PSYC 438

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Second class:

No consent on autism at this point, always theories opposite. Textbook being from occupational therapist perspective, are self-critical. Lot is going to be added in slides and lectures.

Two core domains in DSM-V:

1. Languages/ social communication and interaction deficits (better says atypical): speech, written words, body language
   - Before, people thought ASD didn't want to communicate, but actually doesn't how to.
2. Repetitive behaviors and districted interest (also includes the sensory, included into RRBs)

Need both to be diagnosed as ASD, not Chinese menu anymore.
Problem: repetitive behaviors are "invisible" = repetitive thoughts. E.g. OCD thoughts. Especially high-functioning ASD, learnt not to share repetitive thoughts.

Good diagnosis goes age 0-5, to know when ASD learnt repetitive behaviors, especially diagnosed later in life.

Less restricted on age of diagnosis and type of autism, because can appear way after 3 years old, later teenage in high-functioning for example.
If it doesn't interfere with life, no diagnosis or abnormality (studies about who marry ASD + combination).

Prevalence: # case existing at given point in time in population.
Incidence: rate of new case being identified in a population.

Demographic and descriptive studies provide those information.

While analytic studies look at the cause and association, occurrence/ exposure. Different kind: ecologic (population, subpopulation associations- correlation) , cohort (designed group over time + natural exposure to risk factors), case control (match individual with factors & presence of hypothesized risk factors)

Kannerian: severe autism
Change in recent years:

1. Case ascertainment: how to get data about autism? And where is it from? Change in assessment changed how it's done nowadays.
2. Case confirmation:

Nypical: neurotypical, aspies often themselves as nypical.
Dx: diagnosis.
30-40% of ASD had epileptic disorders derivate (misfiring in the brain).

In daycare/ school, ethical to point out symptoms, but not diagnosis to the parents. Still today, reluctant to be aware and acknowledge autism, because seen like a "death sentence" about quality of like, ADHD is more acceptable or tentative diagnosis.

Social contagion: one in zip code would be ASD, then be propagated throughout social region; more diagnosis, more awareness.

In siblings, one of them as diagnosis, the other starts to imitate siblings, or they want attention (forgotten child).

Admin decision: how to label, decision made by school, government, city council.
From lack of service, might get misdiagnosed, to get people services, restricted to some labels.
Cultural: punishable to look at authorities figures in some culture; how cultural norms affect the stigmatisation, etc.

Prevalence should get stable, when diagnosis and criteria stays the same for a same period of time, which is not the case yet.

- Multi-variate regression: Change in diagnosis, incidence 61%: change of Dx, year of birth, location; meaning it's not a real increase, but change the awareness of it.

<u>Vaccines:</u> Wakefield:

- Many children on spectrum get gastrointestinal problems, which would be caused by vaccines and affecting genes of autism.
- But, when they stop vaccinating, no stop increasing in autism, so no real association.
- Age of on-set and vaccines match up.

<u>Risk factors for Autism:</u>

- Individual traits: month born in correlated with incidence with autism, flu, affect first trimester neurodevelopmental aspect affected, but some studies find no association with birth and conception month. Also, associated with daylight schedule and weather.
- Black children, mother if the father > 35 or if way older than the mother; what kind of women would marry older men?, higher social class (more screening, awareness, services), foreign citizenship / immigrant (stress, problem finding spouse in country because different)

- Life event: moving, immigration = stress during pregnancy, loss of a spouse, divorce. Change of the mother genes after delivery if there is stress, Lamarck theory of adaptation genes pool.

Stress: raises in cortisol environment, possible the brain developed differently.
Hypoxia: not enough oxygen during delivery.
Breech: stress on baby, not coming out the right way.

Outside of Western Culture, pregnant medications (e.g. antidepressant; but being depressed is its own risk factors), and prenatal-perinatal risk factors.

In conclusion:
Interaction between pre-perinatal environment influence, prenatal brain development, specificity of development outcome.

Medications for sleep disturbance can be touchy in ASD because can have paradoxes, horrible effect on kids on the spectrum.

Leaky gut: membrane of intestine is more permeable. Waste product gets into the blood system and into the brain.

- Would ASD be a micro unbalance problem? If gastrointestinal problems, long-term, learnt to withdraw social interactions.
- Elimination or special diets: risk factors for developing autism. (Gluten free casein - protein in milk product, while lactose is a sugar - free: GFCF) which as shown no difference in special diet.

Sensory issues: Hypo and hypersensitivity, interest - repetitive behaviors, enhanced perception (over receptors sensibility, so it'd perception-related)
Theories that could be explained by:

1. Difficulty filtering multimodal information e.g. being in a café, feeling like a storm, similar to whenever a typical person not feeling well, or highly well. Maybe ASD have lower stress threshold, but no good evidence so far.

Treatment for sensory issues:

- Deep-pressure/ weighed vests (Temple Grandin researches); touch/ massage (not supported), arousal/ attention (ball therapy), sensory diet (Wilbargar protocol; not supported)

2018-02-02

Today - Chapter 2: Screening and assessment.
Chapter 3 and 4 next week.

Video about overload of sensory stimulation in daily life. Many ASD feels not like wearing clothes when they are younger, irritating.

Screening: Early screening helps identify at risks symptoms, for ASD or maybe another condition. Training for ASD intervention can cost minimum of 5000$ and need to be renewed every couple years, because of the new discoveries about this disorder.

CHAT: don't have to know the items, but who assess it and what does it screen? What kind of questions are asked? + info on slides, fairly quick check-up.

1h training that can be done online now:

- Enjoying social games? Pretend play, pointing - If not engaged, worrisome (9 questions)
- Structure: following point, pretending, producing point.

Leading to risk assignment for being part of autism group + recommendations for support and help.

Initial focus for screening is: language/ communication/ eye contacts, Restricted repetitive behaviors (RRBs) which may come up later ("red flags" being part of most instruments used to diagnosis children with ASD)

M-CHAT; modified chat for mother/ parents feedbacks, mother-CHAT.

Get to know there is some for underage or teen, but will be specify which ones are important.

Late acquisition of language used to be a sign, but now extend to 24 months old. Also, take consideration if they show other red flags other than language retardation.

In every case, there can be improvement in every sphere of difficulty.

CARS: structured interview, observation, that over identified ASD, before DSM IV.
Every 2-3 years change in instrumentation, tools.

- Relation to people;
- Imitation (most kids would imitate);
- Emotional response (is it typical for the situation, appropriated?);
- Body use (tippy toe or walking on heels, might walk in a weird way, even if not autism)

ADOS being the base training for every psychologist, then learn the other one being "up-to-date".

In Quebec, psychologists cannot give diagnosis about ASD, but go through a medical doctor to get someone "labelled" = less assessment than before.

CARS-2 (screening, not diagnosis tool): came with module with high-functioning, where standard CAR-1 was more for low-functioning, and questionnaire for parents and caregivers, plus the standard CAR. Rather as too much, not enough.

Etiology: trying to find more background information for research, also to tell parents not their faults.

Gold standards for diagnosis:
(first half)
Autism Diagnosis Interview- Revised (ADI-R)
Usually diagnose before 3. Critical period would be 4-5 years old. Anxious individuals leads to false positive, because they score high 1/3 of the time.
Usually 4 hours, especially if bilingual or older, so much background history.

Current (before 4-5), 4-5 years old diagnosed, or ever (later on, after 4-5 years old).

(Second half of gold standards) ADOS
Different module will have different elements, dependent on age, and severity of autism.
Younger kids: joint attention - look at you, the object, back at you.

Semi-structure assessment play, restricted an repetitive behaviors (weaknesses, because don't always see it, that's why use also ADI-R to compensate)

New version: ADOS-2; comparing child with other autistic children, in relation.

Video clip: ADOS in Adolescence. Given description rather than an actual storyline. Lot of interacting questions in adult and teen instead of playing.

2018-02-09

Sample A-type of paper going to be posted on Moodle: looking for research-based (but not a lot = 5-6 articles about outcomes, demographic info and factors that makes difference in successful transition, have to be nuance with positive, negative (pros and cons) and what we can do in the future; is this approach for everyone). Important to be critical and thoughtful about papers included, need to be explicit about own thought, not just research findings. Language should be formal, but not too much because not a research paper.

USA: program - more comprehensive, difference in law: collaboration between the agents, compared to Canada: plan.
- USA: progress assessment every 9 weeks, not like this in here.

Policy of less restricted environment: In Qc, not being integrated, because restricted to special needs classes, being behind in subjects they are managing with. Need to adapt to the child, not the school system, which is not the case here.

Shaping: small elements- steps leading to direction of the goals.
Discrete trials: break down things, teach-test, teach-retest, etc.

Key elements of TEACCH method: usually put in therapy, designing entire academic for child on spectrum, ideally for each child. Scheduling, physically structure (open-desk, closed ones), word system (e.g. bin system "in-out", routine, visual structure.
- Still not proven, but no studies replicate full TEACCH program.

Evidence-cased: 4 levels,
1. Established, such as (probably) ABA (but first implemented by Lovaas, using classical Skinner method - reinforcement and punishment, which would not occur today) .
2. Emerging
3. Unestablished
4. Ineffective/ harmful :
    - Facilitate communication: not guiding, but facilitating, which can create dependency and wasting time that could be more effective.
    - Hyperbaric oxygen therapy: push oxygen into body - no evidence, valid for certain things, but none in ASD.
    - Weighted vests:

RCT: randomized control trials: testing control and experimental, but might be tricky to build a class that look like TEACCH but isn't.

Fidelity: is it done right? E.g. massage things when acting up in a class= seen as reinforcement, so increase in unwanted behaviors, importance of timing and schedule for reinforcement.

~~Collectic~~ Eclectic approach: taking a bit from many therapies = might lead to incompatible results and inconsistency across environments (therapy different at school from home).

Broader impact on core deficit: e.g. focusing on recognizing picture of family, 5 trials and get 80% right, but kid got tired because have done same things over and over for weeks, ended up peeing on family picture at home = fed up.
Focussed intervention: prompt - giving a cue to the kids so they can thing about it.
R+ = positive reinforcement.

3 rules working with children:
1. Found out what motivate them x 3.

    Discrete trial: small manageable behavior that can be train and practice.
    Social stories e.g. Arthur la tortue - social problem and how to solve it.
    ADOS: cartoons, panels and recalled those to be able to tell the story back to the educators.

ABA:
1. Measurable observable phenomenon: Skinner - "founder" of ABA - antecedents (what happen first before the behavior) = ABC, antecedents, behavior, consequences.
2. Behavioral treatment based on learning theory (Skinnerian)

Often, single approach is better than multiple ones.
***Paper: can work on therapy based on exercise :)))))))

Who and what treated?
"Lovaas" method (based on DSM-II criteria for autism): DTT or ABA or UCLA approach
Using learning theory to change autistic behaviors by using discrete trial training, with much broader goal = changing enough characteristic to be able to generalize (e.g. not punch Judy, generalized it to

Joe too).

Ferster (other researcher) reinforcement in social are deficient in ASD, less likely to be social.

Lovaas Revision #2 (reductionist approach), since first had no overall reduction of autism: with 4 easy steps. Reward every step of compliance - compliance training (e.g. not rxn to name when being called). But, using methods that would not be ethical or base on scientific method today.

Follow-up studies on ABA (1993 and after): core issue, picked out best kids showing most improvement, which is not generalizable.
1 out of 64 getting better because being in contact with the real-world.

Natural language paradigm (NLP) and PRT- Koegel and Lovaas.

For next week: read 4-5 chapter, which is what will last be covered in the midterm

What would be bad example to teach color? Get flavor of NLP & PRT table!

ASD can be seen as opposition and non-compliance because of the constant drilling from the ABA therapy.

AVB: analysis of verbal behavior - because Lovaas was not oriented enough on this area.

2018-02-16

Chapter 5 not cover for midterm :))))
1 through 4 for in 2 weeks midterm, 3 papers uploaded on Moodle.
In paper: original ideas and own thought, not just copy/ paste.
Good arguments and what works and what doesn't work.

Midterm: short answer, what is common in ABA? Some difficulties. Epidemics: vaccines?
Questions at the end of chapter gives good direction about kind of questions.

Let's talk about autism - video: Matt Brodhead
Applied behavior analysis most effective to help ASD. Basic principles of learning and behavioral modifications.
Different approach: most harmful - facilitate communication. Not given opportunity to independently communicate, create dependency. Child is never without a facilitator, which makes learning NOT happening.
Implemented in the U.S within months when it was researched, which made it not verified and supported.
Augmenting communication: microphone, iPad, etc.
How can facilitator guide child to type wrong things (key seen by facilitator, child see car, child says that he saw key): cues given by facilitator (unconsciously). So, hand of child is not supported, but guided and directed by facilitator.
Deny opportunity that could actually help them.
Facilitator can take advantage of autism child as victim for, example, rape and sexual misconduct.
**Different from hand-over-hand in the first stages of a specific training.

Lecture 4

ABA: crucial stuff
Skinner ABC: Antecedent, Behavior, Consequence.
E.g. Getting reward, stopped, so attack because no reward anymore = end of shopping by getting in the car. So, avoid car by attacking driver.
All treatment are based on learning theories.

E.g. teacher teaching at right side of the class, left of the class. Students were asked on one side to smile. Professor was more likely to speak more to the smiling side.
Positive reinforcement by the students.
But, now considered as manipulation, so not used in education anymore; consequence-based teaching now, coming back with sticker system, token economy.

In CSDM, use token economy, ASD are given 100 stars and lose when they misbehave = not positive reinforcement.

Tx is often intensive, but doesn't have to be all day long (and other criteria ***)

Positive reinforce: someone else decides what is positive reinforcement,
Children's preference: - paired-stimulus for preference, compares two stimulus and which one is chosen after amount of given time - multiple stimuli without replacement: bunch of objects, watch what they pick up first, then second, etc. (might be better to watch them in natural environment; used to be removed because restricted interest, but can be used for positive reinforcement)

Pre-linking to behaviors: "if you do this, you'll get that", clear what need to do.
Post-linking: not always relevant to tell children why reward them, praising the why it was rewarded.

Negative reinforcement: take away to reinforce a behavior.
Automatic reinforcement: external person doesn't do, automatic behavior e.g. mosquitos bite, scratch it, reinforces itching.

Stimulus control:
- Discriminative stimulus: something that we want to trigger,
- Stimulus over-selectivity: what child attending to? Buttons on shirt, ears, hat over actual speaker? Preventing from behavior if they don't see person's ears - they were saying hi to

someone ear's and not person herself.
- Stimulus generalization: similar objects when over-selected learning e.g. spoons. Importance during training to stop prompt so the child can become independent, fading (i.e. removing of extra supporting cues) of the facilitator role.

Motivating operations: increase/ decrease the value of the reinforcer (i.e. establishing or abolishing operations)
Good shadow (aid, facilitator) will direct and not repeat what teacher says whenever he gives instructions, otherwise the child will not start paying attention to teacher, doesn't have to if someone is giving him instruction no matter what.

- Mand: request reinforced by getting desired object (often food, but need to be careful, because needs to reinforce every demand at the beginning of training). Once kids learn that asking for things, they can get desire, it has power.
- Tact: labels, such as "computer", not necessary request to get a computer.
- Echoic: imitation, want not knowing what object it, just echo - try to be avoided, too many children fall into echolalia.
- Intraverbal: part of an interaction, such a response, being part of a conversation.
- Autoclitic: verbal behavior that modify function of other behavior, set a context (not going to be asked on the exam)
- Textual responding : pictures of words car, reading, script

Functional relation: knows what are the relation without the variable.
Context specificity: is it okay to display this behavior in this situation? E.g. texting at home, good, but not so in class.

Punishment (best to have informed consent): anything that decrease frequency of a behavior, not necessary aversive. Ideally, always try positive reinforcement first.

Teaching procedure (not tested, just general knowledge): forward chaining and backward chaining (do all the first step, then last step child have to do it, then backward chain it until all chaun completed by the child independently).

Not doing floortime***

ABA autism training video: Prompting - stimuli presented to assure presence of the response. E.g. correct spot to assemble Mr. Potatoes.
Physical (hand-over-hand), modelling, gesture, visual, positional and verbal prompts.
When beginning new task; must start with bottom of hierarchy.
Kid need to do it 80% of time correctly to be able to fade hierarchy of prompting (according to ABA).

Reinforcement video: