



Online illicit trade of GLP-1 receptor agonists on telegram

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Abstract

GLP-1 receptor agonists, including semaglutide and liraglutide, have attracted substantial attention for their efficacy in weight management, with growing use extending beyond traditional diabetes treatment and regulated prescription pathways. Encrypted messaging platforms, particularly Telegram, have become important channels for illicit pharmaceutical trade, enabling the promotion and distribution of medicines outside regulated medical systems. Although research on online drug markets has focused mainly on illegal substances, the circulation of prescription-only medicines remains understudied. This study examines advertisements for GLP-1 receptor agonists in European Telegram-based illicit drug markets. A mixed-methods design was employed, combining automated data collection with quantitative and qualitative analyses of Telegram drug-trading channels. Using a keyword-based dictionary, posts mentioning GLP-1 products were identified and analysed for offer frequency, pricing, and co-occurrence with other substances and the linguistic strategies used to frame and promote them. Template analysis was used to examine the linguistic and marketing strategies employed in GLP-1 advertisements. Among 648,862 messages from four European Telegram drug-trading channels, 2,837 posts (0.43%) mentioned at least one GLP-1 product. Ozempic accounted for nearly half of mentions (46.5%), followed by semaglutide, Mounjaro, and Rybelsus. GLP-1 products appeared consistently over time, suggesting a stable niche market. Where prices were reported ($n = 1,382$), Ozempic showed highly standardised pricing (median €250). Over half of GLP-1 posts (55.3%) co-advertised illicit drugs. Qualitative analysis identified de-medicalised framing, the absence of prescription requirements, and an emphasis on discretion, speed, and professionalism. The findings reveal a persistent niche market for GLP-1 receptor agonists on Telegram, highlighting regulatory challenges and potential public health risks associated with the normalisation of non-medical access on encrypted messaging platforms.

Keywords GLP-1 receptor agonists · Prescription drug misuse · Ozempic · Telegram drug markets · Online drug markets · Illicit economies

Extended author information available on the last page of the article

Introduction

Illicit pharmaceutical trading online represents a rapidly developing segment of digital drug markets, enabling the distribution of prescription and counterfeit medicines without medical control or regulatory oversight (Hall et al. 2017). This mode of supply poses clear public health risks, as consumers frequently access substances without prescriptions, clinical evaluation, or reliable information regarding product authenticity (Lavorgna 2015; Feeney et al. 2024). Since 2010, illicit drug markets have expanded beyond traditional street-based exchanges to encompass conventional websites and darknet marketplaces (Barratt et al. 2016; Tzanetakis 2018; Andrei and Veltri 2024a), and encrypted messaging applications accessed via personal devices (Dewey and Buzzetti 2024). These environments encompass diverse organisational forms, ranging from enterprise-style web shops and buyer–seller forums to broadcast channels, chat communities, and decentralised marketplace structures (Martin et al. 2019). While early research focused on unregulated e-pharmacies and social media distribution networks (Lavorgna 2015; Baratto 2020), more recent scholarship highlights the growing role of cryptomarkets in pharmaceutical distribution (Caulkins et al. 2024; Lamy et al. 2024).

Within this broader landscape, criminological and sociological research has paid particular attention to the structure and organization of image- and performance-enhancing drugs (IPEDs) markets (van de Ven and Koenraadt 2017). IPEDs constitute a heterogeneous group that includes anabolic steroids, peptide hormones, stimulants, and weight-loss agents used to alter appearance or enhance performance (Corazza et al. 2019; Chiappini et al. 2023). Studies show that a wide variety of surface-web platforms facilitate the sale and supply of IPEDs (Hall and Antonopoulos 2015). Much of this literature has focused on online pharmacies, which may be classified as legal, fake, or illegal depending on their licensing and delivery practices (Di Giorgio 2011; Hall and Antonopoulos 2015; Lavorgna 2015). However, online IPED markets involve a broader range of actors, including sellers who actively cultivate trust and customer loyalty. In this context, distinctions between “ghost websites,” which take payment without delivering products, and “quality websites,” which more reliably supply drugs while still operating outside regulatory frameworks, have proved useful for understanding the organisation of the online IPED trade (Home Office 2014).

Among the substances increasingly circulating within these markets, glucagon-like peptide-1 (GLP-1) receptor agonists have rapidly moved beyond their original clinical use to become central to broader social, economic, and regulatory dynamics surrounding pharmaceutical consumption. Initially developed for the treatment of type 2 diabetes, these drugs, such as semaglutide (marketed as Ozempic), have gained widespread attention for their effectiveness in promoting weight loss, thereby fueling demand well beyond diabetic populations. This expanding demand has reshaped pharmaceutical markets, generating new forms of access, inequality, and regulatory challenges across different national contexts. In the United States, total expenditure increased by more than 500% between 2018 and 2023, rising from approximately \$14 billion to over \$71 billion (Tsipas et al. 2025), with comparable growth reported in European countries (Car et al. 2025).

At the same time, the rapid diffusion of GLP-1 receptor agonists has contributed to new patterns of consumption that extend beyond formal healthcare systems, raising questions about access, regulation, and the emergence of alternative distribution channels, including online and illicit markets. This expanding uptake has also been accompanied by growing concerns regarding misuse and off-label acquisition, particularly among individuals seeking weight reduction. Pharmacovigilance analyses point to emerging patterns of non-medical use, raising important regulatory and public health issues (Chiappini et al. 2023, 2025; Turnock et al. 2025; Sodhi et al. 2023; Echeverry-Guerrero et al. 2024). These concerns are further compounded by the circulation of poor-quality or unregulated GLP-1 products, with evidence showing significant inconsistencies in dosage among substances obtained from unregulated sources (Ashraf et al. 2024).

Rising demand for GLP-1 medications also coincides with the expansion of online spaces that both commercialise body image optimisation and enable informal or illicit access to prescription drugs. Social media environments increasingly frame medications such as Ozempic as tools for weight reduction and body optimisation, often outside clinical supervision (Fong et al. 2024). The proliferation of “fitspiration”, a trend that normalises pharmaceutical enhancement to achieve aesthetic ideals, further reinforces these dynamics, contributing to new forms of demand and potentially harmful consumption practices (Cataldo et al. 2022; Carvalho 2023). In this respect, GLP-1 receptor agonists can be situated within the broader IPED category, linking pharmaceutical consumption to wider processes of body optimisation and enhancement.

Within this evolving digital ecosystem, Telegram has emerged as a relevant infrastructural hub for illicit drug exchange (Nali et al. 2024; Loggen et al. 2026). With an active user base approaching one billion, the platform enables large-scale channels and group chats that support rapid dissemination and coordination (Dewey and Buzzetti 2024; Ben-Baruch et al. 2025). However, research highlights the importance of situating these markets within their specific socio-geographical contexts, as patterns of use and platform adoption vary across countries and regions (Demant et al. 2019; Moyle et al. 2019; Wanke et al. 2026).

Despite growing attention to online drug markets, little is known about the circulation of prescription pharmaceuticals on Telegram, particularly GLP-1 receptor agonists. Addressing this gap, the present study examines how these substances are marketed, discussed, and socially represented within Telegram-based drug-trading environments. By integrating quantitative mapping with qualitative analysis of advertising practices, this study moves beyond documenting availability to explore how meaning, demand, and legitimacy are constructed around regulated pharmaceuticals in illicit digital markets.

Methodology

The methodology of this study comprised three stages: (1) identification of relevant Telegram channels; (2) automated data collection; and (3) quantitative and qualitative text analysis of Telegram posts mentioning GLP-1 substances. In line with previous research (Ben-Baruch et al. 2025; Nali et al. 2024), a lurker approach was adopted

(Ferguson 2017; Turnock et al. 2025), whereby online interactions were observed without direct researcher participation (Thompson et al. 2021). Data were collected systematically using computational techniques, consistent with methodological approaches employed in studies of telegram substance trading (Nali et al. 2024).

Identification of telegram channels

To identify the Telegram channel, a snowball sampling strategy was used (see Table 1). Starting from the platform <https://teleteg.com>, a tool that facilitates keyword-based searches of Telegram chats, we entered the term “drugs” and found an initial group titled “Drugs Handelgroepen Nederland, België, Deutschland” (now inactive). Building on this starting point and following the snowball sampling method described by Kaufmann and Tzanetakis (2020), we traced and accessed other related groups through the links shared within the first channel. After selecting the groups, we included only those that had a minimum daily message activity of 100 during the July–September 2025 period. We comprised at least 50 participants who were active during the research period, allowing users to publish offers. Telegram channels may be open or closed, meaning user access is restricted to those who receive an invitation. We defined and applied a comprehensive set of criteria to guide channel selection. All channels that met these criteria were included in the analysis. We defined and applied a comprehensive set of criteria to guide channel selection. Specifically, channels were included if they had at least 100 daily messages, at least 50 users, were based in Europe or the United Kingdom, were publicly accessible (not invite-only), involved multiple vendors, and consisted of groups or channels rather than individual accounts. Channels that did not meet these criteria were excluded from the sample. A detailed description of the selection process, including the list of excluded channels and the rationale for their exclusion, is provided in the Supplementary Material (S1). This process ultimately led to the identification of four active market spaces. While not representative of the entire Telegram ecosystem, these channels reflect high-volume, comparatively stable marketplaces that offer insight into established patterns of Telegram-based drug trading.

To safeguard participants' anonymity and maintain confidentiality, the names of Telegram chats are not shared. This decision follows the ethical guidelines discussed by Blankers et al. (2021). Information about these chats can be obtained from the first author upon reasonable request to support the replication of this study. Ethical

Table 1 Sample strategy

	Search strategy	Description	Channel name
The original names of the channels active at the time of data collection are not reported for ethical reasons	External Search Engines	Keyword research on https://teleteg.com (e.g., using terms such as “drugs”) was conducted to locate channels that contained Telegram channel links	Drugs Handelgroepen Nederland België, Deutschland
	Cross-referenced Links in Channels	Links discovered within existing Telegram groups leading to related	<i>Channel 1,</i> <i>Channel 2,</i> <i>Channel 3,</i> <i>Channel 4</i>

approval for the project was granted by the University of Trento's Ethics Committee (Ref. 2024-083ESA).

Data collection

On 1 October 2025, four European Telegram market groups identified through the procedure described above were joined. After subscribing to the selected groups, all posts became accessible from the date of subscription onward. On October 15, 2025, we exported all posts from these channels. Subsequently, we imported them into R for further processing. At the time of data collection, the Channel 4 channel contained 81,715 messages, spanning from September 20, 2020, to October 15, 2025. The Channel 3 included 254,293 messages, covering the period from June 19, 2022, to October 15, 2025. Channel 1 comprised 255,672 messages, posted between September 23, 2015, and October 15, 2025. Finally, Channel 2 contained 57,182 messages, with data available from October 11, 2025, backwards to the earliest date retrievable from the Telegram channel.

Data analysis

Data analysis combined quantitative descriptive text analysis with qualitative text analysis to capture both the scale and the discursive characteristics of GLP-1-related activity on Telegram. Following the precedent work on Telegram conducted by Blankers et al. (2021) and Nali et al. (2024) to identify discussions related to GLP-1 receptor agonists within the collected Telegram posts, we developed a keyword dictionary containing brand names, generic names, common misspellings, and slang expressions referring to these substances. The list included terms for *exenatide* (Byetta, Bydureon), *liraglutide* (Victoza, Saxenda), *lixisenatide* (Lyxumia), *dulaglutide* (Trulicity), *semaglutide* (Ozempic, Rybelsus, Wegovy), and *tirzepatide* (Mounjaro, Zepbound), along with colloquial expressions such as “skinny shot,” “weight loss pen,” and “diabetes pen.” All text data were normalised, converted to lowercase, stripped of accents, and cleaned of extraneous whitespace to ensure consistency in the keyword search. For each post, binary variables were created to indicate the presence of specific keywords, and a combined variable recorded whether any GLP-1-related term was mentioned in the message. To assess the accuracy of the keyword-based approach and reduce false positives, a manual validation was conducted on a random subsample of GLP-1-flagged posts to verify contextual relevance.

This systematic approach produced a structured dataset summarising the frequency and proportion of Telegram posts mentioning GLP-1 receptor agonists, forming the basis for subsequent quantitative and content analyses.

To assess temporal trends, we focused on a predefined set of GLP-1 receptor agonists: Ozempic, Wegovy, Rybelsus, Mounjaro, Trulicity, Victoza, Saxenda, semaglutide, and liraglutide. Monthly time-series figures included only drugs with at least one mention. For each month, we calculated the number of posts mentioning each drug and the total number of messages, from which we derived the monthly share of posts referring to each GLP-1 drug (drug mentions per month/total messages per month). This indicator reflects the relative visibility of each drug within the selected

Telegram channels. Because the dataset was based on a single historical scrape per channel, with up to 255,000 retrievable messages at the time of collection, monthly distributions reflect only the messages captured during scraping rather than continuous channel activity.

Qualitative analysis of GLP-1 product advertisements employed template analysis, a qualitative approach suited to the structured interpretation of textual and visual materials (King 1998; Bruni et al. 2022). The analytical process was informed by prior research on Telegram-based drug markets, particularly Ben-Baruch et al. (2025), and guided by the present study's research questions, which aim to investigate how GLP-1 drugs are socially represented in the illegal online trade in Europe on Telegram. An initial set of themes was developed to guide early coding, drawing on prior research on online drug markets and the study's research questions. These included modes of product presentation, strategies of legitimacy construction, interactional practices between sellers and buyers, and representations of consumption and use. After analysing an initial subset of posts, a provisional thematic framework was constructed and subsequently applied across the full dataset, undergoing iterative refinement throughout the analysis. During this iterative analytical process, the themes were progressively refined and specified, leading to the analytical dimensions presented in Table 5. The resulting template comprised an integrated set of analytical categories capturing the linguistic, promotional, and visual features of Telegram advertisements. In line with the analytical approach adopted by Ben-Baruch et al. (2025), semiotic analysis was embedded within this framework to interpret the symbolic functions of emojis, icons, and formatting practices. Together, these analytical steps enabled an examination of how sellers produce cultural and social meanings to frame GLP-1 products.

Results

Frequency of GLP-1 products referenced in telegram posts

To determine whether GLP-1 receptor agonists are being marketed or traded illegally on Telegram, we first assessed the presence and frequency of GLP-1-related content across the channels in our dataset. As an initial step, we measured the frequency with which specific GLP-1 products were referenced in Telegram posts. Table 2 summarises the number and proportion of posts mentioning each drug. Two indicators are reported: (1) the share of all Telegram posts that mention a given drug, and (2) the share of GLP-1-related¹ posts accounted for by each drug. Mentions are highly concentrated. Ozempic represents almost half of all GLP-1 posts (46.5%), followed by semaglutide (22.9%), Mounjaro (15.3%), and Rybelsus (15.3%). In contrast, no references were detected for Wegovy, Trulicity, Victoza, Saxenda, or Liraglutide, suggesting that these products may not be being traded in these channels or appear only through informal names or misspellings not captured by the dataset.

¹ GLP-1 receptor agonists (glucagon-like peptide-1 receptor agonists) are a class of medications originally developed for the treatment of type 2 diabetes and, more recently, for weight management.

Table 2 Count and proportion of telegram posts mentioning GLP-1 drugs

Drug	Number of mentions (<i>n</i>)	Share of all telegram posts (%)	Share of GLP-1 posts (%)
Ozempic	2,768	0.43	46.48
Semaglutide	1,364	0.21	22.91
Mounjaro	912	0.14	15.31 ^f
Rybelsus	911	0.14	15.30
Wegovy	0	0.00	0.00
Trulicity	0	0.00	0.00
Victoza	0	0.00	0.00
Saxenda	0	0.00	0.00
Liraglutide	0	0.00	0.00

Share of all Telegram posts” refers to the proportion of posts in the full dataset that mention the respective drug. “Share of GLP-1 posts” refers to the proportion of GLP-1–related posts that mention the respective drug. Importantly, individual messages may mention more than one product and more than one GLP-1 drug. The total number of messages that mention at least one GLP-1 product is 2,837

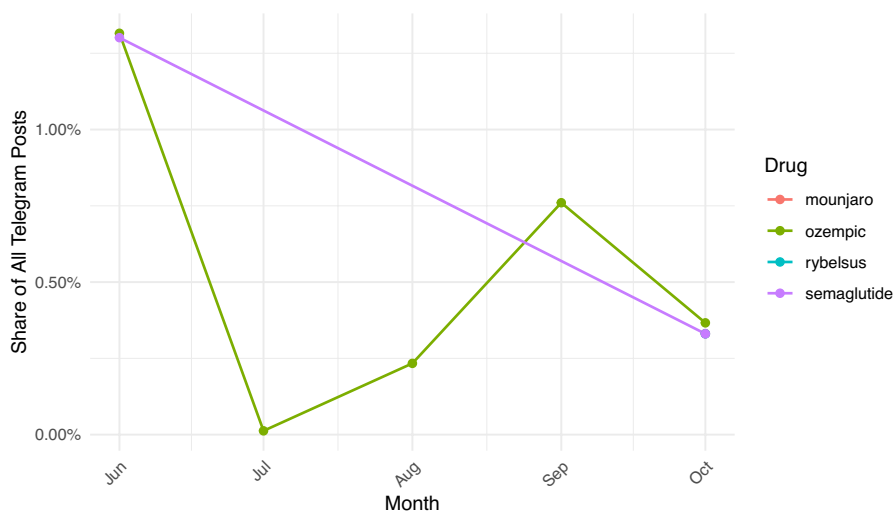
**Fig. 1** Proportion of all telegram posts referring to GLP-1 receptor agonists, June–October 2025

Figure 1 shows that GLP-1–related offers represent only a very small fraction of overall monthly Telegram activity, with clear variation across drugs and time. Mentions peak in June, when roughly 1.2% of all posts reference a GLP-1 medication, followed by a sharp decline in July and only a modest rebound in subsequent months. Across the study period, discussions are dominated by Ozempic, which accounts for nearly all GLP-1-related posts and is the only drug consistently mentioned every month. In contrast, the term “semaglutide” (the generic term) appears almost exclusively in June and October, indicating that users overwhelmingly rely on brand-name terminology in day-to-day exchanges. Mentions of other GLP-1 receptor agonists, such as Rybelsus, Mounjaro, and Victoza, remain minimal, consistent with the patterns observed in Table 2. Overall, the figure indicates that GLP-1-related posts account for only a small portion of overall Telegram activity in 2025. However,

their repeated appearance across several months suggests that an illicit market for prescription-only GLP-1 receptor agonists is indeed active on Telegram. Although this market represents a niche segment within the broader drug-trading ecosystem, it appears to operate with a notable degree of continuity.

Price of GLP-1 products referenced in telegram posts

Among the 2,768 identified GLP-1 drug offers, 1,382 Ozempic listings explicitly reported a price. As Table 3 shows, Ozempic pricing was highly standardised, with a mean of €249.84 and a median of €250 (standard deviation: €4.15). Observed prices ranged from €120 to €250. Stratification by product description and quantity revealed almost no price variability when dosage or packaging was specified: all offers for *Ozempic 1 mg* and *one pen* were uniformly priced at €250. Offers without a specified dosage were consistently priced lower (€180), while a single atypical listing described as “5 injections” was priced at €120 and represents an isolated outlier. Despite limited price information, these findings suggest that when prices are disclosed, Ozempic is marketed on Telegram at a largely uniform price point.

Comparison with regulated European retail prices is inherently complex, as pricing in most countries is mediated through national health systems, making standardisation and direct cross-country comparisons difficult. Nevertheless, official pharmaceutical pricing databases consulted in January 2026 indicate that Ozempic is typically available through licensed pharmacies at prices well below €150 per pen in several European countries, including Austria (BASG, 2026), Italy (AIFA, 2025), Spain (AEMPS, n.d.), Germany (G-BA, 2026), and the Netherlands (Zorginstituut Nederland, 2026). In the United Kingdom, although the list price is set nationally, patient access and out-of-pocket costs are primarily governed by the National Health Service (NHS) prescription system (NHS, 2023). By contrast, the prices of Ozempic observed on Telegram showed a highly uniform, elevated, informal pricing structure. Overall, informal market prices consistently exceeded regulated European retail prices across all examined countries.

Table 3 Price distribution of Ozempic offers by product description

Drug	Product description	<i>n</i>	Mean price (€)	Median price (€)	SD (€)	Minimum (€)	Maximum (€)
Ozempic	All offers	1,382	249.84	250	4.15	120	250
Ozempic	1 mg	638	250	250	0.00	250	250
Ozempic	1 pen	628	250	250	0.00	250	250
Ozempic	Dosage not specified	115	180	180	—	180	180
Ozempic	5 injections	1	120	120	—	120	120

This table includes only offers that explicitly reported a price. Listings that mentioned the product but did not disclose price information were excluded

Other drugs offered alongside GLP-1 products in telegram posts

Table 4 reports the distribution of GLP-1-related posts according to whether additional drugs were mentioned in the same message. Of the 2,837 messages that referenced at least one GLP-1 product, 1,570 posts (55.3%) included mentions of other drugs, while 1,267 posts (44.7%) referred exclusively to GLP-1 products.

These findings suggest that GLP-1 is more often offered in combination with other substances than as an isolated product. This pattern suggests that GLP-1 receptor agonists are frequently integrated into existing Telegram drug-trading environments rather than being marketed through specialised or pharmaceutical-only channels. In this sense, prescription-only weight-loss medications appear to circulate within the same commercial infrastructures used for the distribution of illicit drugs, reinforcing the view of Telegram channels as polyvalent market spaces where legal status and pharmacological function are secondary to demand-driven exchange. From a market perspective, this co-occurrence also suggests that GLP-1 receptor agonists are positioned as an additional commodity within established seller portfolios.

Linguistic strategies and social representations of GLP-1 products on telegram

This section presents the results of a qualitative text analysis of posts advertising GLP-1 receptor agonists, conducted through an iterative coding process combining automated keyword-based retrieval with manual qualitative coding. Posts mentioning GLP-1 products were coded according to recurring discursive strategies, with particular attention to how these products are framed, promoted, and negotiated. Table 5 summarises the main analytical dimensions identified and the social representations they produce.

De-medicalisation, symbolic association, and product framing.

As shown in Table 5, GLP-1 products are often positioned within lifestyle-oriented categories rather than medical ones. Products such as Ozempic are advertised under headings like “tanning & weight loss,” alongside cosmetic, wellness, or enhancement goods. This framing contributes to a process of de-medicalisation, in which regulated pharmaceuticals are discursively repositioned as consumer products aimed at bodily optimisation. References to prescription requirements or clinical supervision are systematically absent, reinforcing a representation of GLP-1 use as normalised and self-managed. GLP-1 products are often advertised within the same promotional menus as illegal drugs, performance-enhancing substances, and anabolic steroids.

Table 4 Co-occurrence of GLP-1 products with other drugs in telegram posts

Other drugs offered	Numbers of posts (<i>n</i>)	Percentage (%)
No	1,267	44.7
Yes	1,570	55.3
Total	2,837	100.0

The table reports the distribution of Telegram messages mentioning at least one GLP-1 product according to whether other drugs were also mentioned in the same post

Table 5 Linguistic strategies and social representations of GLP-1 products in telegram offers

Macro Analytical dimension	Analytical dimension	Discursive strategy	Tex(example) tual extract	Social representation
De-medi-calization	Product framing	Inclusion in lifestyle (non-medical) categories	“* tanning & weight loss * ... / ozempic 1mg”	GLP-1 products are represented as wellness or aesthetic goods rather than medicines
		Normalization	“/ ozempic 1mg – €240”	Use is normalised and framed as autonomous, detached from medical authority
		Symbolic association	Ozempic is listed in the same menu as “cocaine,” “mdma,” and “steroids”	GLP-1 products are assimilated into a broader repertoire of consumption-oriented substances
	Trust building and De-medicalisation	Promotional language	“premium,” “legendary,” “handled with care”	Symbolic value and seller credibility are constructed
		Invitation to negotiation	“➡️ send a message for contact information”	Direct seller–buyer relationship and reduced public visibility
		Product and Privacy Guarantee	“100% privacy guaranteed,” “discreet”	Reduction of perceived legal and moral risk and moral legitimisation
		Temporality and speed	“avg. delivery time: 30–50 min”	Rapid access to a regulated pharmaceutical is normalised

This symbolic co-presence assimilates GLP-1 receptor agonists into a broader ecosystem of consumption-oriented substances, distancing them from their therapeutic identity. These findings align with broader patterns observed in IPED markets, where pharmaceuticals are increasingly adopted not for therapeutic purposes but to alter physical appearance and achieve socially desirable body ideals (Corazza et al. 2019). Through this association, GLP-1 receptor agonists are represented not as exceptional

medical interventions but as part of a routine repertoire of enhancement commodities circulating within informal markets.

At the same time, sellers make extensive use of promotional language emphasising quality, status, and professionalism. Descriptors such as “premium,” “legendary,” and “handled with care” are mobilised to construct symbolic value and seller credibility, while emojis and visual structuring devices transform lengthy and heterogeneous posts into navigable product menus. This commercial aesthetic aligns GLP-1 sales with familiar forms of retail advertising, despite their informal or illicit context. In line with research on social media marketing, visual elements and influencer-style promotional practices contribute to embedding substances within everyday consumption contexts, thereby reframing them as ordinary consumer goods (Highfield and Leaver 2016; Ben-Baruch et al. 2025). Within Telegram-based GLP-1 markets, promotional and visual framing practices reinforce de-medicalisation by prioritising consumption and desirability over regulatory and clinical considerations.

Ozempic in stock 📦📦📦

Get your weight loss cycles ❤️❤️

Send text to

@xxxx (Example of listening on Channel 2)

veltrix's 24/7 Delivery 📦 Menu: 💊 medications 💊💊 ♂-alprazolam 1mg -> diazepam 10mg ☐ -> clonazepam 2mg -> lorazepam 2.5mg ♂-zopiclone 7.5mg -> zolpidem 10mg -> soa-kuur chlamydi -> tramadol. 50mg -> tramadol 100mg ☐

-> tramadol 200mg ♂-modafinil 200mg -> androgeel -> armodafinil 150mg ->

pregabalin 300mg -> ritalin 10mg -> ozempic prik -> temazepam 20mg -> oxycodone 80/120mg ☐ -> kamagra 100 mg ♂-cenforce 200 mg -> sextreme sildalis 160mg -> Vidalista 60 mg weekendpil ♂-cobra 120mg ☐ voor meer informatie of vragen bericht:

@xxx** 📞 ****@vexx**** 📞 **

----- **• geverifieerde verkoper📞 •lab getest **☐** •24/7 bereikbaar voor bestelling**📞** •active in the NL **-----

@xxxx** 📞 ****@xxxxx**** 📞 **----- (Example of listening on Channel 3)

Trust building and De-medicalisation

In parallel, sellers place strong emphasis on discretion, privacy, and speed as key legitimising devices. Claims such as “100% privacy guaranteed” and references to rapid delivery times (e.g., “30–50 min”) frame transactions as both safe and efficient. This temporal framing normalises immediate access to a regulated pharmaceutical and aligns GLP-1 products with on-demand consumption models typical of informal digital markets. As Dewey and Buzzetti (2024) argue, Telegram facilitates consumption experiences organised around delivery speed, product variety, and perceived quality, reinforcing expectations of immediacy and convenience. This emphasis on delivery, privacy, and risk management echoes patterns identified in prior research on illicit online drug markets, particularly darknet platforms, where the delivery phase is consistently described as the most vulnerable and consequential moment in the exchange process. Vendors in these environments devote considerable effort to managing logistical risk through concealment practices, stealth packaging, and detailed communication to avoid detection and reduce enforcement exposure (Martin 2014; Van Hout and Bingham 2014; Décary-Héty et al. 2016). Such communication has been demonstrated to play a crucial role in fostering buyer confidence and mitigating information asymmetries (Aldridge and Askew 2017; Andrei and Veltri 2024b).

☐🎲🎲🎲 xxxxx – PREMIUM PARTY & MEDICATION SUPPLIES 🎲🎲☐

"Supplies to turn any night into a party."

👉 Fast • ☐ Discreet • 🤖 Legendary

📧 Stuur een bericht voor contactinformatie / Send a message for contact information! !!100

🌟 MAIN MENU 🌟100

🌟 COCAÏNE – PREMIUM & MIXCOBO

COLOMBIA AND BOLIVIA FINEST PRODUCT 🌟

co Uncut / Pure Coke BO

- 1g – €60
- 5g – €230
- 10g – €350
- >10-1KG+ – →📧

co Mix Quality – Perfect for 🍷

- 1g – €50
- 3g – €100
- 5g – €150

☐ GHB (LIQUID – LAB-GRADE)

- 1L – €215
- 2L – €400
- 3L – €570
- 5L – →📧

☐ MDMA & XTC

🎲🎲 MDMA Champagne (Crystal)

- 1g – €20
- 5g – €75
- 10g – €120

🎲🎲 XTC Pills (300mg)

- 5 pills – €25
- 10 pills – €40
- 20 pills – €60

🎲🎲 3-MMC

- ✂ 1g – €25
- ✂ 5g – €75
- ✂ 10g – €120

🌟 KETAMINE – SUGAR / NEEDLES

- 🎲 1g – €25
- 🎲 3g – €60
- 🎲 5g – €80
- 🎲 10g – €140

🎲 LSD / ACID (200µg)

- 5 blotters – €35
- 10 blotters – €55
- 20 blotters – €90

🎲 MEDICATIONS & BENZOS

🎲 Chill / Sleep / Anxiety

- 🎲 Diazepam (Bensedin) 10mg – €15 (15 tabs)
- 🎲 Lorazepam 2.5 mg – €50 per box (30 tabs)

- 🔪 Oxazepam 50mg – €75 NL
- 🔪 Zopiclone 7.5mg – €45 (3 strips) / €105 (10 strips)
- 🔪 Zopiclone 10 mg – €155 per box (140 tabs)
- 🔪 Zolpidem 10mg – €45 (3 strips)
- 🔪 Flunitrazepam 2mg – ➡📦
- 🔪 Quetiapine 100mg / 200mg – ➡📦
- 🔪 Alprazolam (Xanax) 1mg – €50,- (3 strips)
- 🔪 Temazepam 20 mg - €75
- 🔪 Clonazepam- 2mg - € 45
- 🔪 Elvanse- ➡📦

- 📦 Focus & ADHD
- 🔪 Ritalin 10 mg – €45 per box
- 🔪 Mylan Methylfenidaat 10mg – ➡📦
- 🔪 Concerta 36mg / 54mg – ➡📦
- 🔪 Tentin 5mg - €55 ,-
- 🔪 Medikinet- ➡📦

- 🔪 Pain / Nerve Relief
- 🔪 Codeine 15mg – €50 (3 strips)
- 🔪 Tramadol 100 mg&200mg– €60 / €80
- 🔪 Pregabalin 300mg – €90,-
- 🔪 Baclofen - ➡📦

🔪 PERFORMANCE & WELLNESS

🔪 Sexual Performance

- 🔪 Kamagra 100mg
 - 1 strip – €10
 - 3 strips – €25
 - 5 strips – €40
- 🔪 Cenforce 150mg / 200mg – ➡📦

🔪 Vidalista 40mg – ➡📦

🔪 Tanning & Weight Loss

🔪 Melanotan 2 Nasal Spray

- 1 – €45
- 3 – €120

🔪 Ozempic 1mg – €230,-

🔪 Rybelsus 7mg / 14mg – ➡📦

🔪 Slim Caps (Klein / Middel / Groot) – ➡📦

Slim Caps T5 - €50,-

🔪 PEPTIDES - Melanotan 2, TB-500 , BPC-157 Retatrutide, Tirzetaptide Semaglutide , Glow, GHK-CU , mounjaro, iomax and more ➡📦

🔪 STEROIDS

(Anabolen), testosterone, Tren ,Dianabol, anavar and more ➡📦

🔪 SMOKING 🔪

🔪 Marlboro Gold – €50 (slof – 10 packs)

☺️➡️ VAPES

➡️ RandM 15K Puffs (USB-C Rechargeable) one pack - €125

📦 Box deals available

📦 EXTRAS

🔪 Tusi / Pink Cocaine

- • 1g – €60
- • 2g – €100
- • 5g – €200

• 5g+- ➡

Weed/ hasj ➡ ** **

• **Critical 100Gr - €250,-

☐ Liquid Party GHB Blends:

● Blue 69

☐ Green Hulk

♥ Love Poison

📍 DELIVERY INFO

🕒 Avg. delivery time: 30–50 minutes

📦 Pickup location: Leiden

📍 Service Areas:

Leiden • Den Haag • Amsterdam • Rotterdam • Haarlem • Delft • Katwijk • Noordwijk • Hoofddorp • Oegstgeest • Leiderdorp • Voorschoten • Zoetermeer • Wassenaar • Leidschendam • Rijswijk • Alphen a/d Rijn • Sassenheim • Voorhout • Lisse • Nieuw-Vennep • Hillegom • Rijnsburg • Warmond • Valkenburg • Kaag • Boskoop • Gouda • Hazerswoude • Roelofarendsveen • Benthuizen • Pijnacker • Nootdorp • Bleiswijk • Stompwijk • Aalsmeer • Amstelveen • Badhoevedorp

📞 Not listed? Message us — we'll make it work, or check link in bio or contact bot

💳 PAYMENT OPTIONS

🏠 Cash

💰 Crypto

⬇️ WHYxxxx?

✔️ Fast, discreet & multilingual

✔️ Pickup, delivery & postal options

✔️ Bulk pricing available

✔️ Dutch, English & Spanish spoken

✔️ 100% privacy guaranteed

➡️ Looking for something custom or in bulk? Contact for bot for info and sub to our channel for special offers Stuur een bericht voor contactinformatie / Send a message for contact information! 📧 (link in bio) or contact bot. JOIN US ON Signal!

Bring a friend, get a discount.

Subs only.

➡️ DM ****@xxxxx****

☐ ➡️ Operated by ****@xxxxxxx****

🔒🔒 Handled with care. Delivered with respect.** (Example of listening on Channel 1)

While Telegram-based markets differ structurally from darknet marketplaces, the emphasis on discretion, delivery reliability, and speed reflects a shared concern with building trust in high-risk environments. In the absence of platform-based reputation systems, Telegram sellers rely on linguistic assurances, delivery promises, and private negotiation to establish credibility. This contrasts with cryptomarkets, where trust is largely mediated by platform infrastructures such as vendor ratings, standardised listings, public pricing, and user reviews (Tzanetakis et al. 2016).

Against this background, sellers adopt the aesthetic and linguistic conventions of mainstream e-commerce, such as structured menus, branding cues, quality claims, and promotional slogans, to present GLP-1 products through familiar commercial formats. This convergence with conventional retail practices situates pharmaceutical products within ordinary consumer marketplaces.

This process can be interpreted through the lens of normalisation, whereby alternative forms of consumption become increasingly accepted and integrated into everyday social practices (Parker et al. 2002). These dynamics are reinforced by media representations embedded in technological environments, such as the use of emojis and visual cues, as well as by shifting policy contexts and narratives that frame substances as relatively safe, beneficial, or lifestyle-enhancing (Ben-Baruch et al. 2025). In this sense, the communicative and promotional strategies observed on Telegram contribute to the diffusion of GLP-1 receptor agonists beyond clinical settings, particularly as their use for weight reduction becomes increasingly visible, socially mediated, and decoupled from formal medical supervision.

Within Telegram-based GLP-1 markets, promotional and visual framing reinforces processes of normalisation and de-medicalisation by prioritising desirability and consumption over regulatory or clinical considerations. Taken together, the linguistic strategies identified in Table 5 construct GLP-1 products as accessible, customisable, and legitimate tools for self-optimisation. Through strategic framing, informational omission, symbolic association, and the privatisation of negotiation, sellers actively downplay the medical and regulatory dimensions of these substances.

Discussion and conclusion

This study provides, to our knowledge, the first systematic evidence that GLP-1 receptor agonists are being traded on Telegram alongside other prescription-only medicines, extending scholarship on online drug markets beyond its traditional emphasis on illicit substances. Although GLP-1-related posts account for only a small share of overall platform activity, their persistence across the observation period suggests that these products occupy a stable niche within broader digital illicit markets. Taken together, these findings demonstrate how processes of de-medicalisation allow tightly regulated pharmaceuticals to circulate within informal online infrastructures that operate largely outside formal healthcare and regulatory oversight.

The market was strongly concentrated around a small number of highly recognisable brands, especially Ozempic. This pattern suggests that sellers rely on brand familiarity and the symbolic legitimacy of pharmaceutical products to attract buyers. Such positioning is amplified by social media trends such as fitspiration and celebrity endorsements, which contribute to the normalisation of pharmaceutical enhancement outside the medical contexts, especially among vulnerable users (Cataldo et al. 2021; Fong et al. 2024; Han et al. 2024).

Our findings also indicate that GLP-1 receptor agonists constitute a highly profitable segment within Telegram-based drug sales. Despite their prescription-only status, these products were offered at prices substantially above those typically observed in regulated pharmacy settings. This price inflation, combined with the absence of quality assurance and medical supervision, raises a number of public health concerns, including risks of contamination, incorrect dosing, and inappropriate use. The frequent co-advertisement of GLP-1 products alongside illicit or enhancement-oriented substances suggests their integration into broader seller portfolios, consistent with Telegram's polyvalent market structures (Dewey and Buzzetti 2024). This may indicate broader connections between pharmaceutical diversion and more established illicit drug economies.

Across both listings and seller interactions, GLP-1 receptor agonists were rarely presented within a medical frame. References to prescriptions, clinical monitoring, or regulatory safeguards were largely absent, whereas narratives of convenience, rapid results, and self-management were emphasised.

Telegram therefore appears to do more than merely host transactions; it reshapes how prescription medicines are understood by blurring the boundaries between treatment, lifestyle consumption, and illicit exchange. More broadly, encrypted messaging platforms transform how such pharmaceuticals are encountered, embedding them

within everyday consumption practices beyond formal medical contexts. This shift supports processes of normalisation, through which pharmaceutical use outside medical contexts becomes increasingly perceived as ordinary, routine, and culturally acceptable rather than exceptional or clinically bounded (Parker et al. 2002). In the present case, normalisation is evident not only in the availability of GLP-1 receptor agonists through encrypted channels, but also in how their use is framed as compatible with everyday self-improvement practices and digitally mediated forms of health consumption.

Telegram is particularly important in this regard because it combines features of both public and private digital drug markets. Public-facing communication allows sellers to broadcast products to broad audiences and increase visibility, while private, encrypted exchanges facilitate transactions under limited scrutiny (Bakken and Demant 2019; Van der Sanden et al. 2022). Rather than operating as separate spheres, these forms of interaction coexist on the same platform. This hybrid structure may accelerate normalisation by embedding both promotion and supply within routine digital practices that sit outside formal healthcare contexts.

These findings point to an important policy gap. Current pharmaceutical and digital governance frameworks remain largely oriented toward formal supply chains and licensed online pharmacies. In contrast, encrypted messaging platforms and peer-to-peer sales networks remain comparatively under-addressed. Public health responses have also been slow to engage with the digital environments in which prescription medicines are promoted, reinterpreted, and normalised. More effective responses will likely require integrated strategies that combine platform-specific monitoring, regulatory adaptation, and evidence-based health communication delivered within the same digital spaces where demand is shaped. Harm-reduction efforts should also consider how to preserve forms of community-level oversight, particularly as transactions move into increasingly private and encrypted environments where both institutional regulation and informal social control are weakened. In this context, harm-reduction strategies should not only focus on access and safety, but also on promoting communication practices and narratives that emphasise the appropriate medical use of these products, thereby countering their normalisation as routine consumer goods and limiting their diffusion outside clinical settings.

In conclusion, the circulation of GLP-1 receptor agonists on Telegram illustrates how digital market innovation, body image culture, and pharmaceutical de-medicalisation intersect to outpace existing regulatory frameworks. By integrating empirical evidence on market structure, pricing, and discursive framing, this study underscores the urgency of developing adaptive, multi-level policy responses to ensure the safe, informed, and medically appropriate use of prescription medicines in an increasingly digital, enhancement-oriented landscape.

Limitations and future research

A key limitation of this study concerns the identification and coverage of Telegram channels included in the analysis. Telegram operates as a highly dynamic, decentralised environment in which channels frequently emerge, migrate, change names, or become inactive, often in response to moderation pressures or law enforcement activity. As a result, it is not possible to compile a comprehensive, stable list of Telegram

drug-trading channels at any single point in time. More robust claims about temporal trends would require repeated data collection, ideally at intervals of at least three months, given the volatile nature of Telegram channels.

Although a systematic snowball sampling strategy was employed, beginning with keyword-based searches and extending through cross-referenced links, this approach may have favoured more visible, established, or highly interconnected channels, while excluding smaller, newly created, or more closed groups. Additionally, access restrictions, invitation-only channels, and private one-on-one trading interactions remain largely inaccessible to external observation and are therefore excluded from the dataset. Consequently, the findings should be interpreted as indicative of patterns within a subset of active European Telegram drug-trading environments rather than as a complete representation of the full scope of GLP-1-related activity on the platform, reflecting the inherent limitations of the adopted sampling strategy.

A further limitation relates to the extraction and analysis of pricing information. Unlike darknet marketplaces, Telegram posts lack a standardised listing format, with relevant details often embedded in unstructured text, images, videos, or informal language. In some cases, sellers deliberately omit price information or require direct contact to obtain pricing details. Moreover, individual posts frequently advertise multiple products within a single message, complicating the attribution of specific prices to individual substances. These factors substantially limit the effectiveness of automated extraction methods, often necessitating manual interpretation and review. To mitigate these challenges, prices were initially extracted using regular expressions to identify explicit monetary values, which were then manually verified. However, only posts that clearly disclosed a price could be included in the analysis. As a result, reliable pricing data were available exclusively for Ozempic, while no systematic price information could be extracted for other GLP-1 receptor agonists.

Future research should build on the present findings by expanding the scope, depth, and methodological diversity of analyses of prescription pharmaceutical circulation on encrypted messaging platforms. First, longitudinal data collection involving repeated scraping of Telegram channels over extended periods would allow for a more robust examination of temporal dynamics, including market growth, seasonal variation, and responses to regulatory or media events related to GLP-1 medications. Such designs would help distinguish between short-term fluctuations and longer-term patterns of market stabilisation or expansion.

Further qualitative research could examine user perspectives, including buyer motivations, risk perceptions, and experiential narratives surrounding the acquisition and use of GLP-1 medications obtained through informal channels. While ethically and methodologically challenging, such research could be pursued through anonymised interviews, surveys, or digital ethnography, offering deeper insight into how medical, lifestyle, and illicit consumption logics intersect in these markets.

Additionally, future research should also more systematically investigate the relationship between the illicit trade in prescription medicines and organised crime. While emerging evidence suggests that such markets may intersect with broader criminal networks, the extent, structure, and consistency of organised crime involvement remain insufficiently understood. Further empirical work is needed to distinguish between opportunistic individual sellers and more coordinated criminal enterprises,

as well as to examine how factors such as profit margins, supply chain access, and platform governance shape market organisation. Addressing these gaps would contribute to a more robust understanding of the risks associated with illicit pharmaceutical markets and inform more effective regulatory and enforcement responses.

Ultimately, future research should incorporate chemical, pharmacological, or forensic analyses to evaluate the authenticity and composition of GLP-1 products sold online. Combining market analysis with laboratory testing would enable a more comprehensive assessment of public health risks associated with counterfeit, substandard, or improperly stored pharmaceuticals. Together, these approaches would strengthen understanding of how encrypted platforms contribute to the informal circulation of prescription medicines and inform more effective regulatory and public health responses.

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Author contributions F.A: Conceptualization; Methodology; Formal analysis; Investigation; Writing – original draft; Data curation; Writing – review & editing; Investigation; Supervision
G.P: Conceptualisation; Methodology; Writing – original draft; Writing – review & editing.
D.D: Data curation; Investigation; Writing – review & editing.
O.C: Conceptualisation; Writing – review & editing; Supervision.

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Data availability The data supporting the findings of this study, including Telegram messages containing advertisements from drug-trading channels, are available from the corresponding author upon reasonable request. Due to ethical considerations, privacy concerns, and the sensitive nature of the material, access to the data is subject to review and may require additional processing prior to sharing.

Declarations

Competing interests The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. OC is Co-opted member of the Internet-Facilitated Drug Markets Working Group for the Advisory Council on the Misuse of Drugs (ACMD) in the United Kingdom and Chair of the Scientific Committee of the UK Parliament's All-Party Parliamentary Group (APPG) on Emerging Drug and Online Behavioural Trends.

Ethics approval Not applicable.

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