

/ Unit 2: Growth and Development Theories

الوحدة 2: نظريات النمو والتطور

هذا الملخص يقدم المفاهيم والمراحل الأساسية لأربع نظريات رئيسية في علم النفس التنموي، بتنسيق نصي واضح ومنظم (إنجليزي ثم عربي) لخدمة الطلاب.

1. Erikson's Psychosocial Development Theory

نظرية إريكسون في النمو النفسي الاجتماعي

- **Proposer:** Erik Erikson
○ **صاحب النظرية:** إريك إريكسون.
- **Model:** Lifespan model of development emphasizing the impact of social experiences
○ **النموذج:** نموذج يشمل كل مراحل الحياة، ويركّز على تأثير الخبرات الاجتماعية.
- **Focus:** Significant emphasis on adolescence as a crucial stage for developing identity
○ **التركيز:** تركيز كبير على مرحلة المراهقة كمرحلة مهمة لتكوين الهوية.
- **Core Element:** The identity of one's ego
○ **العنصر الأساسي:** هوية الأنا.
- **Conflict:** Conflicts provide opportunities for growth or failure
○ **الصراع:** الصراعات بتعطي فرص للنمو أو للفشل.

Stages of Psychosocial Development / مراحل النمو النفسي الاجتماعي

1. Trust vs. Mistrust (Birth–18 months)

- **المرحلة 1: الثقة مقابل عدم الثقة (من الولادة لـ 18 شهر)**
○ **Task:** Babies learn to trust parental care and affection
■ **المهمة:** الطفل يتعلم يثق برعاية ومحبة أهله.

- **Outcome:** Failure leads to distrust viewing the world as inconsistent/unpredictable
■ **النتيجة:** الفشل يؤدي لعدم الثقة وشعور إن العالم غير ثابت وغير متوقع.

2. Autonomy vs. Shame and Doubt (18 months–3 years)

● المرحلة 2: الاستقلالية مقابل الخجل والشك سنة ونص 3 سنوات

- **Task:** Child learns self feeding and independent actions
■ **المهمة:** الطفل يتعلم يأكل لحاله ويعمل أمور مستقلة.

- **Outcome:** Failure leads to shame and doubt in abilities
■ **النتيجة:** الفشل يؤدي للخجل والشك بقدراته.

3. Initiative vs. Guilt (3–5 years)

● المرحلة 3: المبادرة مقابل الذنب (5 سنوات)

- **Task:** Children use initiative in planning and carrying out plans
■ **المهمة:** الطفل يستخدم المبادرة بالتخطيط وتنفيذ الخطط.

- **Outcome:** Misbehavior regarding limits can lead to guilt
■ **النتيجة:** تجاوز الحدود ممكن يسبب شعور بالذنب.

4. Industry vs. Inferiority (5–11 years)

● المرحلة 4: الاجتهاد مقابل الدونية (11 سنة)

- **Task:** Learnt to follow rules imposed by school/home
■ **المهمة:** يتعلم يتبع القوانين بالمدرسة والبيت.

- **Outcome:** Belief of being inferior to others if unsuccessful
■ **النتيجة:** الفشل يخليه يحس إنه أقل من غيره.

5. Identity vs. Role Confusion (11–18 years)

● المرحلة 5: الهوية مقابل تشتت الدور (18 سنة)

- **Task:** Acquire a sense of identity
■ **المهمة:** يكوّن إحساس بالهوية.

- **Outcome:** Confusion about one's role in life if unsuccessful
■ **النتيجة:** الفشل يسبب تشتت وعدم معرفة الدور بالحياة.

6. Intimacy vs. Isolation (18–40 years)

● المرحلة 6: الألفة مقابل العزلة (18-40 سنة)

- **Task:** Develop relationships and a joint identity with a partner

■ **المهمة:** تكوين علاقات وهوية مشتركة مع شريك.

○ **Outcome:** Isolation and avoidance of meaningful relationships if unsuccessful

■ **النتيجة:** الفشل يؤدي للعزلة وتجنب العلاقات المهمة.

7. Generativity vs. Stagnation (40–65 years)

● **المرحلة 7: الإنتاجية مقابل الركود (6540 سنة)**

○ **Task:** Make use of time help others guide the next generation

■ **المهمة:** استغلال الوقت لمساعدة الآخرين وتوجيه الجيل الجديد.

○ **Outcome:** Self-centeredness and stagnation if unsuccessful

■ **النتيجة:** الفشل يؤدي للأنانية والركود.

8. Integrity vs. Despair (60+ years)

● **المرحلة 8: تكامل الذات مقابل اليأس (60+ سنة)**

○ **Task:** Understand and accept the meaning of temporary life

■ **المهمة:** يفهم ويتقبل معنى الحياة المؤقتة.

○ **Outcome:** Regrets/complaints about lack of time and not finding meaning in life

■ **النتيجة:** الندم، الشكوى من قلة الوقت، وعدم إيجاد معنى للحياة.

2. Jean Piaget's Cognitive Theory

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نظرية جان بياغيه المعرفية

● **Background:** Influential 20th-century developmental psychologist, trained in biology and

philosophy

○ **خلفية:** عالم نفس نمائي مؤثر بالقرن العشرين، متدرَّب على الأحياء والفلسفة.

● **Focus:** How children learn through development; believed cognitive structure increased with

development

○ **التركيز:** كيف الأطفال بتعلموا من خلال تطورهم؛ وكان يؤمن إن البناء المعرفي بنمو مع التطور.

● **Progression:** Cognitive development progresses in “leaps and bounds” not steadily

○ **التقدم:** التطور المعرفي بتقدِّم بخطوات واسعة، مش بشكل ثابت.

المفاهيم الرئيسية في نظرية بياغيه / Key Concepts of Piaget's Theory

1. ● **Schema:** An internal representation of the world; “units” of knowledge
○ **المخطط:** تمثيل داخلي للعالم؛ وحدات المعرفة.
2. ● **Assimilation:** Using an existing schema to deal with a new object or situation
○ **الاستيعاب:** استخدام مخطط موجود للتعامل مع موقف أو شيء جديد.
3. ● **Accommodation:** Changing or altering existing schemas in light of new information
○ **الملاءمة:** تغيير المخططات الموجودة حسب المعلومات الجديدة.
4. ● **Equilibration:** A balance between assimilation and accommodation
○ **الاتزان:** توازن بين الاستيعاب والملاءمة.
- **Equilibrium:** Occurs when existing schemas can handle most new information via assimilation
○ **الاتزان (الحالة):** لما المخططات الحالية تقدر تتعامل مع أغلب المعلومات الجديدة.
- **Disequilibrium:** Occurs when new information cannot be fitted into existing schemas
○ **فقدان الاتزان:** لما المعلومات الجديدة ما بتتوافق مع المخططات الموجودة.
5. ● **Adaptation:** Piaget's term for what is commonly called learning
○ **التكيف:** مصطلح بياغيه اللي بنسميه عادة التعلم.

مراحل نظرية بياغيه / Stages of Piaget's Theory

1. ● **Sensorimotor Stage (Birth–2 years, Infancy)**
● **المرحلة 1: الحسية الحركية (من الولادة-سنتين)**
○ Knowledge limited to sensory perceptions and simple motor activities
○ المعرفة محصورة بالإحساس والحركة البسيطة.
2. ● **Preoperational Stage (2–7 years, Toddler and Early Childhood)**
● **المرحلة 2: ما قبل العمليات (2-7 سنوات)**
○ Developing language and concepts
○ تطور اللغة والمفاهيم.
○ More complex mental representation
○ تمثيل عقلي أكثر تعقيد.
○ Unable to use “operations” (logical thought)
○

○ غير قادر على استخدام التفكير المنطقي.

3. Concrete Operational Stage (7–12 years)

● المرحلة 3: العمليات الملموسة (7-12 سنة)

○ .Characterized by the appropriate use of logic

○ تتميز بالاستخدام المناسب للمنطق.

4. Formal Operational Stage (12+ years)

● المرحلة 4: العمليات الشكلية (12 سنة فما فوق)

○ .Thought becomes increasingly exible and abstract

○ التفكير يصبح أكثر مرونة وتجريد.

○ .Ability to solve problems logically and methodically

○ القدرة على حل المشاكل بشكل منطقي ومنهجي.

○ .Understanding that rules are not absolute, and nothing is absolute

○ فهم إن القوانين مش مطلقة، ومفيش شيء مطلق.

3. Abraham Maslow's Theory

نظرية أبراهام ماسلو

● **Background:** American psychologist who studied “outstanding individuals”

○ **الخلفية:** عالم نفس أمريكي درس “الأفراد المتميزين”.

● **Belief:** People have unchanging genetically originated physiological and psychological needs

○ **الاعتقاد:** الناس عندهم احتياجات نفسية وجسدية ثابتة ومنشأها وراثي.

● **Hierarchy:** 5 levels of needs arranged in a pyramid, where lower levels must be satisfied before

higher ones emerge

○ **الهرم:** 5 مستويات من الاحتياجات مرتبة على شكل هرم، والمستويات الدنيا لازم تنشبع قبل العُليا.

● **Needs Scope:** Physiological and security needs are finite; higher order needs are infinite

○ **نطاق الاحتياجات:** الاحتياجات الفسيولوجية والأمان محدودة أما الاحتياجات العليا فهي غير

محدودة.

- **Interdependence:** Levels are interdependent and overlapping
- **الترباط:** المستويات مترابطة ومتداخلة.

أنواع الاحتياجات / Types of Needs

A. De ciency Needs (Dneeds)

○ احتياجات النقص:

- .Basic four layers: physiological, security, love/belonging, esteem
- أربع طبقات أساسية: الفسيولوجية، الأمان، الحب/الانتماء، التقدير.
- .Arise from deprivation; satisfaction avoids unpleasant feelings/consequences
- بتنشأ من النقص؛ وإشباعها يمنع المشاعر السلبية.

B. Growth Needs (Bneeds)

○ احتياجات النمو:

- .Don't stem from "lack," but from a desire for personal growth
- مش ناتجة عن نقص، بل رغبة بالنمو الشخصي.

هرم ماسلو للاحتياجات / Maslow's Hierarchy of Needs

1. Physiological Needs

● الاحتياجات الفسيولوجية

- .Most basic and instinctive needs vital to survival: water, air (oxygen) foods sleep/rest
- أبسط وأهم الاحتياجات للبقاء: مي، هوا (أكسجين)، أكل، نوم/راحة.

2. Safety/Security Needs

● احتياجات الأمان

- .Desire for a predictable, orderly world where injustice and inconsistency are controlled
- الرغبة بعالم ثابت ومنظم، وين الظلم وعدم الثبات تحت السيطرة.
- .Includes steady employment, healthcare, safe neighborhoods, shelter
- تشمل الوظيفة الثابتة، الرعاية الصحية، الأحياء الآمنة، والمسكن.

3. Love and Belonging

● الحب والانتماء

- .Emotionally-based relationships: friendship, sexual intimacy, acceptance, supportive family

○ علاقات عاطفية: صداقة، علاقة حميمة، قبول، عائلة داعمة.

4. Self-Esteem Needs

● احتياجات التقدير

○ Need for personal worth, social recognition, accomplishment contribution

○ الحاجة لقيمة ذاتية، اعتراف اجتماعي، إنجاز، ومساهمة.

5. Cognitive Needs (Growth Need)

● الاحتياجات المعرفية (احتياج نمو)

○ Natural human need to learn, explore, discover, create, and increase intelligence

○ (knowledge).

○ حاجة طبيعية للتعلم والاستكشاف والإبداع وزيادة المعرفة.

6. Aesthetic Needs (Growth Need)

● الاحتياجات الجمالية (احتياج نمو)

○ Desire to appreciate symmetry, beauty, balance, and order; intimate relationship with

○ nature.

○ الرغبة بتقدير الجمال، التوازن، النظام، والعلاقة مع الطبيعة.

7. Self-Actualization (Growth Need)

● تحقيق الذات (احتياج نمو)

○ Instinctual need to make the most of abilities, strive to be the best

○ حاجة غريزية لاستغلال القدرات والوصول للأفضل.

○ self-ful llment
○ Growth, development, utilization of potential,

○ النمو، التطور، استغلال الإمكانيات، وإشباع الذات.

○ Transcendence: Need for helping others to self-actualize, leading to feelings of integrity

○ التعالي: الحاجة لمساعدة الآخرين ليوصلوا لتحقيق ذاتهم.

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Kohlberg's Theory of Moral Development.4

نظرية كولبرغ للنمو الأخلاقي

- **Model:** Stages of moral development moving from self interest to abstract ethical principles
- **النموذج:** مراحل للنمو الأخلاقي تنتقل من المصلحة الذاتية لمبادئ أخلاقية مجردة.

Levels and Stages of Moral Development / مستويات ومراحل النمو الأخلاقي

Level 1: Preconventional Morality (Rules external to self)

- **المستوى 1: الأخلاق ما قبل التقليدية (القوانين خارجية عن الذات)**

Stage 1: Punishment-and-Obedience Orientation (2-3 years) ○

المرحلة 1: التوجيه بالعقاب والطاعة (2-3 سنوات)

Example: "If I get caught, it's wrong"

مثال: "إذا مسكوني فهي غلط."

Stage 2: Naïve Hedonism (4-7 years) ○

المرحلة 2: اللذة الساذجة (4-7 سنوات)

Focus on gaining rewards or satisfying personal objectives/needs

التركيز على الحصول على مكافآت أو إشباع رغبات شخصية.

Right/wrong determined by what is rewarded

الصح والغلط حسب شو بينكافأ عليه.

Example: "I'll do this for you if you do this for me"

مثال: "بسويلك هالشي إذا بتسويلك هالشي."

Level 2: Conventional Morality (9-20 years) (Obeying rules/norms for approval/social order)

- **المستوى 2: الأخلاق التقليدية (سنة 9-20) طاعة القوانين والمعايير للحصول على الموافقة أو للمحافظة على النظام**

Stage 3: "Good-boy" and "Good-girl" Orientation (10 years) ○

■ المرحلة 3: سلوك "الولد/البنات الجيد" (7-10 سنوات)

Wanting to please others; right/wrong by close others' approval/disapproval. Socially sensitive

■ الرغبة بإرضاء الآخرين؛ الصح والغلط حسب الموافقة/الرفض من الآخرين القريبين.

○ Stage 4: Social-Law & Order-Maintaining Morality (10-12 years)

■ المرحلة 4: أخلاق القوانين والنظام الاجتماعي (10-12 سنة)

Conforming to legal authority; right/wrong by society's rules and laws, which should be obeyed rigidly

■ الالتزام بالقوانين والسلطة؛ الصح والغلط حسب قوانين المجتمع التي لازم تنطاع بدقة.

Level 3: Postconventional (Principled) Morality (Defining right/wrong based on broad principles of justice)

● المستوى 3: الأخلاق ما بعد التقليدية (أو الأخلاق المبدئية) (تحديد الصح والغلط حسب مبادئ العدالة العامة)

○ Stage 5: The Social-Contract Orientation

■ المرحلة 5: التوجيه بالعقد الاجتماعي

■ Obeying laws because they express the will of the majority

■ طاعة القوانين لأنها تتمثل إرادة الأغلبية.

■ Right/wrong by society's rules/laws, viewed as fallible

■ الصح والغلط حسب قوانين المجتمع التي ممكن تغلط.

■ Exceptions for welfare violation. The end no longer justifies the means

■ في استثناءات إذا القوانين بتضر بالرفاه والغاية ما بتبرر الوسيلة.

○ Stage 6: Morality of Individual Principles of Conscience

■ المرحلة 6: أخلاق المبادئ الفردية للضمير

■ Following self-chosen ethical principles, even if conflicting with written laws

■ اتباع مبادئ أخلاقية شخصية حتى لو تعارضت مع القوانين المكتوبة.

■ Achieved by morally mature individuals; actions guided by internal standards

■ يوصل إليها الأفراد الناضجين أخلاقياً؛ التصرف مبني على معايير داخلية.

■ Right/wrong determined by abstract ethical principles emphasizing equity and justice

■ الصح والغلط يتحدد بمبادئ أخلاقية مجردة تركّز على العدالة والمساواة.

سُسلم كولبرغ الأخلاقي / Kohlberg's Moral Ladder

Moral development progresses, shifting concern from self to wider social world

: النمو الأخلاقي بتقدّم

من الاهتمام بالنفس للاهتمام بالمجتمع الأوسع:

1. **Morality of self-interest:** To avoid punishments or gain concrete rewards .

○ أخلاق المصلحة الذاتية: لتجنب العقاب أو الحصول على مكافآت.

2. **'Morality of law and social rules'** To gain approval or avoid disapproval.

○ أخلاق القوانين والمعايير الاجتماعية: للحصول على رضا الآخرين أو تجنب الرفض.

3. **Morality of abstract principles:** To affirm agreed upon rights and personal ethical principles .

○ أخلاق المبادئ المجردة: لتأكيد الحقوق المتفق عليها والمبادئ الأخلاقية الشخصية.



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Nurses study growth and development
to:

الملمرضيين بدروسوا النمو والتطور عشان

1. Understand Expectations: Know what growth and development are expected at any given age for children and adults.

فهم التوقعات: يعرفوا شو الملمتوقع من النمو والتطور بأي عمر سواء للأطفال أو الكبار.

2. Explain Conditions/Illnesses: Better understand the reasons for specific conditions and illnesses across various age groups.

تفسير الحالات/الأمراض: يفهموا بشكل أفضل أسباب حالات وأمراض معينة بفئات عمرية مختلفة.

3. Formulate Total Care Plans: Assist in creating comprehensive care plans outlined by physicians and other health team members.

وضع خطط رعاية شاملة: يساعدوا في إعداد خطط رعاية متكاملة اللي بيحطووها الأطباء والفريق الصحي.

4. Teach Mothers: Help mothers use this knowledge to achieve optimal growth and development for their children.

توعية الأمهات: يساعدوا الأمهات يطبقوا هالمعرفة ليحققوا أفضل نمو وتطور لأطفالهم.

Definition of Growth تعريف النمو

- Physical Maturation: Process resulting in an increase in the size of the body and its organs.
النضج الجسدي: عملية بتزيد حجم الجسم وأعضاؤه.
- Measurable: Can be accurately measured (e.g., kilograms, meters, inches).
قابل للقياس: بنقدر نقيسه بدقة (زي الكيلوغرام والملمتر والبوصة).
- Cellular Basis: Occurs through cell multiplication and an increase in intracellular substance.
على مستوى الخلايا: بيصير من خلال تكاثر الخلايا وزيادة الملمواد داخل الخلية.
- Quantitative Changes: Involves quantitative changes in the body.
تغيرات كمية: بتشمل تغيّرات عددية بالجسم.
- Structural and Physiological: Encompasses structural and physiological alterations.
هيكلية ووظيفية: فيه تغيّرات بنوية ووظيفية بالجسم.

Definition of Development

تعريف التطور

- Functional & Physiological Maturation: Involves the functional and physiological maturation of an individual.
النضج الوظيفي والفيسيولوجي: يشمل نضج أداء الفرد ووظائفه.
- Broad Changes: Includes psychological, emotional, and social changes.
تغيّرات واسعة: بتضم تغيّرات نفسية وعاطفية واجتماعية.
- Skill Acquisition: Refers to acquiring various skills and the capacity to function.
اكتساب الملمهارات: الملمقصود فيه اكتساب مهارات وقدرة الفرد على الأداء.
- Nervous System Related: Linked to the maturation and myelination of the nervous system.
مرتبط بالجهاز العصبي: بتعلق بنضج وتعصيب الجهاز العصبي.

- Qualitative Aspects: Focuses on qualitative aspects.

نوعي: يبرككز على التغيررات النوعية.

- Progressive Series of Changes: An orderly, predictable pattern of changes resulting from maturation and experience.

سلسلة تغيررات تدريجية: نمط مرتب وممتوقع من التغيررات الناتجة عن النضج والخبرة.

- Environmental Influence: Concerned with growth and behavioral changes influenced by environmental situations.

تأثير البيئة: يهتم بالتغيررات بالنمو والسلوك اللي بتتأثر بالبيئة.

Principles of Growth and Development

I. General to Specific :

- Development proceeds from simple operations to more complex activities and functions.

التطور بيمشي من العمليات البسيطة للأكثر تعقيدا. □.□.

- Cognitive/Language Skills: Children use these skills to reason and solve problems.

من العام إلى الخاص

المهارات الإدراكية/اللغوية: الأطفال بيستخدموها للتفكير وحل الملمشاكل.

- Motor Skills Example:

- Initially, hold large objects with both arms, then with a single hand.

بالبداية يمسك الأشياء الكبيرة بكل الإليدين، بعدين بإيد وحدة.

- Subsequently, pick up small objects (e.g., peas, cereals).

مثال على المهارات الحركية

بعدها يقدر يمسك الأشياء الصغيرة (زي البازيللاء والحبوب).

- When holding a pencil, first draw circles, then squares, then letters, and finally words.

وللملما يمسك قلم، يرسم دوائر بالأول، بعدين مربعات، بعدين حروف، وبالنهاية كلمات.

- Sequence vs. Rate: The sequence of development is universal, but the rate varies among children.

التسلسل ثابت لكن السرعة بتختلف بينين الأطفال.

- Cumulative: Development builds upon itself.

تراكمي: التطور يبيني على اللي قبله.

- Interactional Result: A result of the interaction between Maturation and Learning.

نتيجة تفاعل بينين النضج والتعلم.

- Heredity & Environment: A product of contributions from Heredity and Environment.

نتاج الوراثة والبيئة.

- Unique Pattern: Every individual has a unique growth pattern.

لكل شخص نمط نمو خاص فيه.

II. Cephalocaudal Direction (Vertical) :

الاتجاه الرأس-قديم (العمودي)

- Head to Tail: Development proceeds from the head downwards to the tail.
من الرأس للقديمين: التطور يمشي من الرأس لتحت.
- Order of Improvement: Improvement in structure and function appears first in the head region, then the trunk, and finally the leg region.
التحسّن يبدأ من منطقة الرأس، بعدها الجذع، وبالنهاية الأرجل.
- Example: Infants gain control over neck muscles (holding head steady) before controlling extremities.
مثال: الرضيع يمسك رقبته قبل ما يتحكم بأطرافه.

III. Proximodistal Direction :

- Center to Periphery: Development proceeds from the center or midline of the body outwards toward the extremities.
من الملمركز للأطراف: التطور يمشي من منتصف الجسم لبرا باتجاه الأطراف.
- Order of Development:
ترتيب التطور:
- Spine develops first (in uterus).
العمود الفقري يتطور أولاً (بالرحم).
- Followed by extremities.
وبعدين الأطراف.
- Finally fingers and toes.
وبالنهاية الأصابع.
- Example: Infant's control of the shoulder precedes mastery of hands, and control of whole hands precedes control of individual fingers.
مثال: سيطرة الطفل على الكتف بتيجي قبل سيطرته على اليد، والسيطرة على اليد كلها بتيجي قبل التحكم بالأصابع.

Factors Influencing Growth and Development

1. Genetic Factors

- Sex
العوامل الملمؤثرة في النمو والتطور

العوامل الوراثية

الجنس

- Race and Nationality
العرق والجنسية

2. Prenatal Factors (Intrauterine Environment) العوامل ما قبل الولادة (الداخل الرحم)

- Maternal Malnutrition: Nutritional deficiencies of the mother.
سوء تغذية الأم: نقص العناصر الغذائية عند الأم.

• Maternal Infection: E.g., German measles during pregnancy.

التهابات الألام: مثل الحصبة الألاملممانية أثناء الحمل.

• Maternal Substance Abuse

• Maternal Illness

تعاطي الألام للمواد الضارة

• Hormones

أمراض الألام

الهرمونات

3. Postnatal Factors العوامل بعد الولادة

• Growth Potential القابلية للنمو

• Nutrition: Malnutrition (under-nutrition or obesity).

التغذية: سوء التغذية (نقص أو زيادة).

• Childhood Illness: Congenital conditions, illnesses, and injuries.

الأمراض الطفولية: الحالات الخلقية والأمراض والإصابات.

• Physical Environment البيئة الملمانية

• Psychological Environment البيئة النفسية

• Cultural Influence التأثير الثقافي

• Socioeconomic Status الوضع الاجتماعي والاقتصادي

• Climate and Season الملمناخ والفصول

• Play and Exercise اللعب والتمارين

• Birth Order of the Child ترتيب الطفل بين إخوته

• Intelligence الذكاء

• Hormonal Influence التأثيرات الهرمونية



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مراحل نمو الجنين (Fetal Development Stages)

الاختلافات حسب الفئة العمرية (Differences Across Age) (Levels)

الفئات العمرية المختلفة عندها فروقات ب: (Various age levels exhibit differences in)

Function of various organ systems

وظائف أجهزة الجسم المختلفة

Degree of immunity to disease

مستوى المناعة ضد الأمراض

Response to the effects of disease

الاستجابة لتأثير الأمراض

Drug dosages and tolerance to drugs

جرعات الدواء وتحمل الجسم للدواء

Mental and motor ability

القدرات العقلية والحركية

Pattern of emotional response

نمط الاستجابة العاطفية

فترة الجنين (من الحمل للولادة) (Fetal Period: Conception -)

(Birth)

Duration: From fertilized ovum formation to delivery, approximately 40 weeks (9 months or 266 days)

المدة: من تكوين البويضة المخصبة للولادة تقريباً 40 أسبوع (9 شهور أو 266 يوم).

Pregnancy/Gestation: Length of time from conception (fertilization followed by implantation) to birth

○ الحمل /مدة الحمل: الفترة من وقت الحمل (الإخصاب يلي بعده الانغراس) للولادة.

مراحل نمو الجنين (Phases of Fetal Development)

1. **Embryonic development (Months 1 and 2):** Major organs are formed.

○ النمو الجنيني (الشهر 1 و2): الأعضاء الرئيسية تتكوّن

2. **Fetal development (Months 3-9):** Structures are refined.

○ نمو الجنين (الشهر 3-9): تتوضّح وتتطور البنى الجسمية

طرق تقييم نمو الجنين (Fetal Growth Assessment Methods)

1. **Measure the size of the uterus on abdominal examination.**

○ قياس حجم الرحم أثناء فحص البطن.

2. **Palpate fetal head and body on abdominal examination.**

○ لمس رأس الجنين وجسمه أثناء فحص البطن.

3. **Measure the size of the fetus using antenatal ultrasonography.**

○ قياس حجم الجنين باستخدام السونار قبل الولادة.

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4. **Fetal movements.**

○ حركات الجنين:

○ Indicate fetal well-being . (بتدل على صحة الجنين).

○ **First felt** : (أول ما بتحس الأم فيها):

■ (حوالي الأسبوع 20 في Primigravida (rst pregnancy) . At about 20 weeks in a

لأول مرة.)

■ (حوالي الأسبوع 16 في Multigravida (subsequent pregnancies) . At about 16 weeks in a

للأمهات الحوامل مرة ثانية أو أكثر.)

تعريف المصطلحات الأساسية (Key Concept Definitions)

● **Ovum:** The female sex cell

- **البويضة:** الخلية الجنسية للأنثى.
○ Regularly released by the ovary through ovulation (نُظِّلَقَ من المبيض بشكل منتظم عبر الإباضة).
- Lifespan of 24 hours; can only be fertilized within this period (عمرها 24 ساعة فقط؛
○ ممكن تُخْصَب خلال هالفترة.)
○ After 24 hours, it regresses and is resorbed (بعد 24 ساعة، تتحلل ويتم امتصاصها)

● **Sperm Cell**

- **الحيوان المنوي:**
○ Lifespan of 48 to 72 hours (عمره 48 لـ 72 ساعة).
- **Kinds:** (الأنواع):
○ Gynosperm: The X-carrying sperm cell (determines female) (الجنين الحامل للـ X (يحدد الأنثى)).
- Androsperm: The Y-carrying sperm cell (determines male) (الجنين الحامل للـ Y (يحدد الذكر)).

● **Zygote:** A fertilized ovum; the product of conception from fertilization to implantation

○ **الزيجوت:** البويضة المخصبة؛ المنتج من الإخصاب للانفراس.

● **Embryo:** The product of conception from the second through the 8th week of pregnancy (approximately 5 to 8 weeks post-fertilization)

○ **الجنين (Embryo)** المنتج من الحمل من الأسبوع 2 للأسبوع 8 (تقريباً 5 لـ 8 أسابيع بعد الإخصاب).

● **Fetus:** The product of conception from the 9th week through the duration of the gestational period (from 8 weeks until term)

○ **الطفل في الرحم (Fetus)** المنتج من الحمل من الأسبوع 9 لحد نهاية الحمل (من الأسبوع 8: للولادة).

● **Conceptus:** The developing embryo or fetus and placental structures throughout the entire term

○ **كائن الحمل (Conceptus):** الجنين أو الطفل في الرحم وكل الهياكل المرتبطة بالمشيمة طوال فترة الحمل.

● **Fertilization:** The process where the ovum leaves the ovary and enters the fallopian tube during ovulation. Fertilization generally occurs in the outer third of the fallopian tube

○ **الإخصاب:** العملية التي فيها البويضة تطلع من المبيض وتدخل قناة فالوب أثناء الإباضة. عادة يصير الإخصاب في الثلث الخارجي من قناة فالوب.

● **Segmentation:** The process of cell division in the zygote, beginning within a few hours after fertilization

○ **الانقسام الخلوي (Segmentation):** عملية انقسام الخلية في الزيجوت، وتبلى بعد ساعات قليلة من الإخصاب.

○ Divides into two cells, then four, eight, sixteen, and so on, doubling with each division (بتتقسم لخليتين، بعدين أربع، ثمانية، ستة عشر، وهكذا، بتضاعف كل مرة).

○ Transforms the zygote into a cluster of cells called a Morula (resembles a mulberry) (بتحوّل الزيجوت لمجموعة خلايا اسمها مورولا (بتشبه التوت)).

○ The morula slowly moves down the Fallopian tubes toward the uterus, arriving after about three days

○ (المورولا تتحرك شوي شوي لقناة فالوب نحو الرحم، وتوصل بعد حوالي ثلاث أيام).
○ تطورت لمجموعة خلايا مجوفة اسمها بلاستوسست. (بهاالوقت،
By this time, it has developed into a hollow ball of cells called a Blastocyst

● **Implantation:** The process where the zygote attaches to the uterine wall

○ **الانغراس (Implantation):** العملية التي فيها الزيجوت يلتصق بجدار الرحم.

○ Takes 7 to 8 days from fertilization to implantation (لتأخذ 7 ل 8 أيام من الإخصاب).
○ (لانغراس).

○ The journey to the uterus takes 3 to 4 days, during which cell division occurs (الرحلة للرحم).
○ (بتأخذ 3 ل 4 أيام، وأثناءها يصير الانقسام الخلوي)

○ Implantation occurs at the high and posterior portion of the uterus (الانغراس يصير في الجزء العلوي والخلفي للرحم).

● **Fetal development starts** with 23 chromosomes from the father combining with 23 chromosomes from the mother to form a single new life with 46 chromosomes

○ **نمو الجنين يبدأ** بـ 23 كروموسوم من الأب و23 من الأم لتشكيل حياة جديدة فيها 46 كروموسوم.

- The initial cell formed by sperm and ovum is smaller than a grain of salt
- الخلية الأولى اللي تنتج عن البويضة والحيوان المنوي أصغر من حبة ملح.

مراحل نمو الجنين بالتفصيل (Detailed Fetal Development) (Stages)

- Day 1: Conception
○ اليوم 1: الحمل الإخصاب
- Day 10: Mother's menses stop
○ اليوم 10: توقف الدورة الشهرية للأم
- Days 10-14: Developing embryo signals its presence through placental chemicals and hormones to cease menstruation
○ الأيام 10-14: الجنين المتكوّن يرسل إشارات عن طريق مواد كيميائية وهرمونات المشيمة ليوقف الدورة الشهرية.
- Day 15: Primitive streak can be seen
○ اليوم 15: يمكن رؤية الخط البدائي (Primitive streak).
- Day 17: Primitive streak still seen opposite end of embryo folds
○ اليوم 17: الخط البدائي ما زال واضح، وطرف الجنين المقابل يبدأ بالطي
- Day 18: Heart begins to beat; the fetus's heart beats 54 million times during pregnancy
○ اليوم 18: قلب الجنين يبدأ بالخفقان! قلب الجنين يضرب حوالي 54 مليون مرة أثناء الحمل.
- Day 19: Neural tube is seen along with somites
○ اليوم 19: يمكن رؤية الأنبوب العصبي مع القطع العضلية (somites).
- Day 20: Foundations of brain, spinal cord, and nervous system are established
○ اليوم 20: تتكوّن أساسيات الدماغ، الحبل الشوكي، والجهاز العصبي
- Day 21: Heart pumps its own blood through a separate, closed circulatory system with its own blood type
○ اليوم 21: القلب يضخ دمه الخاص عبر نظام دوري مغلق ومستقل مع نوع دم خاص فيه

Days 16-21 (approx): Backbone and muscles are forming; arms, legs, eyes and ears have begun to show

○ الأيام 16-21 (تقريباً): العمود الفقري والعضلات تتكوّن؛ الذراعين، الرجلين، العيون، والأذنين بدأت تظهر.

.Day 28: Eye ear and respiratory system begin to form

○ اليوم 28: العيون، الأذنين، والجهاز التنفسي يبدأوا بالتكوّن

.Day 42 (4 weeks) Brain waves recorded skeleton complete reflexes present

○ اليوم 42 (أسابيع): يتم تسجيل موجات دماغية، الهيكل العظمي كامل، والمنعكسات موجودة.

.One month old (4 weeks) The embryo is 10,000 times larger than the original fertilized egg

○ عمره شهر 4 أسابيع: الجنين أصبح أكبر بـ 10,000 مرة من البويضة المخصبة الأصلية.

Week 5: Five fingers can be discerned; eyes darken as pigment is produced; brain waves can be detected; embryo has a marked C-shaped body and a rudimentary tail

○ الأسبوع 5: يمكن تمييز خمس أصابع؛ العيون بتغيم مع إنتاج الصبغة؛ يمكن تسجيل موجات دماغية؛ الجنين له جسم على شكل حرف C وذيل أولي.

Week 6: Liver takes over production of blood cells; brain begins to control muscle movements and organs

○ الأسبوع 6: الكبد يبدأ بإنتاج خلايا الدم؛ الدماغ يسيطر على حركات العضلات والأعضاء

Week 7: Embryo begins to move spontaneously; jaw forms, including teeth buds; capable of thumb sucking. Eyelids will seal to protect developing light-sensitive eyes, reopening around the seventh month. Head is rounded and nearly erect; eyes have shifted forward and closer together, and eyelids begin to form

○ الأسبوع 7: الجنين يبدأ بالحركة بشكل عفوي؛ الفكين يتكوّنوا بما فيهم براعم الأسنان؛ قادر على مص الإبهام. الجفون بتغلق لحماية العيون الحساسة للضوء، وتفتح حوالي الشهر السابع. الرأس دائري وقريب من الاستقامة؛ العيون انتقلت للأمام واقتربت من بعض، والجفون بدأت تتكوّن.

By 8th Week: Fetus is a little more than an inch long. All body systems are present. Heart has been beating for over a month; kidneys are functioning; stomach produces digestive juices and responds to touch

○ بحلول الأسبوع 8: الجنين أطول شوي من إنش واحد. كل أجهزة الجسم موجودة. القلب خفقان لأكثر من شهر؛ الكلى تعمل؛ المعدة تنتج عصارات هضمية وتستجيب للمس

.Week 9: Fetus has fingerprints and will curve its hand around an object

○ الأسبوع 9: الجنين عنده بصمات أصابع ويقدر يلف يده حول شيء.

● **Week 10:** Fetus can squint, swallow, wrinkle forehead, move tongue and take a step.
○ الأسبوع 10: الجنين يقدر يغمض عيونه، يبتلع، يعبس جبينه، يحرك لسانه، ويقبض يده
● **Weeks:** Spontaneous breathing movements, fingernails present, all body systems working. 11
● Fetus is about 2 inches long. Urination occurs, and muscle movements become more

○ الأسبوع 11: حركات تنفس عفوية، الأظافر موجودة، كل أجهزة الجسم تعمل. طول الجنين حوالي 2 إنش. البول يحدث، وحركات العضلات أكثر تنسيقاً 2

● **Weeks:** Weighs one ounce; sleeps, awakens and exercises its muscles. "Breathes" amniotic fluid to help develop its respiratory system. Fine hair is growing on the head.
○ الأسبوع 12: الوزن أونصة واحدة؛ ينام ويصحى ويمارس عضلاته "يتنفس" السائل الأمنيوسي لتطوير الجهاز التنفسي. شعر خفيف ينمو على الرأس.

● **Weeks:** Skin is so transparent that blood vessels are visible. More muscle tissue and body skeleton have developed, holding the fetus more erect.
○ الأسبوع 14: الجلد شفاف لدرجة أن الأوعية الدموية واضحة. العضلات والعظام تطورت أكثر والجنين أصبح أقرب لوضعية مستقيمة.

● **Weeks:** Genital organs are clearly differentiated. Fetus grasps with hands, swims, kicks, turns, somersaults (still not felt by the mother). Fetus is 8-10 inches long and weighs half a pound. Mother starts to "show." Baby's ears are functional and can hear its mother.
○ الأسبوع 16: الأعضاء التناسلية واضحة. الجنين يمسك بيديه، يسبح، يركل، يدور، ويعمل تقلبات (الأم ما بتحس فيها بعد). طول الجنين 8-10 إنش ووزنه نصف رطل. البطن تبدأ تبين آذان الطفل تعمل ويقدر يسمع أمه.

● **Weeks:** Vocal cords work.
○ الأسبوع 18: الحبال الصوتية تشتغل.

● **Weeks:** Has hair on head; weighs one pound (435 to 465g) and measures about 19 cm. Subcutaneous deposits of brown fat make the skin less transparent. "Woolly" hair covers the head, and nails have developed on fingers and toes. Definite movement is felt by the mother.
○ الأسبوع 20: عنده شعر على الرأس؛ وزنه حوالي باوند واحد (435 لـ 465 غرام) وطوله حوالي 19 سم. الدهون البنية تحت الجلد بتخلي الجلد أقل شفافية. شعر "صوفي" يغطي الرأس، والأظافر تطورت على الأصابع والقدمين. الأم بتحس بالحركة بشكل واضح. ممكن يقفز رداً على أصوات عالية أو مفاجئة.

● **Weeks:** 15% chance of viability outside of the womb if born prematurely. 23

○ الأسبوع 23: 15% فرصة لبقاء الجنين حي إذا ولد مبكراً

● **24 weeks:** 56% of babies survive premature birth The oil and sweat glands are functioning
○ الأسبوع 24: 56% من الأطفال ينجون إذا ولدوا مبكراً. "The skin is protected from amniotic fluid by "vernix"
من السائل الأمنيوسي بواسطة الفريزيكس. الجلد محمي

● **25 weeks:** 79% of babies survive premature birth
○ الأسبوع 25: 79% من الأطفال ينجون إذا ولدوا مبكراً

● **28 weeks:** Fetus now uses four senses hearing vision taste and touch Can respond to the
○ الأسبوع 28: الجنين الآن يستخدم أربع حواس: السمع، البصر، الذوق، واللمس. يقدر يستجيب
'mother's voice لصوت أمه.

● **32 weeks:** Skin begins to thicken with a layer of fat for insulation and nourishment Antibodies
○ الأسبوع 32: الجلد يبدأ يتخثر مع طبقة دهنية للعزل والتغذية. الأجسام المضادة بتزداد. الطفل
increasingly build up Baby is nearly ready for life outside the womb weighing normally to 6 9
pounds and its heart is pumping 300 gallons of blood per day
قريب يكون جاهز للحياة خارج الرحم، وزنه عادة بين 6 و9 باوند، وقلبه يضخ حوالي 300 جالون
دم يومياً.

● **32-36 weeks:** Weight gain 25 g/day. Increased fat makes the body more rounded. Lanugo (fine hair)
○ الأسبوع 32-36: زيادة الوزن 25 غرام/اليوم. الدهون الزائدة تخلي الجسم أكثر استدارة. شعر
disappears from the body. Hair on the fetal head lengthens. Nails reach tips of fingers
اللانوغو (الناعم) يختفي من الجسم. شعر الرأس يطول. الأظافر توصل أطراف الأصابع. غضروف
and toes. Ear cartilage is soft. Plantar creases are visible
الأذن طري. تظهر تجاعيد القدم.

● **36 weeks to birth:** Birth is expected Body is round and plump Skull is formed but soft
○ الأسبوع 36 للولادة: الولادة متوقعة. الجسم مستدير وممتلئ. الجمجمة متكونة لكنها لينة

Neonates and Infants (Birth to 1 year)

Assessment of Growth Patterns

- **Weight:** Best criterion for growth assessment.
Term neonate birth weight: 2.5 kg to 4 kg.
10% weight loss in the first week, regained by 10 days.
Weight gain: 25-30 gm/day for the first 3 months.
- **Length:** Indicates skeletal growth.
 - At birth: 46 to 54 cm.
- **Head Circumference (HC):** Related to brain growth.
 - At birth: 34-35 cm.
 - Suspect hydrocephalus if HC increases >1 cm in two weeks during the first 3 months.
- **Chest Circumference:** 32-33 cm at birth.
- **Fontanels:** Anterior and posterior fontanels are present at birth.
- **Mid Upper Arm Circumference (MUAC):** Assesses nutritional status.
 - At birth: 11 to 12 cm.

Developmental Screening Tools

Screening Tool	Purpose	Age Range	Advantages
Apgar Score	Assesses physical condition immediately after birth.	Birth	Quick evaluation of heart rate, respiration, muscle tone, reflexes, and color.
Newborn Hearing Screening	Detects hearing impairments early.	Birth	Ensures timely intervention for auditory issues.
Growth Charts	Monitors weight, length, and head circumference.	Birth–28 days	Tracks physical growth patterns.

- ### Features of Neonatal Period (0–28 days)
- Poor physiological regulation ability and adaptation.
 - High morbidity and mortality.
 - Safety Considerations**
 - Safe Sleep Practices:
 - Place newborns on their back to sleep.
 - Use a firm mattress without pillows or soft bedding.

- Avoid overheating the room.
- Preventing Infections: - Ensure proper hand hygiene. - Avoid crowded or unclean environments.
- Monitoring for Jaundice: - Check for yellowing of skin and eyes, especially in the first week.
- Nutrition Considerations**
- Breastfeeding: - Feed every 2–3 hours (8–12 feeds per day). - Monitor for adequate weight gain and 6–8 wet diapers per day. - Breastfed newborns double birth weight at 5 months.
- Formula Feeding: - Use age-appropriate formula; follow preparation guidelines. - Avoid overfeeding; watch for signs of fullness (turns away, decreased sucking, falls asleep, relaxed body, disinterest). - Formula-fed newborns double birth weight between 3.5 - 4 months.
- Parental Education**
- Bonding and Attachment: Encourage skin-to-skin contact.
- Recognizing Hunger Cues: Teach parents to identify signs like rooting, sucking motions, and crying.
- Monitoring for Red Flags: Educate on signs needing medical advice (e.g., breathing difficulties, changes in skin color, fever, hypothermia, feeding issues, seizures, lethargy, inconsolable crying, umbilical cord infection, fewer wet diapers).
- Educate on developmental expectations.
- Nursing Interventions**
- Growth Monitoring: Measure weight, length, and head circumference regularly.
- Developmental Screening: Use tools like the Apgar score and growth charts.
- Family Support: Provide guidance on newborn care, feeding, and safe sleep.

Infants (1 to 12 Months)

Assessment of Growth Patterns

- Weight: Triples birth weight by one year.
- Length:
 - 60 cm at 3 months.
 - 70 cm at 9 months.
 - 75 cm at one year.
- Head Circumference:
 - 40 cm at 3 months.
 - 43 cm at 6 months.



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- 45 cm at one year.
- Chest Circumference:
 - At birth, 2-3 cm less than HC.
 - Becomes equal to HC at 6 to 12 months.
 - Greater than HC by 2.5 cm after the first year.
- Fontanel:
 - Posterior fontanel closes early: 6-8 weeks.
 - Anterior fontanel closes normally by 12-18 months.
- Eruption of Teeth:
 - First teeth (commonly lower central incisors) appear at 6 to 7 months.
 - Upper Arch Central Incisors: 10 Months.
 - Lower Arch Central Incisors: 8 Months.
- Mid Upper Arm Circumference (MUAC):
 - At one year: 12 to 16 cm.

Assessment of Developmental Patterns (Domains)

1. Gross Motor: Orderly sequence to locomotion.
2. Fine Motor Skill: Depends on neural tract maturation; includes eye/hand coordination, grasping, finger-thumb apposition.
3. Personal and Social: Interpersonal and social skills (social smile, recognition of mother, use of toys).
4. Language
5. Vision
6. Hearing

Gross Motor Development Milestones

- 3 months: Neck holding.
- 5 months: Rolls over.
- 6 months: Sits with own support, bears almost all weight.
- 8 months: Sitting without support.
- 9 months: Standing holding on (with support), holding on to furniture.
- 12 months: Creeps well, stands without support.

Fine Motor Skill Development Milestones

- 12-20 weeks: Observes own hands (hand regard).
- 4 months: Reaching out for objects with both hands, hands come together at midline.
- 6 months: Reaching out for objects with one hand, takes biscuit to mouth and chews.
- 7 months: Transfers objects from one hand to other.
- 8-9 months: Immature pincer grasp.
- 12 months: Pincer grasp mature, tries to feed self from a cup (spills), starts to pull off

mittens/caps/socks.

Personal and Social Development Milestones

- 1 month: Child intently watches mother when she talks.
- 2 months: Social smile.
- 3 months: Recognizes mother.
- 6 months: Recognizes strangers (stranger anxiety), vocalizes and smiles at mirror image, imitates acts (cough, tongue protrusion).
- 9 months: Waves "bye-bye", repeats actions that evoke appreciative response.
- 12 months: Comes when called, plays simple ball game, understands simple questions (e.g., "where is your papa?").

Language Development Milestones

- 1 month: Alerts to sound.
- 3 months: Coos (musical vowel sounds).
- 4 months: Laughs loud.
- 6 months: Mono-syllables (ba, da, pa) sound.
- 9 months: Bi-syllables (mama, baba, dada) sound.
- 12 months: 1-2 words with meaning.

Vision Milestones

- 1 month: Fixates on mother.
- 3-4 months: Fixates intently on an object shown to him (grasping with eye).
- 6 weeks: Binocular vision begins; well established by 4 months.
- 6 months: Adjusts position to follow object of interest.
- 12 months: Follows rapidly moving objects.

Hearing Milestones

- 3-4 months: Turns head towards sound source.
- 5-6 months: Turns head to one side and then downward if sound is made below ear level.
- 10 months: Directly looks at the source of sound diagonally.

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Developmental Screening Tools

Screening Tool	Purpose	Age Range	Advantages
Ages and Stages (ASQ-3)	Screens communication, motor, problem-solving, personal-social skills.	1–60 months	Parent-friendly, quick, easy to use.
Denver Developmental Screening Test-II (DDST-II)	Observes personal-social, fine/gross motor, and language.	Birth–6 years	Quick insights, guides referrals.
Parents' Evaluation of Developmental Status (PEDS)	Detects parental concerns about developmental progress.	Birth–8 years	Guides referrals for deeper assessment.
Modified Checklist for Autism in Toddlers (M-CHAT)	Screens for autism spectrum disorder (ASD).	16–30 months	Effective in detecting early signs of autism.

Features of Infancy Period (1-12 Months)

- Most rapid growth and development in the lifespan.
- Fastest brain growth.
- High nutrition and energy requirements.
- Poor digestion and absorption functions.
- Passive immunity gradually drops.
- Morbidity and mortality related to: Congenital anomalies, low birth weights, accidents, closed head trauma, and falls.

Nutrition Considerations

- Breastfeeding:
 - Exclusive breastfeeding for first 6 months.
 - Introduce complementary foods at 6 months while continuing breastfeeding.
- Formula Feeding:
 - Ensure proper preparation and storage.
 - Monitor for signs of intolerance or allergies.
- Introduction of Solid Foods:
 - Start with iron-rich foods (e.g., fortified cereals, pureed meats).
 - Introduce one new food at a time to monitor for allergies.
- Feeding Pattern and Recommendation:
 - 4–6 months: Rice Cereal.
 - 6–8 months: Eats baby food: rice cereal, fruits, vegetables.
 - 9 months: Egg yolks, enjoys soft finger foods, meats.
 - 10-12 months: Eats most soft table foods with family, uses cup, tries to feed self with spoon.
 - Avoid: Egg whites (allergy trigger), honey.

Weaning (1-12 Months)

- Definition: Process of introducing any non-milk food into the infant's diet.
- Start at 4-6 months because:
 - Milk supply may no longer meet nutrient requirements.
 - Intestinal tract better able to handle proteins.
 - Kidneys better able to tolerate increased protein loads.
- Recommendations to Introduce Solid Foods:
 - Use single-food, not combination meals.
 - Introduce one new food at a time, waiting at least 3 days to identify potential allergies/intolerances.
 - Avoid adding sugar, salt, and spices.

Safety Considerations

- Sudden Infant Death Syndrome (SIDS):
 - Place infants on their back to sleep.
 - Avoid soft bedding, pillows, and stuffed animals in the crib.
 - Ensure room-sharing without bed-sharing.
 - Keep sleep environment smoke-free.
- Shaken Baby Syndrome:
 - Educate caregivers on dangers of shaking an infant.
 - Encourage calming techniques when frustrated.
- Choking Hazards:
 - Avoid small objects and foods like grapes, nuts, and hard candies.
 - Ensure supervised feeding.

Parental Education

- Tummy Time: Strengthens neck and core muscles, prevents flat head syndrome. Gradually increase duration.
- Interactive Play: Use toys, mirrors, books; engage in talking, singing, peek-a-boo.
- Recognizing Delays: Teach parents to monitor milestones and act quickly if red flags are observed.

Nursing Interventions

- Growth Monitoring: Measure and plot weight, length, and head circumference regularly; provide guidance on healthy growth.
- Developmental Screening: Use screening tools to assess milestones; educate families on importance of monitoring.

Growth and Development Red Flags (Birth to 1 Year)

Red Flags (Neonates: 0-28 days)

- Gross Motor:
 - Does not move limbs or head spontaneously.

- No head control by 1 month.
- Fine Motor:
 - Does not grasp objects or respond to touch.
 - No grasp reflex by 1 month.
- Vocalization:
 - Weak or absent cry.
 - No vocalization by 1 month.
- Socialization:
 - Does not respond to caregiver's voice or touch.
- Sensory:
 - Does not visually track objects or respond to sounds.
 - No startle reflex by 1 month.

Red Flags (Infants: 1-12 months)

- Gross Motor:
 - Cannot lift head by 3 months.
 - Not rolling over by 6 months.
 - Cannot sit unassisted by 9 months.
 - Not walking by 18 months.
- Fine Motor:
 - Unable to grasp objects by 5 months.
 - No hand-to-hand transfer by 6 months.
 - No pincer grasp by 12 months.
- Vocalization:
 - No cooing by 3 months.
 - No babbling by 6 months.
 - No meaningful words by 15 months.
- Socialization:
 - No social smile by 3 months.
 - Limited interest in people by 6 months.
 - Does not respond to name by 9 months.
- Sensory:
 - No visual tracking by 3 months.
 - Does not explore objects by 9 months.
 - No interest in surroundings by 12 months.



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Toddler Growth and Developmental Milestones (1–3 Years)

Assessment of Growth Patterns (1-3 Years)

Weight

-2 years: Fourth time birth weight.

-3 years: Five times birth weight.

Height

-Second year: 12 cm increase.

-Third year: 9 cm increase.

Head Circumference

-2 years: 48 cm.

Chest Circumference

After the first year, chest circumference is greater than head circumference by 2.5 cm.

Fontanels

- Anterior fontanel normally closes by **12-18 months**.

Mid Upper Arm Circumference (MUAC)

- 1 to 5 years: 16-17 cm.

Gross Motor Development Milestones

-15 months: Walks alone, creeps upstairs.

-18 months: Runs.

-2 years: Walks up and down stairs.

-3 years: Rides tricycle.

Fine Motor Development Milestones

-15 months: Imitates scribbling, tower of 2 blocks.

-18 months: Scribbles, tower of 3 blocks.

-2 years: Tower of 6 blocks, vertical and circular stroke.

-3 years: Tower of 9 blocks, copies circle



Developmental Screening Tools:

Screening Tool	Age Range	Purpose	Advantages
Ages and Stages (ASQ-3)	1–60 months	Screens multiple domains using parent questionnaires.	Parent-friendly, quick, and easy to use.
M-CHAT	16–30 months	Identifies early signs of autism spectrum disorder.	Effective in detecting early signs of autism.
Bayley Scales	1–42 months	Assesses cognitive, motor, and language development.	Comprehensive and detailed.

Social and Adaptive Milestones

- 15 months: Jargon.
- 18 months: Copies parents in tasks.
- 2 years: Asks for food, drink, toilet.
- 3 years: Shares toys, knows full name and gender.

Language Development Milestones

- 18 months: 8-10 words vocabulary.
- 2 years: 2-3 word sentences, uses pronouns "I", "Me", "you".
- 3 years: Asks questions.

Nutritional Pattern: Toddlers (1-3 years)

- Encourage self-feeding with finger foods.
- Provide a balanced diet with variety, ensuring adequate iron, calcium, and vitamin D intake.
- Offer small, frequent meals.
- Include adequate green leafy vegetables, fruits, and dairy for calcium.
- Present food in a colorful and appealing way.
- Avoid: forcing to eat or bribing with sweets/treats, excessive television watching while eating, excess sugar and salt (limit processed foods).

Features of Toddler Period (1-3 years)

1. Growth becomes slower.
2. Intelligence develops faster.
3. Curious and very active.
4. Favorite word is "No!".
5. Separation anxiety (18-24 months).
6. Toilet trained around 3rd birthday

Safety Considerations: Toddlers (1-3 years)

1. Choking Hazards: Avoid small objects and hard foods.
2. Poisoning Risks: Keep medications and cleaning supplies locked away.
3. Falls & Injury Prevention: Supervise climbing and running.
4. Water Safety: Never leave toddlers unattended near water.

Parental Education: Toddlers (1-3 years)

1. Encouraging Speech Development: Talk, sing, and read daily.
2. Promoting Play & Socialization: Provide peer interaction opportunities.
3. Recognizing Delays: Teach parents to monitor milestones and seek early intervention.

Nursing Interventions: Toddlers (1-3 years)

1. Growth Monitoring: Track weight, height, and head circumference.
2. Developmental Screening: Use standardized tools.
3. Family Support: Provide guidance on toddler care and early intervention.

Growth and Development Red Flags (Toddlers: 1-3 Years)

Gross Motor

- Not walking by 18 months.
- No independent walking by 2 years.
- No ability to jump by 3 years.

Fine Motor

- No pincer grasp by 18 months.
- No purposeful hand use by 2 years.
- No ability to hold a crayon or spoon by 3 years.

Vocalization

- No words by 18 months.
- No meaningful speech by 2 years.
- No sentence formation by 3 years.

Socialization

- No social engagement or eye contact by 18 months.
- No interest in playing or interacting by 2 years.
- No pretend play or social interaction by 3 years.

Sensory

- No response to name by 18 months.
- No interest in surroundings by 2 years.
- No ability to recognize familiar objects or people by 3 years.



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Early Childhood Preschool Growth and Developmental Milestones (3–5 Years)

Assessment of Growth Patterns: Preschool Milestones (3-5 Years)

1. Weight - Six times birth weight by 5 years.
2. Height - 4th year: 7cm increase. - 5th year: 6cm increase. - Child doubles birth height by 4 to 4.5 years of age. - After 4.5 years, about 5cm increase annually until puberty.
3. Chest Circumference - By 5 years, it is about 5cm larger than head circumference.
4. Mid Upper Arm Circumference (MUAC) - At 1 to 5 years, it is 16 to 17cm.

Assessment of Developmental Patterns: Preschool Milestones (3-5 Years) Gross Motor

- 3 years: Run easily, climb stairs alternating feet, pedals a tricycle.

- 4 years: Hop on one foot, catches a ball, skips.

- 5 years: Jump rope, balance on one foot for 10 seconds, rides a bicycle with training wheels.

Fine Motor

- 3 years: Draw a circle, build towers of 6-8 blocks, uses utensils.

- 4 years: Draw a person with 3-4 body parts, cut with scissors, copy shapes.

- 5 years: Draw a person with 6+ body parts, write letters, tie shoelaces.

Vocalization

- 3 years: Speak in 3-4 word sentences, asks "why" questions, knows basic colors.

- 4 years: Speak in 5-6 word sentences, tell stories, understand opposites (e.g., big/small).

- 5 years: Speak in full sentences, use future tense, know name and address.

Socialization

- 3 years: Play alongside peers (parallel play), show affection, understand turn-taking.

- 4 years: Engage in cooperative play, follow simple rules, express empathy.

- 5 years: Play pretend games, understand sharing, show independence in daily activities.

Sensory

- 3 years: Recognize familiar sounds, enjoy sensory play (e.g., sand, water).

- 4 years: Identify objects by touch, enjoy music and movement activities.

- 5 years: Recognize patterns, enjoy puzzles and matching games.

Screening Tool	Age Range	Purpose	Advantages
Ages and Stages (ASQ-3)	1–60 months	Screens multiple domains using parent questionnaires.	Parent-friendly, quick, easy to use.
Bayley Scales	1–42 months	Assesses cognitive, motor, and language development.	Comprehensive and detailed.
PEDS	Birth–8 years	Detects parental concerns about developmental progress. Guides referrals for deeper assessment.	Detects concerns early.

Features of Preschool Period (3-5 years)

1. Growth becomes slower. 2. More mature intelligence. 3. Imitating adult's behavior. 4. Achieved some independence from parents with simple tasks. 5. Gross motor skills well defined: walk, run, jump, and climb efficiently. 6. Fine motor skills developing: enjoy coloring, drawing, manipulating smaller toys. 7. Favorite word is "why?".

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Nutritional Pattern: Preschoolers (3-5 years)

- Transition to Solid Foods: Encourage self-feeding with finger foods.
- Balanced Diet: Provide a variety of foods; ensure adequate iron, calcium, and vitamin D intake.
- Key Nutrients: Provide green leafy vegetables, fruits, and dairy for calcium.
- Presentation: Provide food in a colorful and appealing way.

Nutritional Pattern: Preschoolers (3-5 years)

- Transition to Solid Foods: Encourage self-feeding with finger foods.
- Balanced Diet: Provide a variety of foods; ensure adequate iron, calcium, and vitamin D intake.
- Key Nutrients: Provide green leafy vegetables, fruits, and dairy for calcium.
- Presentation: Provide food in a colorful and appealing way.
- Avoid Excess: Limit processed foods, excess sugar, and salt.
- Healthy Habits: Encourage self-feeding and proper table manners.

Safety Considerations: Preschoolers (3-5 years)

1. Falls & Injuries: Supervise climbing and jumping activities.
2. Poisoning Risks: Keep medications and chemicals out of reach.
3. Traffic Safety: Teach road safety and supervise outdoor play.
4. Water Safety: Ensure constant supervision near pools or water bodies.

Parental Education: Preschoolers (3-5 years)

1. Encouraging Independence: Teach self-care skills (dressing, feeding).
2. Promoting Play: Provide opportunities for imaginative and cooperative play.
3. Recognizing Delays: Educate parents on monitoring milestones and seeking early intervention.

Nursing Interventions: Preschoolers (3-5 years)

1. Growth Monitoring: Track weight, height, and BMI.
2. Developmental Screening: Use standardized tools to assess milestones.
3. Family Support: Provide guidance on preschool care and early intervention.

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Preschoolers (3-5 years) Growth and Development Red Flags

Domain	Red Flags
Gross Motor	<ul style="list-style-type: none"> - Cannot walk steadily or climb stairs by 3 years. - Cannot hop or catch a ball by 4 years. - Cannot balance or jump by 5 years.
Fine Motor	<ul style="list-style-type: none"> - Cannot draw simple shapes or use utensils by 3 years. - Cannot use scissors or copy shapes by 4 years. - Cannot write letters or tie shoelaces by 5 years.
Vocalization	<ul style="list-style-type: none"> - Speech is not understandable by strangers by 3 years. - Cannot form sentences or understand simple concepts by 4 years. - Cannot communicate effectively or answer questions by 5 years.
Socialization	<ul style="list-style-type: none"> - No interest in playing or interacting with peers by 3 years. - Cannot follow rules or engage in group activities by 4 years. - No pretend play or social interaction by 5 years.
Sensory	<ul style="list-style-type: none"> - No response to familiar sounds or sensory stimuli by 3 years. - Cannot identify objects or respond to sensory cues by 4 years. - No interest in puzzles or patterns by 5 years.

Middle Childhood School-Age Children Developmental Milestones (6–12 Years)

Assessment of Growth Patterns: School Age Children (6-12 Years)

1. Weight

- 7 years: Achieves seven times birth weight.
- 10 years: Achieves ten times birth weight.

2. Height

- Increases approximately 5 cm annually until puberty onset.

3. Mid Upper Arm Circumference (MUAC)

- 12 years: Measures 17 to 18 cm.

4. Eruption of Permanent Teeth

- Molar: 6 to 7 years
- Central and lateral incisors: 6 to 8 years
- Canines and premolars: 9 to 12 years
- Second molars: 12 years
- Third molars: 18 years or later

Assessment of Developmental Patterns: School Age Children (6-12 Years)

Gross Motor Skills

- ~~6–8 years:~~ Runs, jumps rope, rides a bike, plays organized sports.
- 9–12 years: Refines motor skills, excels in sports, dances, or other physical activities.

Fine Motor Skills

- ~~6–8 years:~~ Writes legibly, draws detailed pictures, ties shoelaces.
- 9–12 years: Uses tools effectively (e.g., scissors, rulers), creates complex crafts or models.

Vocalization

- ~~6–8 years:~~ Speaks in full sentences, understands jokes, follows multi-step instructions.
- 9–12 years: Communicates effectively, uses advanced vocabulary, engages in meaningful conversations.

Socialization

- ~~6–8 years:~~ Forms friendships, understands rules, participates in group activities.
- 9–12 years: Develops empathy, resolves conflicts, shows independence in social settings.

Sensory

- ~~6–8 years:~~ Recognizes patterns, enjoys puzzles and sensory activities.
- 9–12 years: Refines sensory skills, enjoys music, art, and complex games.

Features of School Age (6 to 12 Years)

1. Growth becomes relatively steady.

2. More mature intelligence developed.

3. Increasing desire for knowledge.

4. Decreasing incidence of diseases. 5. Fine motor skills continue to develop. 6. Eager to please parents and other adults. 7. Friends becoming more important. 8. Compares self to others. 9. Learning rules, 'winners' and 'losers'. **School Age Children Nutritional Pattern (6-12 years)**

- Importance: School meals and packed lunches are critical daily nutritional intake components.
- Balance: Balance food with physical activity.
- Dietary Recommendations: Provide grains, fruits, vegetables, low-fat dairy products.
- Moderation: Moderate sugars and salt.
- Healthy Habits: Encourage regular meals and limit sugary snacks.
- Hydration: Promote adequate water intake, especially during physical activities.
- Involvement: Involve the child in making food choices.

Safety Considerations School Age Children (6-12 years)

1. Traffic safety: Teach road safety and supervise outdoor play.
2. Internet safety: Educate on safe online behavior and monitor screen time.
3. Sports safety: Ensure proper equipment and supervision during physical activities.

Parental Education School Age Children (6-12 years)

1. Encouraging independence: Teach self-care skills (dressing, grooming, managing schoolwork).
2. Promoting social skills: Provide opportunities for teamwork and group activities.
3. Recognizing delays: Educate parents on monitoring milestones and seeking early intervention.

Nursing Interventions School Age Children (6-12 years)

1. Growth monitoring: Track weight, height, and BMI.
2. Developmental screening: Use standardized tools to assess milestones.
3. Family support: Provide guidance on school-age care and early intervention.

School Age Children (6-12 years) Growth and Development Red Flags Gross Motor

- By 8 years: Difficulty with coordination or balance.
- By 12 years: Avoids physical activities or struggles with basic motor tasks.

Fine Motor

- By 8 years: Difficulty with handwriting or using tools.
- By 12 years: Persistent difficulty with fine motor tasks.

Vocalization

- By 8 years: Difficulty understanding or expressing ideas.
- By 12 years: Limited vocabulary or inability to engage in age-appropriate discussions.

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Socialization • By 8 years: Difficulty making friends or following rules. • By 12 years: Persistent social withdrawal or inability to resolve conflicts. **Sensory** • By 8 years: Difficulty recognizing patterns or responding to sensory stimuli. • By 12 years: Avoids sensory activities or struggles with sensory integration. **Assessment of Growth Methods 1. Body Mass Index (BMI)** • Purpose: Assesses normal growth or deviations (malnutrition or obesity). • Formula: $BMI = \text{Weight in Kg} / (\text{Height in meter})^2$ • Stability: BMI remains constant (relaxed) up to the age of 5 years. • Indicators: - Obesity: $BMI > 30$ kg/m^2 - Malnutrition: $BMI < 15$ kg/m^2 • BMI Categories: - Underweight = <18.5 - Normal weight = $18.5-24.9$ - Overweight = $25-29.9$ - Obesity = BMI of 30 or greater **2. Osseous Growth** • Process: Bony growth follows a definite pattern and time schedule from birth to maturation. • Calculation: Calculated by the appearance of ossification centers via X-ray study. • Significance: Skeletal maturation/bone growth is an indicator of physiological development and continues up to 25 years of age. **Methods of Nutrition Assessment (ABCD)** 1. Anthropometric: Measurement of body parameters: height, weight, skin fold thickness, circumference (arm, head, chest), and proportions. 2. Biochemical/Laboratory: Analysis of plasma, blood cells, urine, tissue (liver, bone, hair). 3. Clinical Examination: Utilizes physical signs associated with malnutrition and vitamin/micronutrient deficiencies. 4. Dietary Evaluation: Methods like 24-hour dietary recall.



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