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Roma

AIST onlus
ASSOCIAZIONE ITALIANA SINDROME DI TOURETTE

# Lineee Guida comportamentali a scuola: il lavoro di AIST

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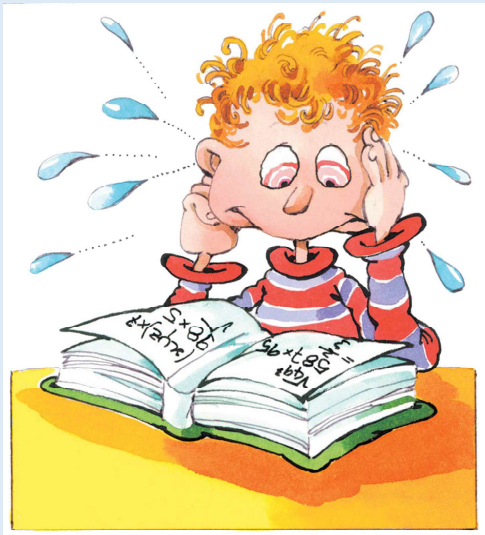
# I tic sono spesso a carico dei “movimenti automatici:

- Camminare
- Scrivere
- Parlare
- Leggere

Difficoltà scolastiche !!



# L’insegnante può riscontrare diversi aspetti della Tourette:

1 tic motori e sonori

2 ADHD

3 disturbo ossessivo-compulsivo (OCTD)

4 disturbo oppositivo-provocatorio

5 sintomatologia ansiosa/depressiva

# Se l’insegnante non conosce la sindrome di Tourette?

- Ambiente scolastico ostile
- Diminuzione dell’autostima
- Riduzione dei contatti sociali (isolamento)
- Abbandono scolastico

# Il lavoro di AIST

Invio di psicologi per:

- formare ed informare gli insegnanti di ragazzi tourettiani in tutta Italia
- comunicare alla classe e sensibilizzare i compagni circa le difficoltà del ragazzo tourettiano
- Individuare le strategie più idonee per facilitare le prestazioni scolastiche dell'alunno e migliorare l'ambiente scolastico

# TIC PURI

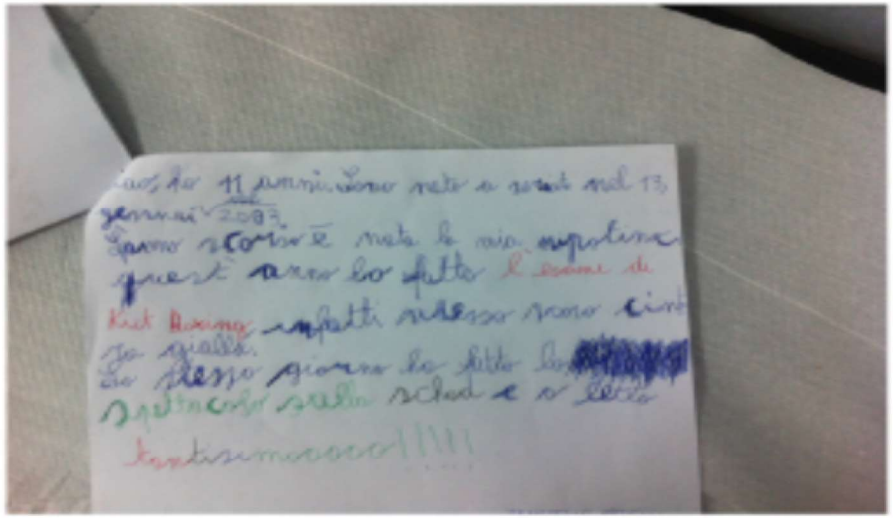


FIGURE 1 | A picture of handwriting tics of a Tourette's syndrome subject (Marco) before treatments.

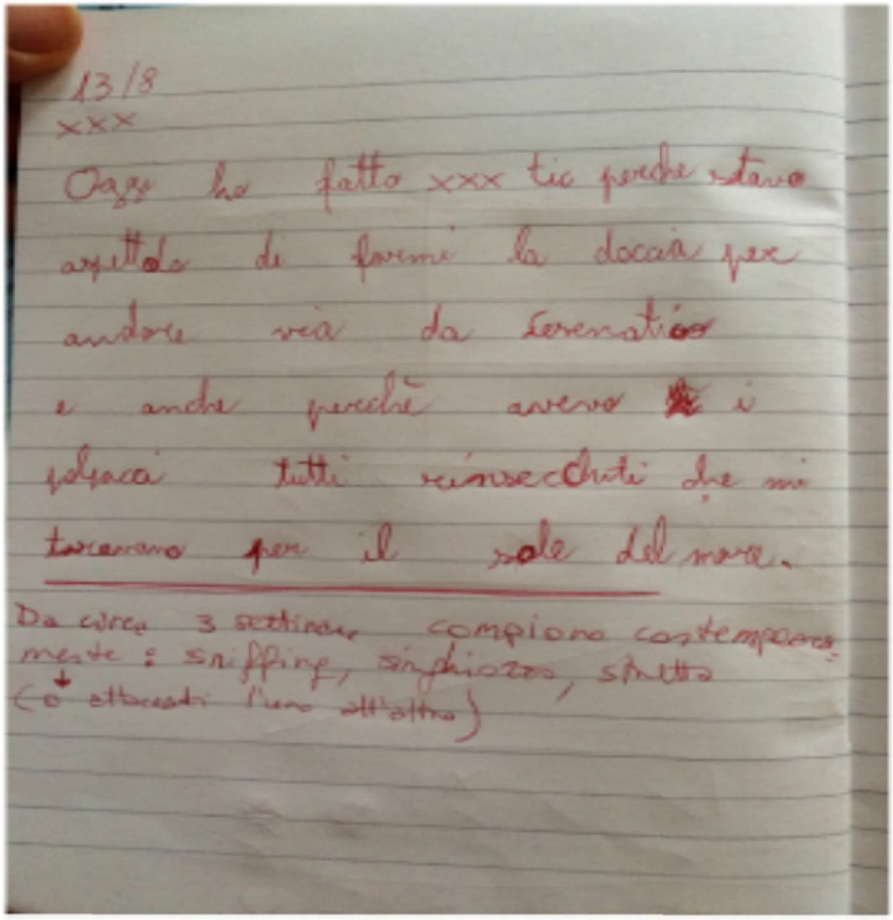



FIGURE 2 | A picture of handwriting tics of a Tourette's syndrome subject (Marco) during treatments.

Ignorare i tic
Permettere di uscire dalla classe
Banco vicino alla porta o nell'ultima fila
I farmaci danno sonnolenza e aumento appetito

N.B. se tic della scrittura-> tablet, pc, lavagne magnetiche; favorire prove orali a scritte e tempo aggiuntivo nelle prove scritte
N.B. se SIB/eteroaggressività: avvisare i caregiver

# TIC PURI (2)

ESSTS
European Society for the Study of Tourette Syndrome

Warsaw 2016
9° Meeting of European Society for the Study of Tourette Syndrome
COST International Conference for Tourette Syndrome

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## COPROGRAPHIA IN TS

**Introduction**

- Tourette syndrome (TS) is a childhood-onset disorder characterized by multiple tics, commonly associated with behavioural aspects[1].
- Tics can affect automatic movements, including writing, walking, reading and speaking.

Regarding writing, TS patients can present "coprophenomena"[2] –i.e. a type of transgressive tics- including uncontrollably saying (coprolalia), thinking (mental coprolalia) and writing (coprographia) obscenities and profanities, or performing obscene gestures (copropraxia). Coprolalia has been also reported in individuals who communicate with sign language, and this phenomenon has been called "coprolaliopraxia". Coprographia may vary considering typology, frequency, intensity, complexity, interference and Social Impairment as other tics do[3].

- Coprographia is the object of our interest since it is often neglected both in Literature and in clinical practice.

**Rational**

- Prevalence:

It is hard to find prevalence data for coprographia in TS, while some information is available for other coprophenomena: the prevalence rates among TS patients vary from 8.5% to 50% for coprolalia, from 5.7% to 25% for copropraxia and from 5% to 20% for mental coprolalia[4,5].

- Pathogenesis:

Coprographia sums two manifestations of TS: 1) one regarding the obscene content (*copro*), which pathogenic mechanism has been widely investigated especially regarding coprolalia 2) the other regarding handwriting tics (*grapho*), which are often present in TS patients[6,7].
The origin of coprolalia remains unclear, although a different mechanism has been proposed: alterations in left middle frontal gyrus and right precentral gyrus, caudate nucleus, cingulate gyrus, cuneus, occipital gyri, left angular gyrus, and left inferiorparietal gyrus[8], disfunction of limbic minicircuits[9]. Furthermore, it is not clear whereas words might be chosen in virtue of their sound[2] or their meaning[10]: patients (especially children) might use words they don't even understand and, on the other hand, there are some reports of patients that might use words that others are not capable to understand. Regarding coprographia, there is no current hypothesis.

**Objectives**

- We aim to raise a discussion on coprographia.
- Coprographia can interfere with learning, professional and social functioning -as already suggested for other handwriting manifestation of TS. Moreover, as for other coprophenomena[11], patients show a profound distress related to the symptom.
- Nevertheless, coprographia:

- is neglected in Literature: there is no information about the prevalence, there are no reports, no classifications and no insight on the pathophysiology.
- is not cited in the most common TS rating scale[1,12]and there is no specific test to assess coprographia severity and the consequent Social Impairment, especially school and work-related Social Impairment. Therefore, benefits due to treatments can't be evaluated in TS patients.

- Considering these observations, we suggest that further studies are needed on this issue in order to clarify the open questions we have raised.

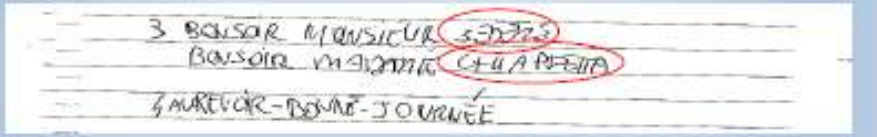


Fig. 1 Giovanni's –a 8 years old TS patient from Milan Tourette Syndrome Centre- coprographia exemplar.

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# TIC e ADHD

- Durante le prove scritte: consegnare un esercizio alla volta e ritirarlo quando è stato svolto, poi consegnare il successivo
- Prove più brevi, ovvero con minor numero di esercizi in tempi uguali
- Svolgere un unico esercizio su una pagina bianca
- Banco in prima fila
- Possibilità di maneggiare un antistress
- Coinvolgere lo studente nelle pratiche della classe es. distribuire fogli ai compagni

# TIC e disturbo OSSESSIVO-COMPULSIVO (OCTD)

- Perfezionismo-> spostare il focus dalla prestazione scolastica all'inserimento sociale dello studente
- Lo studente prova a coinvolgervi nei propri rituali es. mail di conferma compiti a casa all'insegnante ogni giorno-> non aderire, motivandosi
- Controlli compiti svolti, controlli cartella a casa-> riduzione compiti a casa
- Disadattamento davanti alle novità-> se indispensabile, interrogazioni programmate e no verifiche a sorpresa
- Spesso OCB legato a scuola fino ad evitamenti quali abbandono scolastico

# TIC e disturbo OPPOSITIVO-PROVOCATORIO

- Evitare i «no» e i «non»
- Dare sempre 2 opzioni
- Rispondere con una domanda: «tu cosa ne pensi?»
- Ignorare le manifestazioni, si estinguono senza rinforzi positivi e negativi

# TIC e sintomi ansioso/depressivi

- Vomito
- Mal di pancia
- Attacchi di Panico
- Assenze scolastiche
- Isolamento sociale

favorire la frequenza in classe

# N.B.

- Le indicazioni vanno costruite ad hoc fra paziente, caregiver, scuola e curanti
- Solo indicazioni strettamente necessarie e per sole specifiche discipline

Infatti lo studente va stimolato, distinguendo l'indolenza dalla patologia.

Warsaw 2016

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## CREATIVITY IN TOURETTE SYNDROME VERSUS CREATIVITY IN PARKINSON DISEASE

**Objective**

A study is has just been concluded at Milan Tourette Centre and Pavia Parkinson Disease Centre to better understand the link between creativity, Tourette syndrome and Parkinson Disease, two basal ganglia/dopaminergic system diseases.

Hypotheses are: 1) creativity is higher in Tourette syndrome (1,2) than in general population and 2) creativity is lower in Parkinson Disease than in general population.

**Background**

Creativity is defined as the ability to connect and find new relations between unconnected fields (3), generating new ideas and original problem solutions.

Creativity depends on high level of dopamine (4). High levels of dopamine in mesolimbic area improve working memory, and therefore increasing original and creative thought. And, as in Tourette syndrome dopamine is elevated and in Parkinson Disease it is scanty (5,6), the study should have find out Tourette syndrome patients to be more creative than general population and much more than Parkinson Disease patients.

**Method**

Creativity is tested through a psychometric test named ASK (Schuler and Benedikt, 2005) regarding Creative Thinking i.e. the ability of connecting elements in a new and useful way that is Problem Solving.

Data have been collected at Milan Tourette Centre and at Pavia Parkinson Disease Centre.

Sample is composed by 27 Parkinson Disease patients and 27 Tourette syndrome patients. Tourette Syndrome and Parkinson Disease have two different age span, typically Tourette Syndrome is a childhood disease and Parkinson Disease is an elderly people one. For this reason, age range of the sample has been fixed in the between: 35 to 57 years old. Education inclusion criterion is high school degree.

**Results**

Preliminary results are confirming the two initial hypotheses with a 103.1 of mean age ASK result in Tourette syndrome, a 100 of mean age ASK result in general population, a 94.4 of mean age ASK result in Parkinson Disease. Subresults are the following (in red significant differences between the two groups):

| diagnosis | 1 st subtest | 2 nd subtest | 3 rd subtest | 4 th subtest | TOTAL |
|---|---|---|---|---|---|
| Parkinson Disease | 93.6 | 95.5 | 97.9 | 97 | 94.4 |
| Tourette Syndrome | 99.7 | 102.1 | 103.9 | 101.4 | 103.1 |

**Conclusions**

To conclude, creativity is a relevant factor of dopamine-related pathologies, including Parkinson Disease and Tourette syndrome. Moreover, creativity could be altered by pharmacotherapy in Tourette syndrome i.e. reducing it, and in Parkinson Disease i.e. increasing frequency and enhancing quality of creative products.

Finally, creativity should be used therapeutically (see i.e. artherapy) in Tourette syndrome patients to take advantage of their own creative predisposition, and in Parkinson Disease to develop creative skills.

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