

Chapter 9

School Age Children and Adolescents

2023/2024



1

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Intended learning outcomes

- Identify major health problems and concerns. 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

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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

Facts in Jordan 2022

نسبة السكان في الأعمار دون الخامسة عشرة 34.3%

Indicator	2022	المؤشر
Female/ Male Students Ratio, Basic Stage	96.1	نسبة الطالبات للطلاب في المرحلة الأساسية
Female/ Male Students Ratio, Secondary Stage	102.3	نسبة الطالبات للطلاب في المرحلة الثانوية
Percentage of Students in Public Schools	79.2	نسبة الطلبة في المدارس الحكومية
Percentage of Students in Private Schools	20.8	نسبة الطلبة في المدارس الخاصة

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.

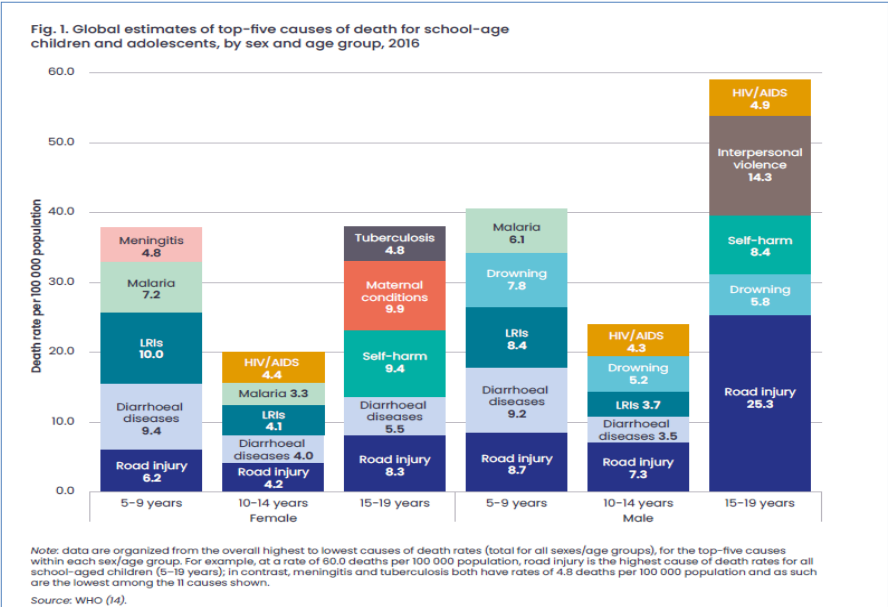
WHO, 2023

5

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Health Problems of School Children 2016 (WHO)



Common Health Problems of School-age Children

<ul style="list-style-type: none">• Diabetes• Asthma• Autism• Cystic fibrosis• Spina bifida• Hemophilia	<ul style="list-style-type: none">•Neuromuscular disorders•Juvenile rheumatoid arthritis•Seizure disorders•Congenital heart disease•Attention deficit hyperactivity disorder (ADHD).
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Selected health problems for school age children

Autism

<ul style="list-style-type: none">• It is a developmental disorder, characterized by:<ul style="list-style-type: none">– 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

Autism cont.

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

9

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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

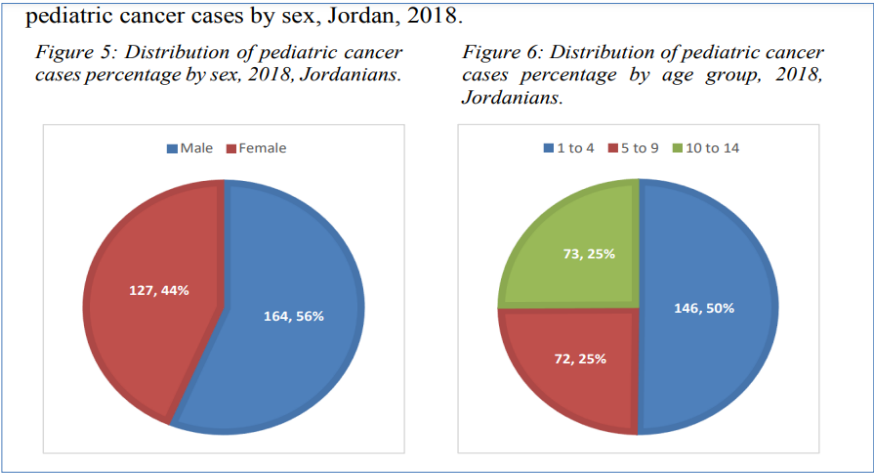
10

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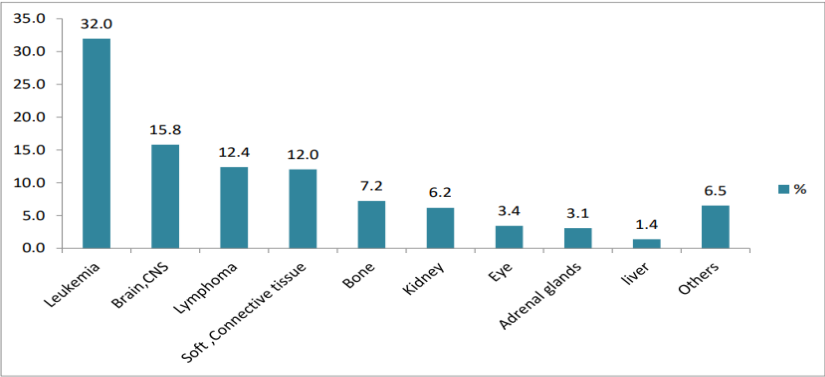
Selected health problems for school age children

Childhood Cancer



Cancer in Jordan-children 2018

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



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

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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

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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

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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

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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): الإصابات البسيطة في الحوادث المرورية حسب الفئة العمرية وموقع المصاب لعام 2022

راكب					سائق	مشاة	الإصابات البسيطة	الفئة العمرية
راكب الدراجة النارية	راكب صندوق الشحن	راكب الباص	المقاعد الخلفية	بجانب السائق				
0	4	2	166	87	0	121	380	2≥
1	0	1	73	27	0	136	238	3-5
1	0	0	81	19	0	153	254	6-8
0	0	1	89	25	0	144	259	9-11
0	0	2	92	38	1	116	249	12-14
0	0	0	112	46	9	82	249	15-17
5	0	18	245	133	145	117	663	18-20
13	3	24	242	163	434	130	1009	21-23
5	1	2	214	133	456	103	914	24-26
3	0	3	165	160	493	94	918	27-29
3	3	3	127	113	410	64	723	30-32
3	1	0	120	112	308	64	608	33-35
1	2	0	112	85	306	71	577	36-38
2	3	1	70	71	231	54	432	39-41
1	2	0	89	59	211	47	409	42-44
0	3	0	64	49	187	46	349	45-47
0	0	1	59	59	153	61	333	48-50
0	0	1	55	45	124	36	261	51-53
0	1	0	32	25	99	40	197	54-56
0	0	2	20	26	70	23	141	57-59
0	0	0	49	65	192	83	389	60≤
38	23	61	2276	1540	3829	1785	9552	المجموع

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

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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

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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

21

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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 believes.

22

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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

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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

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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

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Suicide prevention

- Suicide hotlines
- Suicide prevention program
- Counselor intervention
- School nurse counseling

- Collaboration between teacher, counselor, and nurse.
- Peer assistant programs
- School-family partnership
- Suicide screening
- Peer support

26

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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؛
- وتقترن 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

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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.

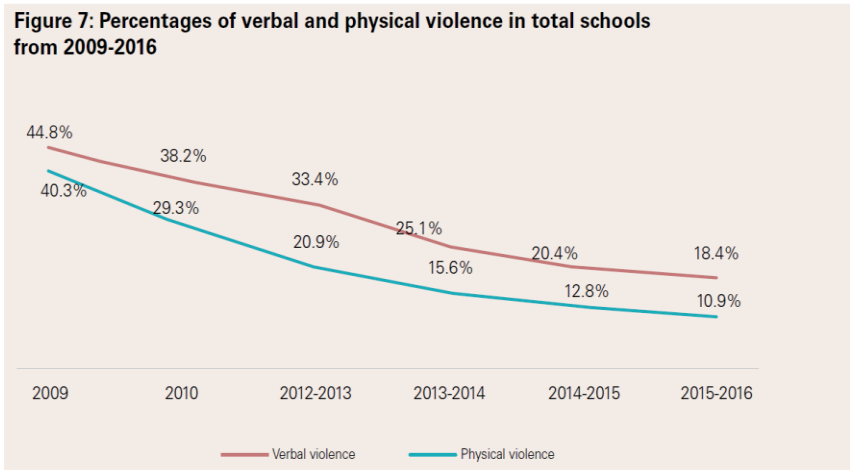


28

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Violence in Jordan (Unicef, 2017)



29

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Violence, Cont.

Causes

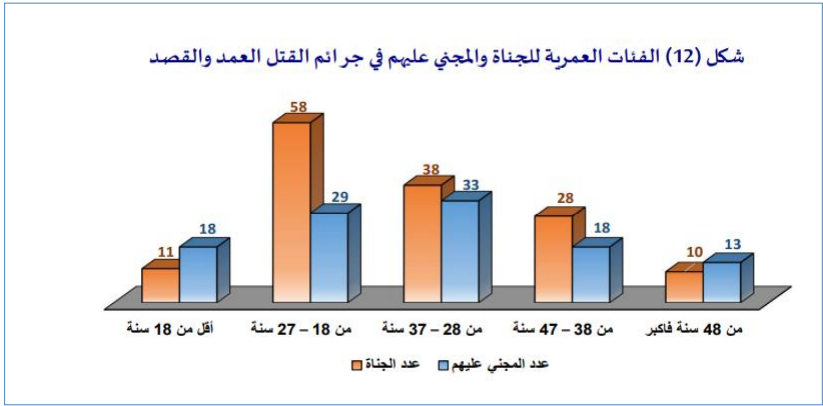
- 1. Violence in the environment (spousal and child abuse).
- 2. Living in community with violence
- 3. Effect of television and in movies.
- Adolescents who are better connected to school are less likely to engage in violent behaviors.
- School climate is important in reducing the levels of violence in this age.

30

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التقرير الاحصائي الجنائي في الاردن مديرية الامن العام 2023



31

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Violence, Cont.

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

32

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Smoking and addiction

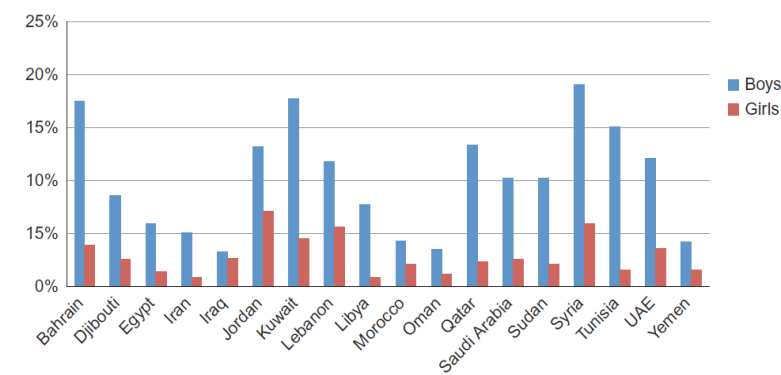


Figure 7. Percentage of students (age 13-15) currently smoking cigarettes. Source: Global Tobacco School Survey 2002-2008.⁹⁵

33

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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

34

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School nursing

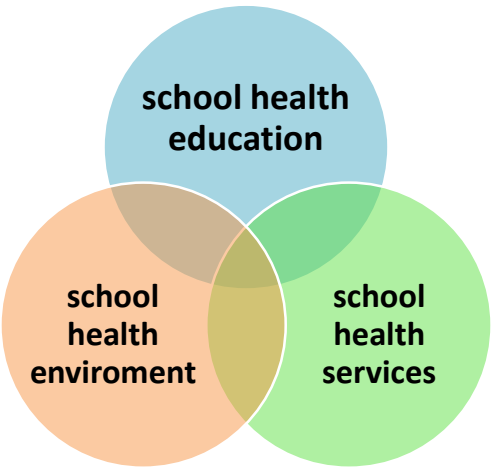
- It is the specialized practice of professional nursing that **advances the well-being, academic success and lifelong achievement** of students.
- School nurse facilitates positive student responses to normal development, promote health and safety, intervene with actual and potential health problems,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

35

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School Health Program



36

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<https://www.facebook.com/schoolhealthjo/>

مديرية الصحة المدرسية وزارة الصحة

إجراءات وزارة الصحة في التعامل مع المقاصف المدرسية

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

- متابعة خزانات مياه الشرب والتأكد من نظافتها وإحكام إغلاقها وجمع العينات اللازمة للفحص المخبري.
- متابعة الصهاريج المخصصة لمياه الشرب للمدارس والتأكد من التزامها بالتعبئة من مصادر معروفة ومأمونة صحيا وتنفيذها لكافة الاشتراطات الصحية بمياه الشرب وذلك حسب المواصفات الأردنية المعتمدة.
- مراقبة المقاصف وأماكن تداول الغذاء والتأكد من التزامها بالاشتراطات الصحية والأغذية المسموح ببيعها وبالأخص اللحوم بكافة أنواعها أو أية أغذية تحتاج إلى تحضير وحفظ في أماكن مخصصة.

٢. تفعيل دور لجان سلامة البيئة والصحة المدرسية على المستويين مديرية الصحة والمراكز الصحية.

٣. تفعيل نموذج إشعارات تلاقي السلبيات والعمل به.

٤. متابعة تسليم مادة فلورايد الصوديوم للمدارس الحكومية والخاصة واتخاذ الإجراءات اللازمة بشأن تطبيق البرنامج لطلبة المدارس حسب الأصول.

٥. متابعة توفير عقود الأطباء للمدارس الخاصة والمراكز الخاصة ومدى الالتزام بإجراءات الكشف الطبي وإعطاء المطاعيم اللازمة.

٦. متابعة توفير سجلات خدمات الصحة المدرسية والملفات الصحية للطلبة.

٧. تعزيز جسور التعاون بين مدرء التربية والتعليم في المحافظات كافة بما تتطلبه المصلحة العامة.

٨. الإيعاز للمعنيين في وزارة الصحة للكشف على دور الإيواء والحصانات.

٩. الاطلاع على الشهادات الصحية الصادرة عن وزارة الصحة للعاملين في المقاصف وأماكن تحضير الأغذية، وإحالة المخالفين العاملين بالمقاصف مع الإدارة المسؤولة عن مراقبة عمل المقصف المدرسي إلى النائب العام، وإغلاق مكان المخالفة فوراً لحين صدور قرار من المحكمة المختصة.

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

موقع رئاسة الوزراء

37

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School health services

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

38

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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

39

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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

40

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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
- Providing 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**