers pupil's age, sex, and the classroom; source of water supply and latrine in the house there, and to obtain data regarding knowledge, attitude, and practices (KAPs) as regards personal hygiene in both pre and post intervention phases.

Interviewing teachers

Teachers were interviewed regarding personal hygiene of their schools' pupils.

Observation check list

The observation checklist was applied in terms of pupils personal hygiene practice.

Phases of the study

The study is composed of three phases:

Phase I

Pre-intervention phase

In this phase questionnaires were directed to the pupils to obtain baseline data.

Designing interventional materials

In this phase; interventional materials, methods and tools were developed and also training guide or manually designed for teachers and interventionists. A pamphlet was also designed by researcher of the of health education regarding personal hygiene in addition to local materials designed by the researcher.

Training workshop for teachers

A training workshop for teachers was carried out to increase knowledge of the teachers towards personal hygiene to assist in improving practices, attitudes and knowledge of pupils towards Elements of personal health. School health teachers from each school of the study area received training course on personal hygiene for teachers.

Phase II: Interventional phase

Lectures

Lectures presented on personal hygiene according to the following standards and criteria.

- One lecture per week for each school on personal hygiene for six months
- Any hasn't exceeded half an hour in time.
- Any lecture followed by a demonstration on proper personal hygiene techniques.
- Good coordination did with educational authorities in the locality for conducting such lectures.
- Ports were used in lectures.
- Manual of the training was applied to follow the guides of the training Manual.

Practical demonstration

Practical demonstrations were conducted to improve skills of the pupils regarding personal hygiene (hand washing, Tooth brushing) as follows:

The time of any practical demonstrations has not exceeded 10 minutes.

- Source of water is used
- Plastic basins
- Soap
- Towels
- Pupils are encouraged to adopt proper hand washing.

Each school received one demonstration accompanied with the lecture for 24 demonstrations weekly on hand washing, Tooth brushing and all the skills of personal hygiene so the total numbers of all demonstrations for all schools of the study were 264 demonstrations.

Posters

Wall posters were fixed on the walls of the class of the school as reminders for the pupils inside and outside of the class (the poster designed and published by UNICEF and minister of health for health education purposes including written messages and images, new posters were fixed to replace the old ones when ruptured.

Also, local posters were designed by Health Promotion Department and approved by Ministry of Health.

Leaflets (pamphlets)

Leaflets designed by UNICEF and ministry of health were distributed to increase knowledge of the pupils regarding hand washing and Personal hygiene skills. Leaflets were distributed to all pupils regardless participating or not in the study, any pupil received leaflets. Hence, leaflets were revised by the interventionists to ensure that every pupil had Leaflet, about 20000 leaflets distributed.

Peer education

Peer education is one of interventional means and methods to make pupils acquire a good and proper practice of personal hygiene skills, two peers were trained from each class to encourage the class to

do proper practice of personal hygiene skills, peers played role of leaders, models and advisors. Peers were selected with the help of the teachers.

Songs

Electronic songs regarding hand washing produced by water sanitation program UNICEF and approved by Health Promotion Department Khartoum Ministry of Health was broadcast for the pupils by using loudspeakers of the schools, the frequencies of broadcasting were done every week accompanied with the lectures. Every school received weekly sessions of song listening. The purpose of these songs was to increase knowledge and improve practicing of pupils in polite, attractive and untraditional way.

Morning assembling message.

One of the most essential interventional methods to promote practice regarding personal hygiene elements among the pupils was the morning assembly message. It was designed and distributed every week. It was written carefully and revised by Health Promotion Department, Khartoum Locality. It was read by the pupils in the morning assembling for all school classes.

Phase III

Post intervention phase

This is an evaluation phase in which data regarding the indicators of the study was collected using the same methods of data collection used in phase one about the pupils' KAPs regarding personal hygiene the same pupils in pre - evaluation phase.

Mechanisms to assure the quality of the study

To avoid bias and ensure this study should be in good quality some procedures took place as follow:

- A sample size of this study selected scientifically by using reference.
- All data collectors and interventionists were public health officers working in health promotion department in umbada locality.
- Data collectors and interventionists were trained.
- A pilot study conducted before starting data collection.
- Using official data and information
- Computer was used in data analysis.
- Both hard copies and soft copies used for data saving.
- Credible references and published research abstracts were used.
- This study edited by professionals in English language.
- Auditing all figures that will be mentioned in this study.
- Sound computer was used.

Limitations of the study

- o There were many limitations found can be mentioned as follows:
- o Irregularity of the periods of school class.
- o Self-reporting of pupils was very difficult
- o Sense of fear among the pupils in all phases of the study.

Ethical considerations

- Agreement letter was issued from the educational affairs umbada locality.
- Managers of the schools were oriented by the objectives of this research and its benefits.
- Letters of performance were issued from the schools of the study.

Data analysis

Data was analyzed using Statistical Package for Social Sciences SPSS Computer Program Version (19.0). Frequency distribution was used; Chi-square(X^2 -test) was used to verify possible associations between different variables. Values were considered to be statistically significant when the p- value obtained was less than 0.05.

Ethical clearances

The ethical approval for the study was obtained from the Education Department, the primary stage, Umbda locality, then the schools administration in the study areas, al emir Unit, the study was explained to school principals and professors prior to the interviews and they were informed that their participation was voluntary.

RESULTS

Table 1 show that the overall practice of pupils about personal hygiene was increased from 39% to 61% after intervention. The practice of pupils in terms of wash faces witnessed improvement from always they were washing their faces from 69.6% to 86.6%. The practice of having unique towel was increased from 30.6% to 55.6%.

The practice of wash teeth twice/day was increased from always they were washing tooth twice/day from 22.1% to 37.25%. The practice of taking a bath once /day always was increased from 44.4% to 50.6%. Also, the practice of pupils regarding wash hands before and after eating always was increased from 32.5% to 62.9%.

The practice of pupils regarding washing their hands with soap after a toilet was slightly increased from 37.3% to 40%. Moreover, the practice of pupils regarding washing hand after dealing with an animal was always improved from 24.8% to 58.5%. However, the practice of pupils regarding washing hand after playing was always increased from 17.1% to 58.8%. In addition, the practice of pupils regarding main reason for skipping hand washing was decreased after intervention from 34.9% to 12.5%. Furthermore, the practice of washing hair with water and soap was always increased after intervention from 26.5% to 57.6%. Hence the practice of pupils regarding cutting nails at least once weekly was always increased after intervention from 6.25% to 31.25%. The practice of pupils in terms of changing underwear daily or frequently per week was increased after intervention always from 41.8% to 55%.

Regarding the practice of pupils in terms of using a private comb was increased after intervention was increased from 30.6% to 47.5%. However, the practice of pupils regarding keeping foot and socks clean was always increased after intervention from 35.5% to 60.5%. In addition, the practice of pupils concerning having personal cup was always decreased after intervention from 5.9% to 0.0%. The practice of pupils regarding brushing teeth before sleeping always was increased after intervention from 24.4% to 66.4%. Also, the practice of pupils regarding visiting the dentist was always increased after intervention from 47.5% to 64%.

The practice of pupils was increased in terms of visiting the dentists from once a year from 31.3% to 58.8% after intervention and twice a year from 9.5% to 14.8%, more than twice a year from 7.4% to 11.3% and when having pain only from 15.1% to 51.8%.

Also, the result indicates that the practice of pupils regarding having showered alone was slightly increased after intervention from 83% to 86.1%. However, the practice of pupils in terms of having showered a day was increased in more than once a day from 3.25% to 3.5%, once per day decreased from 65.5% to 43% and every day twice increased from 31.25% to 47.5%. In addition, the practice of pupils regarding sleeping early was increased from 46.5% to 71.8% after intervention. Hence the practice of pupils regarding hours of sleeping daily was increased after intervention from 24.5% to 60.75%. Moreover, the practice of pupils to sport

was increased after intervention from 37.8% to 85.4%. Also, the practice of pupils to having breakfast at school was increased after intervention from 60.6% to 64%. On the other hand, the practice of pupils in terms of number of meals daily was decreased for one meal from 28.9% to 26%, two meals decreased from 36% to 22.25%, three meals increased from 32.9% to 50% and decreased for more than three meals from 2.3% to 1.75%.

Overall practice	Pre-intervention (n=800)		Post –intervention (n=800)	
	No.	(%)	No.	(%)
Wash faces at the morning. a special towel	557	69.6	693	86.6
Wash tooth twice/day.	245	30.6	445	55.6
Take a Bath once /day.	177	22.1	298	37.25
Wash hands before and after eating.	355	44.4	405	50.6
Wash your hands with Soap after a toilet.	260	32.5	503	62.9
washing hand after dealing with an animal	298	37.3	320	40.0
washing hand after playing	198	24.8	370	46.3
Main reason for skipping hand washing	137	17.1	470	58.8
Washing hair with water and soap.	200	25.0	200	25.0
Cutting Nails at least once weekly	212	26.5	461	57.6
Changing underwear daily or frequently per week	50	6.25	250	31.25
Using a private comb	334	41.8	440	55.0
keeping foot and Socks clean	245	30.6	380	47.5
personal cup	284	35.5	484	60.5
Brushing teeth before sleeping.	47	5.9	0	0.0
Visiting the dentist	195	24.4	531	66.4
Times of visiting the dentist.	380	47.5	512	64.0
Having shower alone	7.4	59	90	11.3
Times of having showered a day.	664	83.0	689	86.1
Sleeping early	250	31.25	380	47.5
Hours of sleeping daily	372	46.5	574	71.8
Practicing sport	196	24.5	604	75.5
Having breakfast at school.	302	37.8	498	62.3
Number of meals daily	485	60.6	512	64.0
Overall practice	263	32.9	400	50.0
	6713	39.0	10509	61.0

Table 1: Distribution of the pupils according to the overall practice about personal hygiene

DISCUSSION

The present study aimed to assess of personal hygiene practices among Primary School Pupils in Umbada Locality, Khartoum state, Sudan (2018-2020). Our study showed that the practice of pupils in terms of wash faces witness improvement from always they were washing their faces, the practice of having special towel was increased, the practice of wash tooth twice/day was increased from always they were washing tooth twice/day, the practice of taking a bath once /day always was increased and practice of pupils regarding wash hands before and after eating always was increased, the practice of pupils regarding wash their hands with soap after a toilet was slightly increased, the practice of pupils regarding washing hand after dealing with an animal was always improved and the practice of pupils regarding washing hand after playing was always increased.

The hands are probably the single most important route for transmission of infection in the home and community, as they are often in direct contact with the mouth, nose and conjunctiva of the eyes. They also come in contact with food and water that is consumed. Studies revealed a strong and consistent causal link between poor hand hygiene and gastrointestinal infection. Certain respiratory infections (common cold, influenza virus infection, etc.) also been linked to poor personal hygienic practices. Bearing in mind that school children been consistently implicated in the spread of communicable diseases (Monto, 2002) and that the school has been recognized as a vital setting for health promotion (Lopez-Quintero et al, 2009) Also our study showed that the practice of pupils regarding main reason

for skipping hand washing was decreased after intervention. The present study indicated that the practice of washing hair with water and soap was always increased after intervention. While the study indicated that the practice of pupils regarding cutting nails at least once weekly was always increased after intervention. However, the practice of pupils in terms of changing underwear daily or frequently per week was increased always after intervention. In addition, the practice of pupils regarding using a private comb was increased after intervention was increased. Also, the practice of pupils regarding keeping foot and Socks clean was always increased after intervention. Dissimilar findings showed poor oral hygiene, unkempt hair and unkempt clothes and uniforms were the main types of poor personal hygiene.

Ahmadu et al., found that poor oral hygiene and unkempt nails were the most common occurrences. (Ahmadu et al., 2013). Oyibo, also in Nigeria, found that physical inspection of the school children showed that 17.9%, 45.2% and 57.4% of them had dirty hair, dirty uniforms and dirty nails respectively (Oyibo, 2012). Furthermore, Sarkar found that there was a wide gap between actual practice and knowledge of personal hygiene among children living in a slum area of India (Sarkar, 2013). The study showed that the practice of pupils concerning having personal cup was always decreased after intervention while the practice of pupils regarding brushing teeth before sleeping always was increased after intervention.

However, the practice of pupils regarding visiting the dentist was always increased after intervention. In addition, the study showed that the practice of pupils was increased in terms of visiting the dentists from once a year from 31.3% to 58.8% after intervention and twice a year from 9.5% to 14.8%, more than twice a year from 7.4% to 11.3% and when having pain only from 15.1% to 51.8%. While the study indicated that the practice of pupils regarding having showered alone was slightly increased after intervention from 83% to 86.1%. Improving oral health knowledge in children (even in the short term) is important since research has shown a positive relationship between oral health-related knowledge and oral health-related behavior in children (Poutanen et al., 2006).

Furthermore, healthy behaviors that are developed at a young age are known to be more sustainable in the long term (Kwan et al., 2005). This study indicated that the practice of pupils in terms of having showered a day was increased in more than once a day from 3.25% to 3.5%, once per day decreased from 65.5% to 43% and every day twice increased from 31.25% to 47.5% while the practice of pupils regarding sleeping early was increased from 46.5% to 71.8% after intervention and the practice of pupils regarding hours of sleeping daily was increased after intervention from 24.5% to 60.75% , hence the practice of pupils to sport was increased after intervention from 37.8% to 85.4%.

In addition, the practice of pupils to having breakfast at school was increased after intervention from 60.6% to 64%. Moreover, the practice of pupils in terms of number of meals daily was decreased for one meal from 28.9% to 26%, two meals decreased from 36% to 22.25%, three meals increased from 32.9% to 50% and decreased for more than three meals from 2.3% to 1.75%. We found significant improvements in sleep hygiene, sleep quality as well as daytime symptoms such as a reduction in daytime sleepiness and sedentary/light activity, following the intervention. We reported statistically significant improvements in sleep hygiene practices post-intervention in earlier studies also demonstrated (Brown et al., 2006, Bootzin et al., 2005, Brown et al., 2002).

Showering every day may be a habit, but unless you're grimy or sweaty, you may not need to bathe more than a few times a week. Washing removes healthy oil and bacteria from your skin, so bathing too often could cause dry, itchy skin and allow bad bacteria to enter through cracked skin. When you expose your body to normal dirt and bacteria, it actually helps strengthen your immune system. Plus, showering too often wastes water. Still, make sure you are washing your hands frequently (Harris et al., 2012).

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