

Little red riding hood in the social forest. Online grooming as a public health issue: a narrative review

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Abstract

Introduction. Online grooming is a manipulative process through which an adult attempts to arrange a sexual interaction with a minor using internet. Children are constantly exposed to the online world, posing online grooming as a public health issue.

Objectives. The aim of this narrative review is to describe the state of online grooming preventive strategies in recent literature through an overview of online grooming phenomenon.

Methods. Our literature review included research articles and reviews published between January 2014 and March 2019, as well as reference lists of included studies.

Results. The analysis provides a picture of online grooming phenomenon, identify recurrent features of perpetrators and victims.

Several preventive strategies have been implemented, but they lack any kind of efficacy evaluation and miss a theory driven approach. Fragmentation of preventive initiatives is a critical issue, in contrast with the need of an institutional public health strategy.

Conclusions. While the attention around online grooming is growing, there is still the need of further sensitizing the involved stakeholders and developing evidence based preventive strategies under an institutional guidance.

Introduction

Child Sexual Abuse (CSA) is an ever-evolving issue that finds its expressions in a variety of actions against children. Italian legislation defines CSA in the art.609 quarter as sexual acts between an adult and a minor below 14 years old or 16 in special situations (1, 2) . It is estimated that in Europe 18 million minors have been victims of CSA and - while in Italy

the number of reported CSA crimes has decreased over the last years, there has been an increase in internet related child sexual crimes such as possession and distribution of pedo-pornographic material (3). According to the IOCTA (Internet Organised Crime Threat Assessment) released in 2018 by the Europol, Child Sexual Exploitation Material (CSEM) is continuously growing online in 60% of Member states of the European Union. Often this material is shared over

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peer to peer websites that have the advantage of protecting both identities and material nature using encrypting techniques (4). The Darknet, a portion of the Internet purposefully not open to the public and accessible only using specific software, has become the preferred platform to exchange CSEM (5).

The definition of what constitute a sexual abuse is matter of debate and can be influenced by religion, cultural and intergenerational differences. Physical contact is not necessary for CSA to occur and any act mining a child sexual freedom is considered a violence under the Italian Law (2).

Regarding internet related CSA, online grooming (OG) plays a relevant part in the abuse, being defined as a complex process in which an adult seeks to arrange a sexual abusive situation with a minor through the use of cyber-technology (6). It is difficult to calculate the real impact of this phenomenon on our society, as it can take many forms and disclosure is often problematic (7). Grooming can also occur in real life, but becomes extremely problematic when perpetrated online, as criminals take advantage of the anonymity provided by the net. Furthermore, children are more vulnerable online as they often lack control of their parents and may be more willing to share information or picture about themselves than in real life (8).

A meta-analysis of 2017 found that the prevalence of sexual solicitation and unwanted online sexual exposure in adolescents is respectively 11,5% and 20,3% (9).

OG works on planned strategies that the perpetrator carries out automatically with countless victims and is facilitated by the amount of personal data that children post online. Offenders thus can profile potential victims and select children more likely to fall in their net. Adolescents are especially vulnerable to sexual grooming as their

sexual identity is not fully developed yet and therefor are easier to fall into the groomers net even just for curiosity (10).

The aim of this narrative review is to provide a descriptive analysis of OG social impact and investigate into the preventive strategies that have been implemented in developed countries, with a mention of the Italian scenario. We focused on the different players involved in prevention of grooming, namely: family, school/education, institutions, and SNS provider. We analyzed the efficacy of different prevention models and the impact that they had on increasing social awareness and on improving minors online and offline safety.

Furthermore, recurrent features of perpetrators and victims have been identified. Breaking new ground for future preventive campaigns.

Methods

Our literature review included research articles and reviews published between January 2014 and March 2019. We searched the following databases: PubMed, Science Direct, Scopus and Google Scholar, as well as reference lists of included studies.

Research queries comprised:

1 - (“online grooming” OR grooming OR “sexual solicitation”) AND (prevention OR “preventive strategies” OR “sexual orientation”) AND (children OR child OR minor);

2- (perpetrators OR “sex offenders”) AND (“prevention” OR “preventive strategies”) AND (child OR children OR minor) AND (grooming).

Data collection was implemented by reports from Institutional bodies and child protection associations.

Studies were eligible for the review if they addressed sexual abuse and problematic internet use in children, were written in English and referred to developed countries

(scores higher than 0.700 on the United Nations Human Developed Index (11).

856 sources were screened independently by three reviewers based on Titles and Abstracts. 810 documents were excluded due to inclusion criteria. 58 documents were then discussed and assessed for eligibility by all the authors. As a result, 42 documents were included in this review and 16 articles were excluded due to poor adherence to our selecting criteria (Table 1).

Results and discussion

Diffusion and use of sns in children

The average age for getting the first smartphone is 10.3 years old. Kids use their phone mostly for gaming and messaging, but a good portion (38%) use them to surf the net, mostly unsupervised by an adult,

seven out of ten adolescents stated that their parents barely control or limit their internet or mobile phone usage, and 42.7% revealed having arguments with their parents because of their internet or mobile phone usage (12).

Parents have usually a good understanding of CSA knowing that most often the perpetrator is someone that knows the family, a relative or a friend (13). However, in the case of OG the offender can be anyone, as behind the apparently safe term 'Friend' hides a perfect stranger to whom we would be more careful speaking in real life (14).

In children the risk of being the victim of a cybercrime increases in direct proportion with the time children spend online (10).

Currently, the minimum age to open an account on Facebook, Twitter, Instagram, Pinterest, TikTok and Snapchat is 13.

Table 1 - List of reviewed articles

	Title	Authors	Year
1	Dossier abuso sessuale e pedofilia	Telefono Azzurro	2017
2	Piano Nazionale di Prevenzione e Contrasto dell'abuso e dello sfruttamento dei minori 2015-2017	Dipartimento per le Pari Opportunità – Presidenza del Consiglio dei Ministri della Repubblica Italiana	2016
3	Internet organised crime threat assessment	Europol	2018
4	From online to offline sexual offending: Episodes and obstacles.	Fortin et al.	2018
5	A cross-national study of direct and indirect effects of cyberbullying on cybergrooming victimization via self-esteem.	Wachs et al.	2016
6	“Stop Waking the Dead”: Internet Child Sexual Abuse and Perspectives on Its Disclosure	Katz et al.	2018
7	Misuse of web cameras to manipulate children within the so-called webcam trolling	Kopecký K.	2015
8	The Prevalence of Unwanted Online Sexual Exposure and Solicitation Among Youth: A Meta-Analysis	Madigan et al.	2018
9	Risks and safety on the internet: the perspective of European children: full findings and policy implications from the EU Kids Online survey of 9-16 year olds and their parents in 25 countries	Livingstone et al.	2011
10	Profiling perpetrators of interpersonal violence against children in sport based on a victim survey	Vertommen et al.	2017

11	Minors and problematic Internet use: Evidence for better prevention	Rial et al.	2018
12	Parents as protectors: A qualitative study of parents' views on child sexual abuse prevention	Rudolph and Zimmer-Gembeck	2018
13	A linguistic analysis of grooming strategies of online child sex offenders: Implications for our understanding of predatory sexual behavior in an increasingly computer-mediated world	Black et al.	2015
14	Bullying and sexting in social networks: Protecting minors from criminal acts or empowering minors to cope with risky behaviour?	Lievens E.	2014
15	Consumption of sexually explicit internet material and its effects on minors' health: latest evidence from the literature	Principi et al.	2019
16	Understanding grooming discourse in computer-mediated environments	Lorenzo-Dus et al.	2016
17	A typology of Cyberexploitation and online grooming practices	O'Connel R.	2003
18	The Cycle of Abuse: When Victims Become Offenders	Plummer and Cossins	2018
19	Identifying Sexual Grooming Themes used by Internet Sex Offenders	Williams et al.	2013
20	Progression, maintenance, and feedback of online child sexual grooming: A qualitative analysis of online predators	de Santisteban et al.	2018
21	Persuasion strategies and sexual solicitations and interactions in online sexual grooming of adolescents: Modeling direct and indirect pathways	Gámez-Guadix et al.	2018
22	A systematic review of fantasy driven vs. contact driven internet-initiated sexual offences: Discrete or overlapping typologies?	Broome et al.	2018
23	"cause ur special": Understanding trust and complying behaviour in online grooming discourse	Lorenzo-Dus and Izura	2017
24	Logistic Models for Classifying Online Grooming Conversation	Pranoto et al.	2015
25	The Abel and Harlow Child Molestation Prevention Study. In: The stop child molestation book	Abel and Harlow	2001
26	A comparison of online and offline Grooming characteristics: An application of the victim roles model	Ioannou et al.	2018
27	"In the street they're real, in a picture they're not": Constructions of children and childhood among users of online child sexual exploitation material	Rimer JR	2019
28	Prevalence and Risk Factors Among Minors for Online Sexual Solicitations and Interactions With Adults	de Santisteban and Gámez-Guadix	2018
29	European Online Grooming Project - Final Report	Webster et al.	2012
30	he impact of childhood gender expression on childhood sexual abuse and psychopathology among young men who have sex with men	Hidalgo et al.	2015
31	Longitudinal and reciprocal relationships between sexting, online sexual solicitations, and cyberbullying among minors	Gámez-Guadix and Mateos-Pérez	2019

32	A preliminary mapping of individual, relational, and social factors that impede disclosure of childhood sexual abuse	Collin-Vézina et al.	2015
33	Online child exploitation: Challenges and future research directions	Hillman et al.	2014
34	Convention on the protection of children against sexual exploitation and sexual abuse	Council of Europe	2007
35	Educational Packages about the Risks on Social Network Sites: State of the Art	Vanderhoven et al.	2014
36	Involving Parents in School Programs about Safety on Social Network Sites	Vanderhoven et al.	2014
37	Assessing parental understanding of sexualized behavior in children and adolescents	Marriage et al.	2017
38	Empowering children with safety-skills: An evaluation of the Kidpower Everyday Safety-Skills Program	Brenick et al.	2014
39	Relazione al Parlamento, “Norme contro lo sfruttamento della prostituzione, della pornografia, del turismo sessuale in danno di minori, quali nuove forme di schiavitù”	Dipartimento per le Pari Opportunità - Presidenza del Consiglio dei Ministri della Repubblica Italiana	2016
40	I Knew It All Along: The Sexual Grooming Behaviors of Child Molesters and the Hindsight Bias	Winters et al.	2016
41	How technology can mitigate and counteract cyberstalking and online grooming	Al-Khateeb and Epiphaniou	2016
42	Harmonizing freedom and protection: Adolescents’ voices on automatic monitoring of social networking sites	Van Royen et al.	2016

The reason is that these websites actively collect data and is it illegal to collect data of children below 13 under the Children’s Online Privacy Protection rule in the US and children below 16 or 13 (depending on the country) under the art. 8 of the General Data Protection Regulation rule in Europe. In addition to the country legislative structure, the Social Networking Service (SNS) providers require users to comply with the terms of service (15).

Nevertheless, 50% of children by the age of 12 have at least a social media account and when signing into a social network anyone can lie about their age or name (16). Moreover, children are often accidentally exposed to online sexual material. According to a 2018 survey, one in five youth were exposed to unwanted sexual content, and one in nine experienced unwanted online sexual solicitation (9). This

has an extremely detrimental effect over the minor’s psychological health and sexual identity development (17).

Grooming models and strategies

Although there is no consensus over the definition of OG, it has commonly been described as a manipulative process through which an adult tries to arrange a sexually improper interaction with a minor using cyber-technology (18).

Understanding common underlying schemes and pathways appears therefore essential to gain a deep analysis of the phenomenon and develop consistent preventive strategies.

Various models of OG processes have been proposed. O’Connell described the first OG model, identifying five stages (19):

1 – friendship forming stage, 2 – Relationship forming stage, 3 – Risk

assessment stage, 4 – Exclusivity stage, and 5 – Sexual stage.

Although the model is presented in a sequential chain, the author observed that not all perpetrators seem to progress through the stages in the conversations sequentially and some stages could be skipped (20).

Williams et al. detected three recurrent themes in OG conversations not necessarily occurring in any specific order or sequence (21): 1 – Rapport Building, 2 – Sexual Content, and 3 – Assessment.

Starting from these papers Lorenzo et al. developed in 2016 a new model of OG based on three phases: 1 – Access, 2 – Entrapment, and 3 – Approach (18).

All models described above show overlapping aspects such as initial contact strategies and deceptive trust development techniques (O’Connell stage 2, Williams’ theme 3, Lorenzo’s phase 1-2), risk assessment and target profiling conversations (O’Connell stage 1-2, Williams’ theme 1, Lorenzo’s phase 2), sexual desensitization and interactions (O’Connell stage 5, Williams’ theme 3, Lorenzo’s phase 2-3), isolation, violence and extortion (O’Connell stage 4, Williams’ theme 2, Lorenzo’s phase 3) (18, 19, 21).

Although these three models show common features, there are some distinctions to be noticed. The main difference refers to the sequential and temporal string of OG stages: while O’Connell’s model (19) is partly consequential, the others are more fluid and circular, describing OG as a dynamic and variable process without a fixed sequence between one stage and another.

All models described above were developed from analysis of conversations between adults posing as minors and perpetrators convinced to converse with real females aged between 8 to 14.

De Santisteban et al. described instead the ‘Cycle of abuse’ based on an in-depth qualitative analysis of perpetrators

interviews (22). The “Cycle” folds into the following steps:

1 - Perception of the internet as a facilitator environment, 2 - Gaining access, 3 - Initial persuasion, 4 - Victims and environment, 5 - Persuasive strategies, and 6 - Sexual outcomes. Despite the different data sources, these findings are consistent with the OG models described previously. Moreover, De Santisteban et al. underline how this process is sustained by offender’s perception of the Internet as a facilitator environment and maintained with some distorted perceptions about minors (e.g. blaming the victim, sexualize the victim) (22).

It should be considered that wide changes in social media have occurred between O’Connell work published in 2003 (19) and William’s and De Santisteban’s published in 2013 (21) and 2018 (22).

These changes could explain differences in the sequencing and speed of grooming steps, due to children larger access to connected devices and social media platforms and perpetrators increased cyber skills.

Within these models perpetrators use several techniques shifting from one stage to another in their attempt to groom children, therefore lacking any linear sequence (14).

Gamex-Guadix et al. showed how the use of different persuasive strategies such as Liking, Deceit or Bribery were commonly used by offenders during their conversations with victims (22, 23).

Strategies like Relationship forming, Deception, Risk Assessment, Sexualisation, Threatening Behaviour were related both to fantasy driven and contact driven groomers (24) as well as strategic withdrawal, role reversal, and reverse psychology (18).

Our literature review revealed how most papers relating to grooming strategies were based on analysis of online conversations. These works were committed to both explain grooming dynamics and identify common linguistic patterns useful to develop

automatic recognition technologies to detect grooming conversations.

Different papers suggested how linguistic patterns related to praising or complimenting are the most commonly used by online offenders (14, 18, 23, 25). Flattery has been related to different stages such as relationship forming, exclusivity and sexual desensitizing stage, suggesting a non-random use of compliment topics in OG (18, 25)) Indeed, fast groomers mainly use physical/sexual compliments and, in contrast, slow groomers prefer the use of compliments about personality (18, 25).

Pranoto et al. (26), instead, developed a logistic model based on five linguistic characteristics ('Other way to contact', 'Reframing', 'Asking hot pictures', 'Telling the sexual preference') that had relatively good performance with 95% accuracy in detecting OG (26)). Surprisingly, flattery related words were not included in Pranoto's model. This could be due to the large use of complimenting words in ordinary social media interactions, thus lacking specificity.

Comparison online vs offline

Despite online and offline grooming share several similarities and can be perpetrated by the same type of offender, they differ in different aspects.

"The Abel e Harlow child molestation prevention study", from the book "The stop child molestation book", is the reference article for the study of CSA (27).

The study was carried out on a sample of 16,109 American adults who were tested in 41 states in reaction to possible sexual boundary violation, and 4,007 of them (24.9%) admitted of having been child molesters and focused over their characteristics.

The results demonstrated that child molesters did not present demographic differences in fields such as education, marital status, or religious observance.

Ethnic background didn't seem to be relevant as well.

The study confirmed that most of the abuses were perpetrated by family members and friends and often were associated to the presence of paedophilia or other paraphilia such as professional sexual misconduct, exhibitionism, voyeurism, and fetishism. The same cannot be said about online sexual offenders, as the majority don't know the victim prior to the abuse. Like many other types of offenders, groomers and child sexual offenders are found to have difficulty expressing empathy for their victims (28). Interestingly, many consumers of CSEM admitted considering the victims as not real and were unable to empathize with their suffering while, on the other hand, claimed of being aligned with the social norms that protect children innocence in real life (29). The way online offenders view their victims could be considered similar to the way some adults, often from a well-off social status and respectful of childhood rights in their home countries, sexually exploit children in poorer countries.

Another notable difference between online and offline abuse is in the role of friendship between victim and offender. In real life friendship poses the basis for the abuse, while online the first step of the abuse is gaining the trust of the victim (28).

Finally, the difference between online and offline sexual abuse should be remarked: the first one is simpler to perpetrate, thanks to internet's technology and accessibility.

Profiling the offender

Research for common underlying features in offender phenotype gains a critical role when trying to target potential offenders and to contrast abusing actions.

There is no simple way of drafting the definitive identikit of the potential online sexual offender, but it has been found that most of them share specific demographic features. The offender is mainly a young

male aged 18-25 years, while most of the victims believed having had interaction with a woman (6, 30). Having been victims of particularly violent CSA has been associated with a greater risk of becoming offenders in male subjects (20).

In the “European Online Grooming Project”, three distinct groups are identified: intimacy seeking, adaptable and hypersexual offenders (31). Intimacy seeking groomers are described as focused on building an intimate relationship that slowly turns into a consensual sexual relationship. Adaptable groomers adapt their communication style and bring the abuse into offline settings depending on victim response. The hypersexual group is the most unscrupulous of the three and is focused on obtaining sexual material very quickly introducing immediately sexual content in the grooming process.

Another classification is based on the aim of the grooming interaction. Fantasy driven groomers engage in online sexual conversations with minors without the specific goal of meeting the victim in real life (24). On the other hand, contact driven groomers do not settle for online sexual pleasure and use the grooming process in order to desensitize the minor to sexual material in preparation for the offline sexual encounter (24).

Finally, basing on linguistic analysis of OG chat log, Lorenzo et al. classified groomers in three categories: slow groomers, average groomers and fast groomers (25). These categories seem to share several features with the previous one (e.g. slow groomers/intimacy seekers groomers, fast groomers/hypersexualised groomers).

Profiling the victim

When trying to define the victim phenotype, it's hard to focus on specific features. Teenage girls appear to be more liable to OG, even if the proportion of male victims is considerable, too (30). Defining

recurrent risk factors is mandatory to develop proper contrasting activities, but efforts should be delivered to all adolescents, as their curiosity and unconsciousness set them at risk of being deceived.

The social background largely affects the risk of being victimized by OG, as it has been associated with social and familiar problem, as well as having a diagnosis of psychiatric disorders and showing traits of low self-esteem (6, 7). Hidalgo et al. suggested that childhood gender non-conformity places teenagers at greater risk for CSA (32).

This could increase the risk of OG as perpetrators could use trade forums, often visited by teenager with gender non-conformity seeking for various answers, as places suitable for finding victims.

Internet surfing behaviour is an important element to consider because it appears that minors with problematic internet use are at greater risk of being groomed (12). Sexual solicitations have been found to be more common in children spending longer time on the internet on weekdays, being involved in sexting, having strangers in social-networks friends list, playing online games and chats (22, 33).

Disclosure problems

Disclosing an abuse is not an easy task as the attention brought by exposing the fact to the public and facing the trial is often enough to prefer oblivion instead of justice (7). Disclosure of children sexual abuse is impeded by a multitude of factors as schematized by Delphine et al. (34) into “Barriers from Within” (internalized victim-blaming, mechanisms to protect oneself, and immature development at time of abuse); “Barriers in Relation to Others” (violence and dysfunction in the family, power dynamics, awareness of the impact of telling, and fragile social network); and “Barriers in Relation to the Social World” (labelling, taboo of sexuality, lack of services available, and culture or time period).

Victim of Online Sexual Abuse experience the same obstacles in disclosing their experience and often do not perceive the interaction with the groomer as intrusive or worthy of being reported (7). It may be that nowadays adolescents are used to nudity and sexual discourse. Sexting, a practice where personal sexual material is shared through SNS and messaging Apps is extremely diffused in teenagers (33) and could have brought to a desensitisation towards the sexual thematic.

Legal framework

The focus on the international legislation concerning OG highlights laws heterogeneity and scarceness as a key point to implement. Regulation of online minors/adults' interactions and perpetrators persecution needs a clear legal framework, especially if we consider OG as a process in which victims and perpetrators could be potentially located in different nations (4). Moreover, Lievens underlined that Social Networks Terms and Conditions often contains references to laws belonging to specific nations, placing bases for law conflict in other countries (15). For instance, Facebook Terms and Conditions indicate that the social network is subject to USA law (15).

Hillman et al. analysed OG legislation in five Commonwealth countries, demonstrating differences in jurisdictions (35).

Concerning Europe, Lanzarote Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse represents the most important institutional document addressing OG (36). Article 23 of the Convention criminalizes online solicitation of children for sexual purposes. Up-to-date the convention has been ratified by 44 nations. As for the legal age for sexual activities, the Lanzarote Convention does not give a clear and unanimous indication, delegating the matter to national laws as stated in article 18. Consistently with Lanzarote Convention, in Italy OG is criminalized under article 600-

undecies and refers to victims below the age of 16, not necessarily requiring a real meeting between minors and perpetrators (1, 2).

Current preventive strategies

Over the last decade a multitude of preventive strategies have been implemented so far to target the plague of online child exploitation. Yet, in our opinion, the general approach is still too fragmented and lacks coordination between the different stakeholders involved.

Vanderoven et al. studied the use of a variety of educational packages targeted to Flemish youth from primary to secondary school, finding that most packages lacked a strong background theory and missed a measure of efficacy (37). In another study he analysed the effect of informative seminars finding that although they increased the awareness of kids about the risk of social network, they didn't have any effect on their online behaviour. Moreover, most of the parents failed to participate to the meetings, confirming the low appeal that this type of intervention has (38). Parents are in general aware of the risk represented by CSA as already mentioned in the intro. Nevertheless, they fail to provide their children of the necessary preventive knowledge or consider their children at lower risk than the others (13, 39).

Current prevention campaigns focus on the importance of educating children from an early age about specific abusive behaviours, potential perpetrators identities, and protective strategies (13).

The main drawback of the present literature about primary prevention is that we miss any kind of outcome indicator or efficacy analysis, namely: does the preventive strategy reduce the risk of being the victim of online child exploitation on a long-term base?

A public health approach is mandatory to better structure the set of different possible strategies available. We can distinguish as

for any organic disease primary, secondary, and tertiary preventive strategies. For what regards primary strategies, we are talking of the actions that needs to be implemented before the actual abuse occur. Primary prevention programs are addressed to kids and caregivers to improve children's online security and their skills in detecting potentially dangerous situations, as well as their social attitudes through affective education programs (2, 37, 39, 40).

Secondary and tertiary prevention strategies have a larger target population and are directed to kids, caregivers, healthcare's professionals and law enforcements workers in order to prevent vulnerable children to be victimized and prevent further arms for abused children (39).

The wider online child sexual exploitation control contrasting measure was addressed at European level by the Lanzarote convention. It requires from each of the member states to implement preventing strategies coordinating educational, health, law enforcement and private sectors (36).

The main weaknesses of Lanzarote document are the lack of precise operative guidelines and monitoring reports.

Focusing on the Italian scenario, the Lanzarote Convention indication was ratified implementing different strategies of intervention involving awareness campaigns delivered through social media platforms and institutional stakeholders, school based affective education programs, healthcare and law enforcement activities (2). As stated in 2016 Italian Parliamentary Report about minor sexual exploitation, the reporting activities are delivered by one national helpline and two hotlines responsible for receiving OG and child sexual exploitation reports. Following different EU Commission security plans, the Italian Safer Internet Centre was founded with the participation of the Ministry of Education, the Police Forces and trade NGOs, without defining a full map of the activities.

Although Lanzarote convention dictates preventive interventions addressed to potential offenders, no significant reports of such actives was found.

Future perspectives

Implementing current online child exploitation contrasting efforts in an ecological approach is mandatory in planning future preventive strategies.

While some countries have already developed and structured preventive measures suited in a public health model, the majority has not.

Minors and parents/caregiver are the main targets of preventive efforts, but education on child-sexual abuse issues should also be required by all professionals working with minors, such as health care professionals, teachers and authorities.

The main aspect to be implemented, that emerge from this review, is the need of efficacy indicators of current preventive plans, to overcome the lack of evidence-based backgrounds, thus showing the need for more academic efforts (37). Another critical element highlighted in this review is the fragmentation of preventive initiatives, in contrast with the need of a strong institutional public health strategy, structured in primary, secondary and tertiary levels.

Considering victims' side, primary level strategies should focus on the development of emotional skills and affective consciousness aimed to empower their capabilities to recognize dangerous situations and develop proper interpersonal relations, highlighting pros and cons of virtual socialization. The development of an evidence-based background for suited preventive programs should be based over the already mentioned risk factors that predispose a child to become the victim of an abuse.

Moving onto secondary and tertiary prevention, one of the first goals should be the removal of abuse disclosure obstacles to prevent further arms to victims and

address children at risk. As discussed above, Delphine et al. classified these obstacles in Barriers from Within, Barriers in Relation to Others and Barriers in Relation to the Social World suggesting cooperative efforts involving educators, caregivers and medias to “overcome these roadblocks to disclosure, rather than simply telling victims they should talk about the abuse” (34). Winters and Jeglic suggested Hindsight Bias as a relevant element preventing disclosure and grooming behaviour identification (41). They referred to the general population as overestimating their capability of recognizing an abuse.

On the other hand, we found few references about preventive activities addressed to offenders. Our findings show that these activities regard mainly people who have already shown abusing behaviours, defining therapeutic and socio-medical pathways (1). However, findings suggest different elements that could be considered in planning preventive measures directed to *potential* offenders, before they commit the abuse. Primary preventive interventions could be delivered to male child sexual exploitation victims who suffered abusive powerlessness offenses, as they have been described of being at major risk to grow into an offender (20). Nevertheless, affective educational program should be delivered to the whole adolescent population to raise self-consciousness about improper sexual pushes or behaviours when referring to relationship between adults and minors. As a matter of fact, Rimer suggested that while in offline situations offenders agree with western cultural norms when referring to children and childhood, in the online world they consider children in a sexualized way, as they were not real (29).

Sensitization activities aimed to underline differences between recognizing abusing pulses and committing abusing acts could contrast the social stigma that prevents these people to seek for active help.

Conclusions

This article is addressed mainly to healthcare and socio-educational stakeholders, but health promotion strategies need to be implemented putting around the table also the juridical institutions and the private sector, too. Indeed, findings suggest that Institutional frameworks are mandatory to harmonize preventive efforts against CSA. Furthermore, offenders’ behavior analyses could help in developing active contrasting strategies. Fortin described three obstacles that potential offenders have to face in the pathway between consumption of legal pornographic material and child abuse: 1 – finding CSEM, 2 – Socialization with other offenders and 3 – transition to the real world (5). These obstacles could be exploited by law enforcements to detect offenders as they risk exposing themselves, especially facing obstacle 2 (mainly on perpetrators’ forums) and 3 (e.g. use of social networks to contact victims) (5). On the other hand, empowering these obstacles could prevent people from becoming offenders. Furthermore, linguistic analyses of OG conversations help in developing automatic recognition applications, able to detect suspicious interactions. Nevertheless, this kind of technology raises ethical and juridical questions (26, 42). When referring to automatic monitoring of social network activities, Van Royen et al. suggested that adolescents are concerned about the loss of freedom, autonomy, and privacy, even if they feel the need for protective monitoring (43).

Even though the attention around OG is growing, there is still the need to further sensitize the involved stakeholders. Future academic efforts should be aimed towards the analysis of the OG phenomenon to develop evidence-based preventive strategies. Institutional guidance is essential to coordinate the multidisciplinary nature of the preventive action and to evaluate the outcomes.

Strengths and limitations

While our review provides a valid help for defining future preventive policies, we are aware of the limitations of this study. First, the articles we reviewed studied an extremely heterogeneous population for what regards nationality, age, and religion - all aspects that should be weighed in when dealing with social issues. Moreover, as already mentioned, all the preventive strategies proposed so far miss a measure of efficacy, mainly due to the difficulty in long term follow-up.

Notes

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Authors' contributions:

AP, NT, GF: literature search, data collection and interpretation, manuscript drafting.

CG, GdC, MM: literature search, data collection and interpretation.

AP: study plan, critical review of the manuscript.

All listed authors approved the final draft submitted.

Riassunto

Cappuccetto Rosso a zozzo nella foresta dei social. L'adescamento in rete come tema di sanità pubblica: una revisione narrativa

Introduzione. L'adescamento online è un processo manipolativo attraverso il quale un adulto ricerca un'interazione sessuale con un minore con l'uso di internet. La sempre maggiore esposizione dei minori ad internet pone l'adescamento online come una nuova problematica di salute pubblica.

Obiettivi. Lo scopo di questa revisione narrativa è presentare un'istantanea del fenomeno e descrivere le strategie preventive finora proposte e messe in atto.

Metodi. La revisione si concentra su articoli pubblicati fra Gennaio 2014 e Marzo 2019, compresi i lavori citati dagli articoli selezionati.

Risultati. La nostra analisi fornisce una panoramica sul fenomeno dell'adescamento online e identifica caratteristiche che ricorrono nelle vittime e negli adescatori.

Finora diverse strategie preventive sono state messe in atto, ma mancano di un'analisi di valutazione dell'efficacia e di un approccio sistematico al problema. La

frammentazione delle attuali iniziative volte a prevenire l'adescamento online può essere risolta tramite un approccio integrato con politiche di salute pubblica.

Conclusioni. Sebbene l'attenzione attorno l'adescamento online stia crescendo, c'è la necessità di sensibilizzare ulteriormente le figure coinvolte al fine di sviluppare strategie preventive integrate sotto una guida istituzionale.

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