

## Chapter 9

### School Age Children and Adolescents

2023/2024



1

Community Health Nursing

8/22/2024

### Intended learning outcomes

- Identify major health problems and concerns of school-age children and adolescent populations.
- Examine the trends in mortality and injury among school-age children and adolescents and identify the most important areas needing intervention.
- Describe types of programs and services that promote health and prevent illness and injury of school-age children and adolescent populations

2

Community Health Nursing

8/22/2024

## School Age Period

### Characteristics

- A period of growth and development
- A period of stress and strain
- A period of educational responsibility
- Child's capacity to learn.
- Child's response to schooling
- Specified needs of this age group

### Needs

- **Nutritional needs**
- **Protection from injuries**
- **Sanitary environment and maintenance**
- **Exercises**
- **Rest and sleep**
- **Adequate health services**
- **Psychological needs**
- **Health education**

3

Community Health Nursing

8/22/2024

## Facts in Jordan 2022

نسبة السكان في الأعمار دون الخامسة عشرة 34.3%

المؤشر	2022	البيان
نسبة الطالبات للطلاب في المرحلة الأساسية	96.1	نسبة الطالبات للطلاب في المرحلة الأساسية
نسبة الطالبات للطلاب في المرحلة الثانوية	102.3	نسبة الطالبات للطلاب في المرحلة الثانوية
نسبة الطلبة في المدارس الحكومية	79.2	نسبة الطلبة في المدارس الحكومية
نسبة الطلبة في المدارس الخاصة	20.8	نسبة الطلبة في المدارس الخاصة

4

Community Health Nursing

8/22/2024

## Adolescent and young adult health

### Key facts

- Over 1.5 million adolescents and young adults aged 10–24 years died in 2021, about 4500 every day.
- Injuries including:
  - Road traffic injuries
  - Drowning
  - Interpersonal violence
  - Self-harm
- Half of all mental health disorders in adulthood start by age 14, but most cases are undetected and untreated.

WHO, 2023

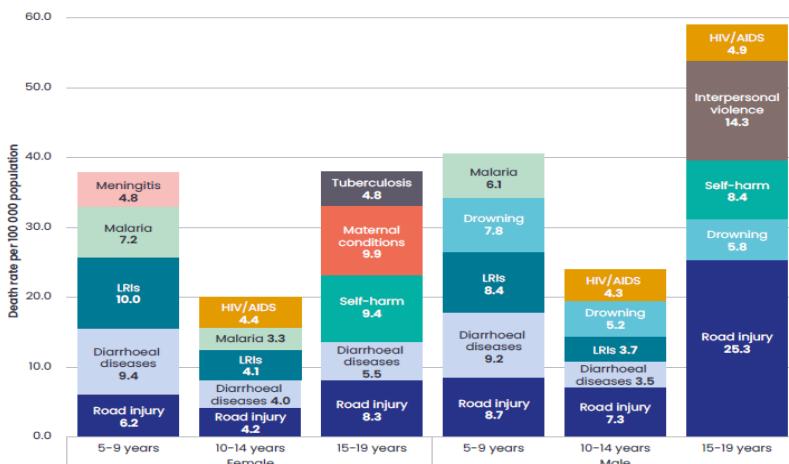
5

Community Health Nursing

8/22/2024

## Health Problems of School Children 2016 (WHO)

Fig. 1. Global estimates of top-five causes of death for school-age children and adolescents, by sex and age group, 2016



Note: data are organized from the overall highest to lowest causes of death rates (total for all sexes/age groups), for the top-five causes within each sex/age group. For example, at a rate of 60.0 deaths per 100 000 population, road injury is the highest cause of death rates for all school-aged children (5–19 years); in contrast, meningitis and tuberculosis both have rates of 4.8 deaths per 100 000 population and as such are the lowest among the 11 causes shown.

Source: WHO (14).

## Common Health Problems of School-age Children

- Diabetes
- Asthma
- Autism
- Cystic fibrosis
- Spina bifida
- Hemophilia

- Neuromuscular disorders
- Juvenile rheumatoid arthritis
- Seizure disorders
- Congenital heart disease
- Attention deficit hyperactivity disorder (ADHD).

7

Community Health Nursing

8/22/2024

### Selected health problems for school age children

#### **Autism**

- **It is a developmental disorder, characterized by:**
  - **Language problem (no language, delay language, repetitive)**
  - **Mannerism (rocking, flapping, „etc.) stereotyped behavior**
  - **Fixation on object (restricted interest)**
  - **No spontaneous play and no interest in peers**
  - **Little or no eye contact**

8

Community Health Nursing

8/22/2024

## Autism cont.

- Causes:
  - Not clear
  - Genetic factors
  - Environmental factors
  - Subsequent children having autism in family
  - Associated with other disorder (congenital rubella, phenylketonuria)
  - Need early interventions
  - education for parents

9

Community Health Nursing

8/22/2024

## Cancer in children-international (WHO, 2021)

- Each year, approximately 400 000 children (0-19 years) diagnosed with cancer.
- The most common types of childhood cancers include;
  1. leukemia
  2. brain tumor
  3. lymphomas
- Most childhood cancers can be cured
- In high-income countries, more than 80% of children with cancer are cured.
- In low & middle-income countries, an estimated 15-45% are cured from cancer.
- Childhood cancer cannot generally be prevented or identified through screening.
- Avoidable deaths from childhood cancers result from
  - Lack of diagnosis or misdiagnosis or delayed diagnosis
  - Obstacles to accessing care
  - Abandonment of treatment

10

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Childhood Cancer

pediatric cancer cases by sex, Jordan, 2018.

Figure 5: Distribution of pediatric cancer cases percentage by sex, 2018, Jordanians.

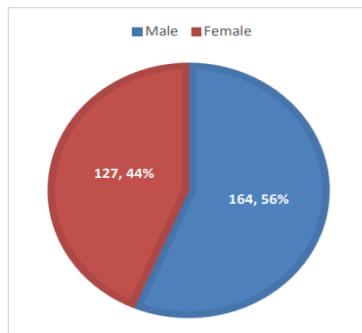
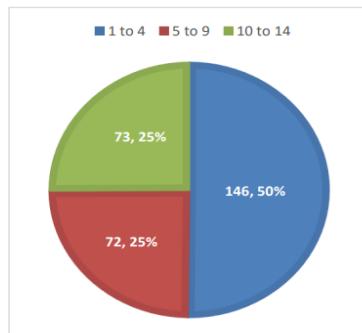


Figure 6: Distribution of pediatric cancer cases percentage by age group, 2018, Jordanians.



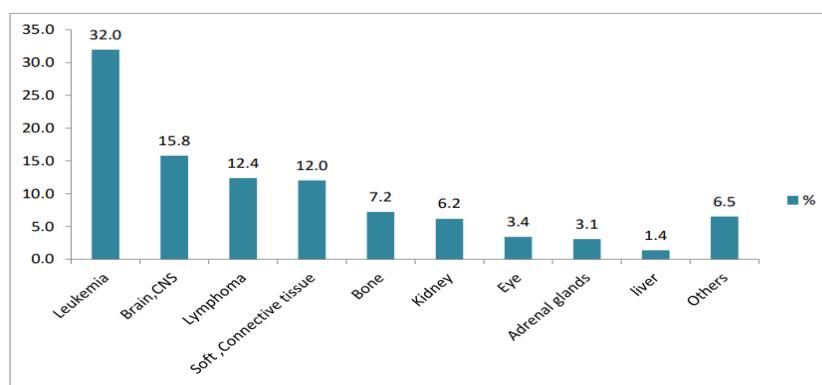
11

Community Health Nursing

8/22/2024

## Cancer in Jordan-children 2018

Figure 7: Percentage of top ten cancers in Pediatric age group (both sexes), 2018.



12

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Childhood Cancer

- More than 70% of cancer are curable
- children return to school
- School nurse may provide classmates about cancer
- Helping children make adjustment
- Protect immuno-compromized children from communicable diseases

13

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Learning disabilities

- Children who have average or above-average intelligence and who demonstrate significant difficulties in one or more areas of learning (e.g., reading, writing, mathematics) may have a **learning disability**.

14

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Learning disabilities

- Common signs of learning disabilities
  - Reading problems
  - Writing problems
    - Spelling, grammar , punctuation, difficult flow of thought)
  - Math problems
  - Language problem
  - Motor problems

15

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Learning disabilities

- Children with learning disabilities can be helped through **special education services**. Students must **first be carefully diagnosed** through psycho-educational testing.
- Special education or resource teachers can build on the child or **adolescent's strengths** while working to balance for **weaknesses**

16

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Death and Injuries

- Unintentional injuries are the cause of death between age 1-19 years.
- **Motor vehicle accident** is the cause of injuries and death

## Selected health problems for school age children

### Death and Injuries in Jordan

جدول رقم(50): الاصابات البسيطة في الحوادث المرورية حسب الفئة العمرية وموقع المصاب لعام 2022

الفئة العمرية	الاصابات البسيطة	مشاة	سائق	يجانب السائق	المقاعد الخلفية	ركاب الباص	ركاب الشحن	ركاب صندوق	ركاب الدراجة النارية	راكب
2≥	380	121	0	87	166	2	4	0	0	0
3-5	238	136	0	27	73	1	0	1	1	0
6-8	254	153	0	19	81	0	0	0	1	0
9-11	259	144	0	25	89	1	0	1	0	0
12-14	249	116	1	38	92	2	0	0	0	0
15-17	249	82	9	46	112	0	0	0	0	5
18-20	663	117	145	133	245	18	0	0	3	13
21-23	1009	130	434	163	242	24	3	24	1	5
24-26	914	103	456	133	214	2	1	242	1	3
27-29	918	94	493	160	165	3	0	163	0	3
30-32	723	410	64	113	127	3	3	214	3	3
33-35	608	64	308	112	120	0	1	112	1	3
36-38	577	71	306	85	112	0	2	85	2	1
39-41	432	54	231	71	70	1	3	71	3	2
42-44	409	47	409	59	89	0	2	59	2	1
45-47	349	46	187	49	64	0	3	85	0	3
48-50	333	61	153	59	59	1	0	112	0	0
51-53	261	36	124	45	55	1	0	85	2	3
54-56	197	40	99	32	32	0	1	71	0	1
57-59	141	23	70	25	20	2	0	231	1	0
60≤	389	83	192	65	49	0	0	49	0	38
المجموع	9552	1785	3829	1540	2276	61	23			38

## Selected health problems for school age children

### Head Lice

- **Pediculosis** (head lice) is a difficult and **common problem for many school-age** children, and the incidence has been increasing over the past three decades .
- It is estimated that 6 to 12 million children between the ages of 6 and 12 years become infected with head lice each year

19

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Head Lice

- Head lice are most often transmitted **by direct contact (head-to-head)** or may be passed from infected to uninfected children through shared items such as **combs and brushes, hats, sheets, and towels** .
- **Lice do not fly or jump**, and they cannot be contracted from animals—they live only on humans

20

Community Health Nursing

8/22/2024

## Selected health problems for school age children

### Head Lice

- Treatment of head lice commonly includes **insect-cides shampoos, oral antibiotic agents, occlusive agents such as petroleum jelly.**
- Instructions to use special combs.
- School nurse should provide parents about how to prevent **infestation**
- Prevent close contact with infested children

## Adolescent Health

- **Adolescence begins with puberty and encompasses the ages between 10 and 24.**
  - Early adolescence (ages 10 to 14)
  - Middle adolescence (15 to 17)
  - Late adolescence (18 to mid 20s).

### The tasks of adolescence

- Adolescents must become autonomous
- Grip their emerging of sexuality to attract partner
- Acquire skills and education that can prepare them to adult role.
- Resolving identity
- Develop values and beliefs.

## Adolescent Health

- Important public health and social problems common in adolescents Examples include:
  - Emotional problems such as depression, anxiety disorder & PTSD
  - Homicide and Suicide
  - Motor vehicle crashes
  - Substance abuse
  - Smoking
  - Sexually transmitted infections
  - Teen and unplanned pregnancies
  - Homelessness

23

Community Health Nursing

8/22/2024

## Emotional Problems and Suicide

- Changes in behavior and emotional state of teens caused by
  - Hormonal influence.
  - Peer pressure
  - Lack of emotional support
  - Parental rejection
- Males are more likely to die from suicide than females
- **Suicide contagion:** copycat suicide especially among high school students after a highly publicized suicide.
- **Suicide cluster:** death of 3-7 adolescents over 3-9 month period

24

Community Health Nursing

8/22/2024

## Markers to identify suicide attempt

- Precipitating event
- Intense affective state
- Suicide ideation or action
- Deterioration of social functioning
- Deterioration of academic function
- Increase substance abuse
- <https://www.who.int/ar/news-room/fact-sheets/detail/suicide>



25

Community Health Nursing

8/22/2024

## Suicide prevention

<ul style="list-style-type: none"><li>• Suicide hotlines</li><li>• Suicide prevention program</li><li>• Counselor intervention</li><li>• School nurse counseling</li></ul>	<ul style="list-style-type: none"><li>• Collaboration between teacher, counselor, and nurse.</li><li>• Peer assistant programs</li><li>• School-family partnership</li><li>• Suicide screening</li><li>• Peer support</li></ul>
--	---

26

Community Health Nursing

8/22/2024

## الوقاية من الانتحار ومكافحته

- يمكن الوقاية من حالات الانتحار. هناك عدد من التدابير التي يمكن اتخاذها على مستوى الفئات المعرضة وتوصي منظمة الصحة العالمية بما يلي :
- تقييد الوصول إلى وسائل الانتحار (مثل مبيدات الآفات، والأسلحة النارية، وبعض الأدوية)؛
- التواصل مع وسائل الإعلام لعرض مواد إعلامية مسؤولة بشأن الانتحار؛
- تعزيز مهارات الحياة الاجتماعية والعاطفية لدى المراهقين؛
- وتقربن هذه التدخلات : تحليل الوضع، والتعاون بين القطاعات المتعددة، وزيادة الوعي، وبناء القدرات، والتمويل، والرقابة والرصد والتقييم.
- والتنسيق والتعاون بين قطاعات متعددة من المجتمع، ومنها القطاع الصحي والقطاعات الأخرى مثل التعليم والعمل والقانون، والدفاع، والسياسة، والإعلام.
- منظمة الصحة العالمية 2024

27

Community Health Nursing

8/22/2024

## Violence

- Worldwide over 176 000 **homicides** occur among youth 15–29 years of age each year, which is 37% of the total number of homicides globally each year.
- Homicide is the third leading cause of death in people aged 15–29 years, and the vast majority of homicides involve **male victims**.
- When it is not fatal, youth violence has a serious, often lifelong, impact on a person's physical, psychological and social functioning.



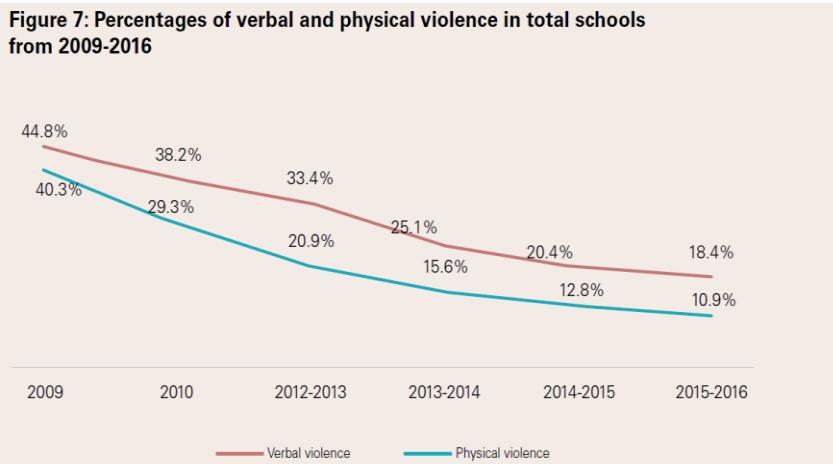
#180998029

28

Community Health Nursing

8/22/2024

## Violence in Jordan (Unicef, 2017)



## Violence, Cont.

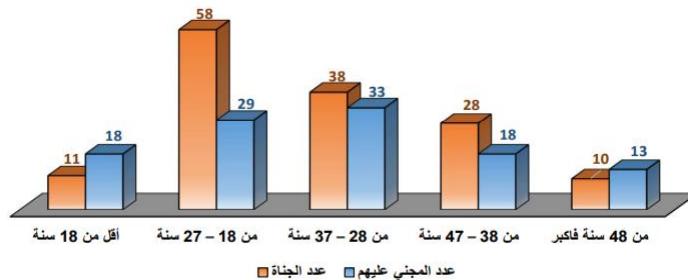
### Causes

1. Violence in the environment (spousal and child abuse).
2. Living in community with violence
3. Effect of television and in movies.

- Adolescents who are better connected to school are less likely to engage in violent behaviors.
- School climate is important in reducing the levels of violence in this age.

# التقرير الاحصائي الجنائي في الاردن مديرية الامن العام 2023

شكل (12) الفئات العمرية للجناة والمجنى عليهم في جرائم القتل العمد والقصد



## Violence, Cont.

- How to detect violence in schools
  - Metal detector
  - Security guards
  - Random search for students possession

## Smoking and addiction

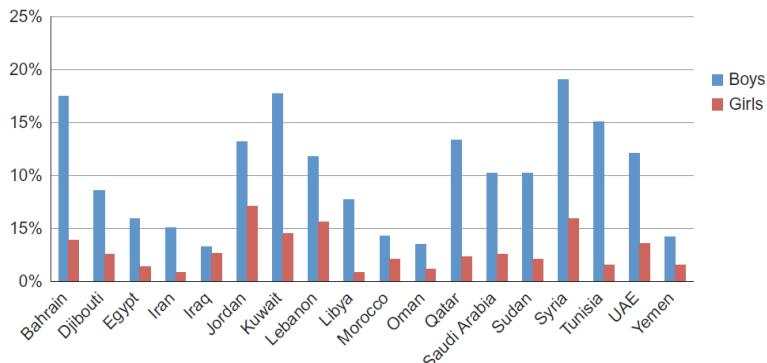


Figure 7. Percentage of students (age 13-15) currently smoking cigarettes. Source: Global Tobacco School Survey 2002-2008.<sup>95</sup>

## Health services for school age children and adolescence

- Preventive health programs
  - immunization and TB testing
  - Education and social services
- Health protection
  - Safety and injury prevention
  - Oral hygiene and dental care
- Health promotion program
  - Exercise
  - Nutrition

## School nursing

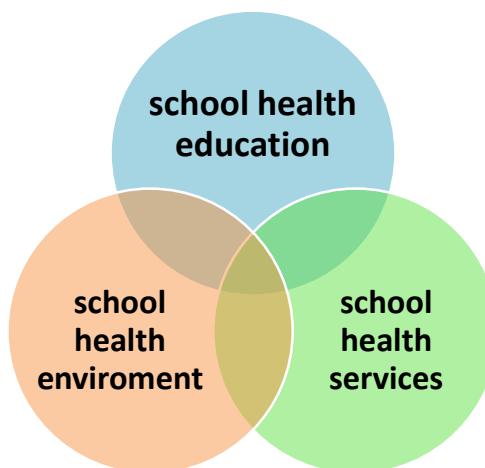
- It is the specialized practice of professional nursing that **advances the well-being, academic success and lifelong achievement** of students.
- School nurse facilitates positive student responses to normal development, promote health and safety, intervene with actual and potential health problems, provide case management services and actively collaborate with others.

35

Community Health Nursing

8/22/2024

## School Health Program



36

Community Health Nursing

8/22/2024

مديرية الصحة المدرسية وزارة الصحة  
<https://www.facebook.com/schoolhealthjo/>

إجراءات وزارة الصحة في التعامل مع المقاصف المدرسية

١. الكشف البيئي والصحي على كافة المدارس ضمن الاختصاص، ومتابعة السليميات الموجودة بحيث يشمل:-

- متابعة زيات مياه الشرب والتأكد من نظافتها وإحكام إغلاقها وجمع العينات الالزمة للفحص المختاري.
- متابعة الصارعيه المتخصصة لمياه الشرب للمدارس والتأكد من التزامها بالتباعية من مصادر معروفة ومأمونة صحياً وتنفيذها لكافة الاشتراطات الصحية لمياه الشرب وذلك حسب المعايير الأردنية الممتددة.
- مراقبة المقاصف وأماكن تداول الغذاء والتأكد من التزامها بالاشتراطات الصحية والأغذية المسموح ببيتها والأشخاص الدخوم، بذكها أنواعها وأية أغذية تحتاج إلى تحضير وحفظ في أماكن مخصصة.
- ٢. تغيل دور لجان سلامة البيئة والصحة المدرسية على المستويين مديرية الصحة والمرأكز الصحية.
- ٣. تغيل نموذج إشارات تناقض السليميات والعمل به.
- ٤. متابعة تسليم إدارة قلوباب الصوديوم للمدارس الحكومية والخاصة واتخاذ الإجراءات الالزمة ب شأن تطبيق البرنامج لطلبة المدارس حسب الأصول.
- ٥. متابعة توفير عقود الأطماء للمدارس الخاصة والمراكيز الخاصة ومدى التزامها بإجراءات الكشف الطبي وإعطاء المطاعيم الالزمة.
- ٦. متابعة توفير سلالات خدمات الصحة المدرسية والملفوفات الصحية للطلبة.
- ٧. تغذير حسوس التفاور بين مدارس التربية والتعليم في المقاصف كافة بما تنطليه المصلحة العامة.
- ٨. الالتزام للعاملين في وزارة الصحة للكشف على دور الاباء والأخوات.
- ٩. الالطالع على الشهادات الصحية الصادرة عن وزارة الصحة للعاملين في المقاصف وأماكن تحضير الأغذية، وإتاحة المدى المخالفين العاملين بالمقاصف مع الادارة المسؤولة عن مراقبة عمل المخصص المدرسي إلى النائب العام، وإغلاق مكان المخالفة فور ادحبي صدور قرار من المحكمة المختصة.



<http://www.pm.gov.jo/content/144896363>

## School health services

- i. Appraisal aspect
- ii. Preventive aspect
- iii. Curative aspect

## School health services

### Appraisal aspects:

i. **Appraisal aspects:** Organized activities, carried out to **assess the physical, mental, emotional and social status of school pupils.**

- Purposes of school health appraisal
- To assess the overall health status of pupils.
- To detect pupils who need special care
- For planning of school health program
- To change the unhealthful behaviors of the pupils, parents and teachers into healthful ones
- For further follow up of pupils' health status

## Components of school appraisal

1. **History**

- The pupils' past and current health events
  - Immunization
  - Previous illnesses, injuries and operations
  - chronic health conditions
- Family History:
  - Communicable diseases ( TB)
  - Hereditary diseases (Epilepsy, Diabetes Mellitus, etc.)
- Social habits and behaviors
- Smoking & physical Activities

## Components of school appraisal

### **2. Daily observation**

Observations are made by parents, teachers and health visitors. Many manifestations of illnesses could be discovered from the daily observation such as:

- Loss of interest and easy fatigability
- Eye problems as errors of refraction, nutritional deficiency
- Behavioral problems as aggression, introversion, Hyperactivity excitability or lack of confidence
- Manifestations of diseases: Pallor, episodes of bronchial asthma, allergic rhinitis and epilepsy.

## Components of school appraisal

### **3. Screening Tests**

- It assists the early identification of possible health problems when abnormalities are noted in physical, psychological and social health status.

Examples:

- Measuring weight and height to assess pupils' growth.
- Measuring visual and hearing acuity.
- Detecting pupils with speech defects
- IQ assessment

### **4. Laboratory investigations**

### **5. Comprehensive medical examination**

## Components of school appraisal

### Preventive aspect

#### ii. Preventive aspect

- 1. Prevention and control of communicable diseases.
- 2. Immunization Monitoring
- 3. Early detection of non-communicable diseases
- 4. Early identification and education of children
- 5. Emergency care and first aid services

## Components of school appraisal

#### 1. Prevention and control of communicable diseases BY

- Healthful school environment; proper ventilation, safe water supply, ETC
- Referral if necessary
- health education
- Proving a less favorable environment for the micro-organism growth.
- Readmission to school after sickness, the child should be examined by the nurse before readmission to school.
- Care of contacts,
- Care of absence; it's important to know the cause of absence among the students especially during epidemics.
- Food handlers and vendors in the school should be examined yearly and treated.

#### 2. Immunization Monitoring

#### 3. Medication administration and monitoring

#### 4. Care of disabled and special education students

#### 5. Emergency care and first aid services

## Components of school appraisal

### Curative aspects

#### ii. Curative aspects

- School Health Program provides curative services to school pupils. This service is provided in:
  - School clinics provided by general practitioners (GP)
  - A number of affiliated hospitals or services

## Healthful School Environment

#### a. Physical environment includes:

- **Site:** must be away from source of noise, heavy traffic and pollutions.
- **Class rooms:** usually 6X 8 or 5X7 meter, number of students should not exceed 30 to 40 students.
- **Ventilation:** the windows should be arranged in both side walls to allow for cross ventilation.
- **Light:** natural lighting should be available, as well as artificial lighting.
- **Desks and seats:** they should be properly designed in different size to be suitable for the students' bodies.
- **Water supply:** safe water supply should be available using drinking fountains.
- **Lavatories:** provided with soap, placed near water closets for hand washing.

## Healthful School Environment

- **Baths** : it could be available for personnel cleanliness
- Sewage disposal: refuse should be collected daily. Small baskets should be distributed in the class rooms and playground to collect paper and waste materials. Sanitary system of sewage disposal should be used.
- **Insect control**: the school environment should be free from and breeding places, application of insecticides usually used when necessary.
- **Food sanitation**: special consideration is given to the canteen and avoiding the food handlers scattered around the school.

## Healthful School Environment

### **b. Non-physical environment (Psychosocial and emotional Environment)**

- Good relationship between students and teachers and parents
- Good relationship between students themselves.
- The school day (duration and timing) and homework (amount and timing) are properly arranged to prevent fatigue.
- Social activities are available along the school times.
- Opportunities for developing talents and skills.

## Role of the Nurse in School Health Program

### A- Screening

- Taking history
- Observing signs of sickness and deviation from normal
- Preparing students for screening tests and laboratory investigations
- Screen vision, hearing and measure weight and height.
- Help in laboratory investigations
- Assist in comprehensive medical examination
- Interpret the findings to the teachers and parents
- Conduct special surveys to detect any health problems.

## Role of the Nurse in School Health Program

### **B- Prevention and control of communicable diseases**

- Provide immunization
- Daily observation for students for early case finding, referral and isolation.
- Prevention and control of outbreaks of infection
- Care of contacts
- Care of absence
- Ensure healthful school environment
- Be sure that the food handlers in the school pass through physical examination and have a health certificate.

# Role of the Nurse in School Health Program

- C- Follow up and counseling for children deviated from normal.
- D. Early case finding and referral of non-communicable diseases and parasitic diseases
- E. Emergency care and first aid
- F. Carry out first aid measures for injured and if necessary transfer them to hospital or clinics.
- G. Arrange for in services training program for teachers, students