

Article

Trust in Medicine in the Crisis of Epistemic Authority: Evidence from a Refused-Knowledge Community

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Abstract

The COVID-19 pandemic accelerated a broader crisis of epistemic authority in medicine, fostering the emergence of refused-knowledge communities as socially credible alternatives to official healthcare. This study examines the sociocognitive factors associated with extra-institutional care-seeking among members of a Facebook health community promoting therapeutic protocols misaligned with the clinical guidelines approved by the Italian Ministry of Health. A cross-sectional survey was administered between June and September 2022 to a purposive sample of members of the #TDC19 Facebook group ($N = 574$). Path-analytic mediation models were estimated to test the role of trust in official medicine, digital health literacy, and overconfidence as mediators of the relationship between refused-knowledge beliefs and extra-institutional care-seeking. Endorsement of refused-knowledge beliefs was positively associated with extra-institutional care-seeking. A significant indirect association via trust in official medicine emerged, while digital health literacy and overconfidence did not yield significant indirect effects. Perceived COVID-19 severity was indirectly associated with care-seeking via trust in official medicine. Lower trust in official medicine thus emerges as a relevant but not exhaustive correlate of extra-institutional care-seeking, which remained directly associated with refused-knowledge beliefs after adjustment for trust. The #TDC19 case illustrates how refused-knowledge communities driven by licensed physicians reconfigure rather than reject the expert/lay boundary, redirecting trust toward outsider professionals. Rebuilding trust in official medicine may require addressing the structural conditions of its erosion rather than focusing exclusively on individual health beliefs.

Keywords: trust; COVID-19; refused-knowledge community; risk; risk perception; digital health literacy; overconfidence



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1. Introduction

Since February 2020, Italian physicians have formed digital networks to share clinical knowledge on COVID-19 [1,2]. Among these initiatives, the private Facebook group #TERAPIADOMICILIARECOVID19-in-ogni-regione (at-home-therapy-COVID-19-in-every-region; hereafter #TDC19) proved to be unique in terms of both its longevity and its size [3].

The Facebook group was founded in April 2020 by the Italian lawyer Erich Grimaldi, with the aim of bringing together laypersons and physicians to promote early at-home therapies across all Italian regions. The approach of the physicians engaged in the group

was guided by two main principles: early intervention at the onset of symptoms, and the use of non-steroidal anti-inflammatory drugs (NSAIDs), with the aim of preventing severe disease progression [4].

Although some studies have suggested potential benefits of NSAIDs in the early treatment of outpatients with COVID-19 symptoms [5–7], these findings largely derive from observational studies and remain subject to debate. At the time, Italian Ministry of Health guidelines [8,9] did not support the view that early NSAID use could alter the clinical course of the disease. Instead, physicians associated with #TDC19 explicitly contested the rationale underlying these ministerial recommendations.

The composition of #TDC19 volunteer doctors was heterogeneous in terms of both medical specialty and professional background. Most participants were general practitioners or physicians employed by the Italian National Health Service, although the group also included retired doctors and private practitioners. The specialties represented included emergency physicians, anaesthetists, dermatologists, gynaecologists, urologists, paediatricians, physiatrists, and medical residents. When facing uncertainties regarding a specific patient, volunteer doctors could consult other colleagues through a private WhatsApp channel [10].

The service was provided free of charge by volunteer physicians and followed a structured procedure. Members of the #TDC19 community seeking medical assistance posted a message reporting that they had COVID-19 and providing relevant clinical information, including age, sex, pre-existing conditions, symptom onset, symptoms, and possible allergies. After submission, posts were reviewed and approved by health professionals within the group, who conducted an initial triage and organized requests according to a priority list. Patients were then matched with an available physician who agreed to take the case. The assigned physician's name was communicated in a reply to the patient's original post. From that point onward, all further interactions occurred privately between patients and physicians through personal communication channels such as telephone, Messenger, or WhatsApp. In this way, #TDC19 effectively operated as a telemedicine service, connecting patients with volunteer doctors for individualized consultations. At the end of 2021, this procedure was replaced by a dedicated web application (<https://www.tdc19webapp.org/>).

Within a few months, #TDC19 gathered more than 600,000 members and, according to the group's administrators, between 80,000 and 100,000 individuals received medical assistance through the platform during the pandemic, although these figures are based on self-reported estimates and were not systematically recorded [10].

This Facebook group constitutes a distinctive research setting, representing a case of an online health community operating at the margins of institutional scientific authority. On the one hand, the physicians involved distanced themselves from the ministerial protocol for the treatment of COVID-19; at the same time, however, they maintained a formally neutral position on vaccination, while expressing criticism toward Italian mandatory vaccination policies such as the vaccine green pass and emphasizing citizens' freedom of choice. On the other hand, patients who chose to seek care through this channel decided to rely on these dissenting physicians and their extra-institutional therapeutic protocol, rather than on their own general practitioner.

A central analytical question thus concerns the attitudinal and belief-based factors that orient patients toward care-seeking outside institutional healthcare channels.

The Displacement of Trust in Medicine Toward a Refused-Knowledge Community

Over the past two decades, a social process of declining trust in medicine has been identified across multiple national contexts [11–13]. The public health crisis generated by the COVID-19 pandemic appears to have further accelerated this erosion: a survey of a

non-probability sample of 443,455 US adults documented a sharp decline in confidence in physicians and hospitals, from 71.5% in April 2020 to 40.1% in January 2024, independently associated with reduced likelihood of vaccination uptake [14].

Recently, Ienca et al. [15] defined the paradox of trust in medicine as a structural inversion of epistemic credibility in contemporary healthcare, according to which the institutional actors most committed to upholding rigorous scientific standards (researchers, healthcare institutions, professional organizations, etc.) are met with growing public distrust, while those bearing the least accountability (celebrities, unqualified online influencers, AI-generated content, etc.) are increasingly perceived as trustworthy sources. This paradox is further amplified by the unprecedented volume of health information circulating through social media platforms, whose algorithmic architectures can reinforce confirmation bias, groupthink, and overconfidence in lay medical judgment, while privileging emotional resonance and in-group identity over institutional credibility and factual accuracy [16–21].

Trust is a complex and multidimensional social phenomenon encompassing cognitive, emotional, and behavioral dimensions that merge into a unitary social reality [22]. In order to understand the social and cultural factors that may foster or hinder the production of trust, we draw on the theoretical perspectives proposed by Simmel [23], Luhmann [24], and Giddens [25]. Trust is identified in its primary function as a reduction in complexity through an inductive rather than deductive cognitive process [24], in which it appears as a blend of knowledge and ignorance [23]. Trust forms may be distinguished according to the object toward which credibility expectations are directed [24]. Personal trust develops through face-to-face relationships, whereas systemic trust is directed at institutional credentials and abstract procedures that certify expertise; in complex societies, it operates as a functional equivalent of knowledge, enabling individuals to act under uncertainty by delegating judgment to expert systems they cannot themselves evaluate [25]. Trust in expert systems, however, is not sustained only through faceless commitments to abstract institutions, but also through facework commitments at access points, that is, encounters with the professionals who represent these systems, such as physicians, towards whom trust in the system is maintained or eroded [25]. Although trust “remains a risk” [24] (p. 38), it enables actors to overcome the uncertainty of action by excluding certain possibilities of development and neutralizing dangers that, while impossible to eliminate, should not be allowed to disrupt action.

To achieve this function, trust should be considered in its double aspect of confidence and faith [23]. Confidence rests on the “good reasons” to trust, a rational component whose credibility can be built and reinforced through public scrutiny and tests of technical knowledge [23,25]. However, trust also entails a further, non-rational dimension, which Simmel and, subsequently, Giddens describe in terms of faith, a quasi-religious commitment to expert systems that exceeds, and cannot be fully accounted for by, the good reasons on which confidence rests. While confidence concerns the perceived adequacy of an expert system’s technical knowledge, faith concerns the leap by which individuals come to rely on that system despite an irreducible margin of uncertainty that no amount of evidence can dissolve.

Nevertheless, expert knowledge is neither purely factual nor value-free, as even experts socially construct their evaluations, particularly in contexts marked by controversy and disagreement [26–28] and by the multiplication of a valid means of justification, which leads to a proliferation of competing knowledge claims [29].

Therefore, the progressive erosion of trust in medicine is rooted in a pervasive crisis of legitimation for expert systems [30], through which endogenous and exogenous social processes challenge the epistemic authority of medicine and physicians.

At the endogenous level, an internal crisis within medical expert systems regarding the production and technical legitimation of knowledge has been amplified by a growing scientific reflexivity, which has expanded areas of contingency within science [31]: “the foremost public task of science is no longer to silence controversies, but rather to enable them, that is, to enable different public voices to be heard” [29] (p. 21). In medicine, the epistemological legitimacy of Evidence-Based Medicine as the gold standard paradigm has been increasingly contested within the scientific community itself [32]. Greenhalgh et al. [33] argued that EBM’s authority has been undermined by the co-optation of its framework by vested interests, the proliferation of clinical guidelines of variable quality, and its structural inability to accommodate patient-centered care. These tensions were further exacerbated during the COVID-19 pandemic, in which scientific knowledge was produced in real time under conditions of profound uncertainty and disagreements accelerating calls for more pluralistic models of evidence production that integrate mechanistic reasoning and clinical judgment alongside probabilistic data [34–36]. However, Park et al. [37] further documented how the pandemic exposed deep structural inefficiencies in clinical trial research, particularly the proliferation of small and methodologically inadequate studies incapable of generating consolidated evidence.

These controversies expose medicine as a field of competing epistemic forms and institutional interests, rather than a unified authority [2]. In Italy, debates around home-based early treatment protocols have become a salient point of politicized controversy, with clinicians and activists contesting official recommendations and using digital platforms to mobilize dissent [1,38].

At the exogenous level, an external crisis of medical authority is intertwined with the transformation of the structural conditions in which health information circulates and knowledge is socially constructed. The information and communication environments have progressively incorporated social media platforms, fostering a process of popularization of science and consumerisation of health information [39,40], with the consequent democratization of health knowledge and the loss of experts’ monopoly [29,41,42], as well as the emergence of lay expertise and refused knowledge as a socially recognized epistemic entity [43,44].

Social media platforms act as epistemic infrastructures in which credibility is shaped by networked endorsement, affective resonance, and the visibility regimes of platform algorithms rather than by institutional certification [16,45–47], fostering the growth of self-styled experts online [48] and producing overconfidence effects among individuals continuously exposed to large health information flows [20]. Within these spaces, boundaries between expert and lay knowledge are blurred, and experiential accounts can be mobilized as evidence in ways that challenge epistemic authority of clinical knowledge [43,49,50].

The crisis of medical epistemic authority and the progressive erosion of trust do not simply produce passivity, but may redirect trust toward other sources, as individuals turn to knowledge claims situated outside official medicine. Rather than rejecting biomedical knowledge as such, lay expertise produced what Neresini et al. [51] conceptualize as refused knowledge, a body of knowledge partially or totally delegitimized by institutional science yet socially meaningful within specific publics. The notion deliberately locates the act of refusal in the certifying institutions rather than in an intrinsic inferiority of the knowledge itself, thereby avoiding the epistemic dominance that labels such as “alternative” or “heterodox” implicitly confer on institutional science [44]. Such knowledge is not merely anti-scientific but is shaped through selective engagements with scientific evidence and experiential claims. As Crabu et al. [52] have shown with regard to the Italian pandemic context, communities relying on refused knowledge validate it through experiential expertise, testing its reliability on their everyday practices, while elaborating demarcation narratives that secure a form

of epistemic autonomy from the prevailing biomedical paradigm, including by enrolling ‘outsider’ scientific experts.

However, the #TDC19 group represents a distinctive configuration of refused-knowledge community. Although the community was founded by a non-expert (a lawyer) who can be considered a ‘catalyst of dissent’ [53], the refused knowledge was produced and administered by licensed physicians operating through the conventional structures of clinical practice, from triage to individual case management, while lay members contributed the demand for care and, significantly, the experiential validation of the protocol through accounts of recovery shared within the group [10], which reinforced the epistemic credibility of physicians delegitimized by health authorities. The case can thus be read as a variant of refused-knowledge community driven by outsider scientific experts, in which experiential expertise does not constitute the primary source of refused knowledge, but operates as a resource for certifying the authority of its professional producers.

The theoretical perspectives on trust and refused-knowledge community suggest that the decision to seek care outside institutional channels cannot be reduced to an information deficit or to individual irrationality. Rather, it emerges from a configuration of socially produced orientations, in which trust operates as the key element connecting beliefs to behaviour, making social action possible under uncertainty by reducing complexity [24]. Theoretically, the relationship between trust and refused knowledge can be understood as reciprocal. The erosion of trust in institutional medicine may redirect credibility expectations toward refused-knowledge communities, which offer both a competing therapeutic protocol and a relational form of medical practice, while the endorsement of such knowledge may, in turn, further undermine trust in official medicine.

In this study, we focus on the latter direction and theorise trust in official medicine as a mediator. Endorsing the claim that a competing protocol is safer and more effective than official guidance entails a comparative judgement that withdraws the “good reasons” on which confidence in expert systems rests [23,25]; the resulting loss of systemic trust, in turn, removes the reduction in complexity that enables individuals to rely on institutional medicine under uncertainty [24], and is expected to be associated with a higher likelihood of seeking care outside institutional channels. Similarly, perceived risk is theorised as an antecedent of systemic trust. Since trust becomes relevant in situations of risk, in which individuals must delegate judgement to expert systems they cannot themselves evaluate [24,25], perceiving COVID-19 as a serious disease is expected to increase reliance on, and trust in, official medicine, whereas perceiving it as less severe weakens the need for such delegation. At the same time, the platform-mediated environment in which such communities operate foregrounds the role of individuals’ self-perceived epistemic positioning, namely their confidence in navigating online health information and in evaluating medical knowledge autonomously, as a potential channel through which refused knowledge acquires credibility.

While research on refused-knowledge communities has so far relied primarily on qualitative and ethnographic approaches [51–53], quantitative evidence on the sociocognitive factors linking the endorsement of refused knowledge to care-seeking remains scarce. Addressing this gap, the present study examines whether, among members of the #TDC19 community, refused-knowledge beliefs and perceived COVID-19 risk are indirectly associated with extra-institutional care-seeking via trust in official medicine, and whether digital health literacy and overconfidence constitute additional indirect pathways. By comparing care choices within a population already exposed to refused knowledge, the study focuses on the passage from engagement with such knowledge to actual care-seeking. Because care-seeking preceded the survey, the models assess whether the observed pattern of associations is consistent with these pathways, not the temporal ordering of their components. Therefore, the following hypotheses are tested:

H1. *Adherence to beliefs aligned with refused knowledge about the #TDC19 therapeutic protocol is hypothesised to be positively associated with extra-institutional care-seeking, both directly and indirectly via trust in official medicine: stronger adherence to refused-knowledge beliefs is expected to be associated with lower trust in official medicine and, in turn, with a higher likelihood of seeking care outside institutional channels.*

H2. *Lower perceived severity of COVID-19 is hypothesised to be positively associated with extra-institutional care-seeking, indirectly via trust in official medicine: it is expected to be associated with lower trust in official medicine and, in turn, with a higher likelihood of seeking care outside institutional channels.*

H3. *Adherence to beliefs aligned with refused knowledge is hypothesised to be indirectly associated with extra-institutional care-seeking via two cognitive mediators, digital health literacy and overconfidence in evaluating health information; specifically, stronger adherence to refused-knowledge beliefs is expected to be associated with higher digital health literacy, understood as perceived self-efficacy in finding, evaluating, and applying online health information, and, in turn, with a higher likelihood of seeking care outside institutional channels (H3a); overconfidence, understood as a perceived epistemic superiority over medical experts whereby individuals assess their own health knowledge as greater than that of doctors, is expected to operate as an independent pathway linking refused-knowledge beliefs to extra-institutional care-seeking (H3b).*

2. Materials and Methods

A cross-sectional study was conducted among a purposive sample of Italian adult members of the private Facebook group #TDC19, currently comprising 651,371 individuals. The survey was administered online from June 22 to September 27, 2022, following the acute phase of the pandemic in Italy, targeting individuals who were members and had sought information or treatment through the #TDC19 Facebook group. An initial post and a subsequent reminder presenting the purpose of the study and the link to the online questionnaire were distributed within the community, with the permission and support of the Facebook group administrators. Participation was voluntary; informed consent was obtained from all respondents, and no personally identifiable information was collected. The study was approved by the University Research Ethics Committee of the University of Macerata on 28 March 2022.

The survey was completed by 1004 participants; respondents who did not provide information on the outcome variable ($N = 430$; 42.8% of all respondents) were excluded from the analyses. None of the excluded respondents completed the questionnaire: 69.8% interrupted it before reaching the section on the COVID-19 care pathway, 24.4% reported not having had COVID-19 and did not answer the outcome item, and 5.8% reached that section but did not answer the outcome item. To assess potential selection bias, respondents included in the complete-case analytical sample were compared with those excluded based on three demographic characteristics: age, gender, and university degree attainment. No statistically significant differences emerged between the two groups in age ($M = 50.41$ vs. 50.58 ; $t(1000) = -0.286$, $p = 0.775$), gender (women: 79.79% vs. 80.14%; $\chi^2(1) = 0.019$, $p = 0.891$), or university degree attainment (28.92% vs. 29.21%; $\chi^2(1) = 0.010$, $p = 0.921$). For bivariate comparisons, respondents were divided into two groups based on whether they reported seeking treatment from a physician affiliated with the #TDC19 Facebook community (extra-institutional care-seekers, $n = 241$) or from a general practitioner or USCA continuity-of-care unit (special home-based care units established by the Italian National Health Service during the pandemic) (institutional care-seekers, $n = 333$).

We operationalised extra-institutional care-seeking using item E2, which asked respondents to identify the primary medical figure who managed their COVID-19 care. Responses

were recoded into a binary indicator distinguishing those who relied on a physician affiliated with the #TDC19 Facebook group (coded 1) from those who consulted a general practitioner or a USCA continuity-of-care unit (coded 0). The label “extra-institutional” refers to the organisational channel through which care was obtained, not to the credentials or institutional affiliation of the physicians involved. #TDC19 physicians were licensed professionals, most of them general practitioners or physicians employed by the National Health Service; what distinguishes care-seeking through the community is that care was obtained outside the official pathways of the National Health Service and according to a protocol not aligned with the guidelines of the Ministry of Health. Moreover, this item captures an actual behaviour enabled by participation in the online community, namely the choice to seek treatment from physicians proposing a therapeutic protocol misaligned with national clinical guidelines. Because item E2 refers to the care pathway followed during the respondents’ COVID-19 illness, the reported care-seeking behaviour preceded survey completion. Based on item C3, 52.8% of respondents contracted COVID-19 less than six months before the survey, 30.1% between six months and one year before, and 17.1% between one and two years before. Refused-knowledge beliefs were assessed using item D6, a four-item scale in which respondents expressed agreement with statements attributing greater safety and efficacy to the Facebook group’s therapeutic protocols relative to official medical guidance (e.g., “The Facebook group #TDC19 proposes treatments more effective than those of the national health system”) on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). A composite score was computed as the mean of the four items, with higher scores reflecting stronger endorsement of Facebook-sourced health claims ($\alpha = 0.64$; $\omega = 0.72$). Item-total correlations ranged from 0.40 to 0.53, and parallel analysis supported a single-factor solution; the modest α partly reflects a ceiling effect, as two items showed very high means and restricted variance ($M \approx 4.8$, $SD \approx 0.6$).

Perceived COVID-19 risk was indexed by item C2, which asked respondents to rate the severity of COVID-19 as a disease on a five-point scale from 1 (not at all serious) to 5 (very serious), and was treated as continuous in all regression analyses.

Trust in official medicine, our primary mediator, was derived from item B1, which asked respondents to rate their trust in six actors on a five-point scale from 1 (no trust at all) to 5 (complete trust): their general practitioner (family physician), the medical profession as a whole, hospitals, official/science-based medicine, alternative treatments (e.g., acupuncture, homeopathy), and the National Health Service. The item on alternative treatments was excluded from the composite, as it does not refer to official medicine and was virtually uncorrelated with the remaining items (r between -0.21 and 0.02). The scale captures both personal and systemic dimensions of trust, reflecting the empirically intertwined nature of the two levels in healthcare contexts: interpersonal trust developed through patient–provider relationships and systemic trust in institutional structures are mutually consequential and difficult to separate cleanly in survey measurement [54]. An exploratory factor analysis of the five retained items supported a single-factor solution (parallel analysis), with loadings ranging from 0.46 (general practitioner) to 0.85 (hospitals). A composite score was computed as the mean of the five items ($\alpha = 0.79$; $\omega = 0.81$). Consistent with Giddens’s notion of access points [25], the composite thus includes both trust in the institutions of official medicine and trust in the professionals who represent them, notably one’s general practitioner. To test an alternative interpretation, Models 1 and 2 were also estimated separately for trust in one’s general practitioner and for trust in medical institutions (Supplementary Table S2).

Digital health literacy and overconfidence in evaluating health information were both captured using item F3 of the survey. Digital health literacy (items 1–8) was constructed using the validated Italian version of the eHealth Literacy Scale (eHEALS) [55], captur-

ing perceived self-efficacy in finding, evaluating, and applying online health information ($\alpha = 0.95$). Overconfidence (items 9–12) was measured using a four-item scale previously developed and tested [56], adapted here to a five-point response format. Following the comparative approach of Motta et al. [20], the scale captures perceived epistemic superiority over medical experts, that is, the belief that health information found online allows one to know more than doctors, through items such as “using the Internet, I can get more health information than I can get from doctors” ($\alpha = 0.86$). As no measure of objective knowledge was included, the scale does not quantify miscalibration at the individual level, but respondents’ self-assessed knowledge relative to that of medical experts.

Finally, our models account for several sociodemographic characteristics that prior research has associated with low trust in official medicine and extra-institutional care-seekers, such as female sex and higher educational level [14,57]. We control for sex (0 = female, 1 = male), age (continuous, in years), and university degree attainment (0 = no, 1 = yes). The full questionnaire is provided as Supplementary Materials.

All analyses were conducted in Stata Standard Edition, version 17. The analytical procedure proceeded in three sequential steps. As a first step, bivariate group differences between extra-institutional and institutional care-seekers were examined using Welch’s *t*-tests for continuous variables and Pearson’s chi-square tests for binary variables (sex, university degree), reporting mean differences or differences in proportions with 95% confidence intervals and effect sizes (Cohen’s *d* and Cohen’s *h*). As a second step, a pairwise correlation matrix among continuous focal variables was inspected to assess the direction and magnitude of associations prior to multivariate modelling. As a third step, mediation hypotheses were tested using a path-analytic product-of-coefficients approach, in which the indirect effect is estimated as the product of paths *a* and *b* and its significance is assessed via percentile bootstrapping [58,59]. Four mediation models were estimated, each comprising three regression equations. In the first equation, path *a* was estimated by regressing the mediator on the independent variable and all sociodemographic covariates using OLS regression. In the second equation, path *b* and the direct effect (path *c'*) were estimated by regressing the binary outcome on both the independent variable and the mediator simultaneously, using logistic regression. Because the dependent variable is binary, this mixed-outcome approach—OLS for the mediator equation and logistic regression for the outcome equation—follows established practice in mediation analysis with dichotomous outcomes [60,61]. The indirect effect ($IE = a \times b$) was calculated as the product of the two coefficients. Because the two paths are estimated on different scales—a linear coefficient for path *a* and a log-odds coefficient for path *b*—standard parametric tests of the indirect effect are inappropriate; its statistical significance was therefore assessed using percentile bootstrapping with 1000 resamples, with a 95% confidence interval excluding zero taken as evidence of a statistically significant indirect effect. Because the two component coefficients are defined on different scales, an additional sensitivity analysis was conducted using a counterfactual-based mediation framework, estimating average causal mediation effects (ACME) and average direct effects (ADEs) on the probability scale. This analysis retained the original covariate specification and used bootstrap confidence intervals to assess uncertainty. The two sets of estimates are therefore complementary. The product-of-coefficients estimates indicate the sign and statistical significance of the indirect associations, whereas the ACME and ADE express their magnitude as average differences in the predicted probability of extra-institutional care-seeking. Because logistic regression coefficients are not collapsible across models, the direct (*c'*) and indirect ($a \times b$) estimates do not sum to the total effect on the log-odds scale, although this decomposition holds for the probability-scale estimates. Given the cross-sectional design, all models are interpreted as associational indirect-effect models; the estimated indirect effects describe patterns of

association consistent with the hypothesised pathways, not causal effects. The four models were specified as follows:

Model 1: Refused-knowledge beliefs (IV) → Trust in official medicine (Mediator) → Extra-institutional care-seeking (DV).

Model 2: Perceived COVID-19 risk (IV) → Trust in official medicine (Mediator) → Extra-institutional care-seeking (DV).

Model 3.1: Refused-knowledge beliefs (IV) → Digital health literacy (Mediator) → Extra-institutional care-seeking (DV).

Model 3.2: Refused-knowledge beliefs (IV) → Overconfidence (Mediator) → Extra-institutional care-seeking (DV).

All mediation models were estimated controlling for the full set of sociodemographic covariates (sex, age, university degree).

3. Results

The final analytical sample comprised 574 respondents, of whom 42.0% ($n = 241$) sought treatment primarily through the #TDC19 Facebook group, while 58.0% ($n = 333$) relied on institutional healthcare channels. Descriptive statistics and bivariate correlations for all study variables are presented in Table 1. Participants displayed a strong endorsement of refused-knowledge beliefs regarding the #TDC19 therapeutic protocols ($M = 4.40$, $SD = 0.77$). Conversely, trust in institutional medicine was comparatively low ($M = 2.27$, $SD = 0.65$), while respondents' perceived risk of COVID-19 severity remained moderate ($M = 2.19$, $SD = 0.67$). Self-reported digital health literacy and overconfidence in evaluating online medical information were both moderate ($M = 3.36$, $SD = 1.06$; $M = 2.73$, $SD = 1.15$, respectively). The demographic profile of the sample was predominantly female (80.0%), with a mean age of 50.4 years, and approximately 29.0% held a university degree.

Table 1. Descriptive statistics and bivariate correlations for all study variables ($N = 574$).

	M	SD	1	2	3	4	5	6	7	8	9
1. Extra-institutional care-seeking	0.42	0.49	—	0.14 ***	0.03	−0.15 ***	0.12 **	0.08 †	0.02	0.09 *	0.07 †
2. Refused-knowledge beliefs	4.40	0.77		—	−0.11 **	−0.27 ***	0.13 **	0.20 ***	0.03	0.01	0.04
3. Perceived COVID-19 risk	2.19	0.67			—	0.28 ***	−0.10 *	−0.13 **	−0.02	0.00	0.03
4. Trust in official medicine	2.27	0.65				—	−0.15 **	−0.31 ***	−0.06	−0.04	−0.02
5. Digital health literacy	3.36	1.06					—	0.53 ***	0.14 **	0.01	0.02
6. Overconfidence	2.73	1.15						—	0.17 ***	0.02	0.02
7. Age	50.42	9.25							—	−0.06	−0.15 ***
8. Male sex	0.20	0.40								—	−0.01
9. University degree	0.29	0.45									—

Note. Extra-institutional care-seeking coded 0 (institutional)/1 (extra-institutional). Refused-knowledge beliefs: $\alpha = 0.64$. Trust in official medicine: $\alpha = 0.79$. Digital health literacy: $\alpha = 0.95$. Overconfidence: $\alpha = 0.86$. † $p < 0.10$. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

To assess systematic differences between those who sought care from the community's physicians and those who followed institutional care paths, we conducted Welch's *t*-tests and chi-square tests (Table 2). Extra-institutional care-seekers reported significantly higher levels of refused-knowledge beliefs ($p < 0.001$) and greater digital health literacy ($p < 0.01$), while simultaneously demonstrating lower trust in official medicine ($p < 0.001$), although these differences were small in magnitude (*d* between 0.25 and 0.30 in absolute value). Notably, a higher proportion of males was found among extra-institutional care-seekers (23.7% vs. 16.5%; $p < 0.05$). No statistically significant differences were observed between the two groups concerning perceived COVID-19 risk, age, university degree, or overconfidence.

Table 2. Group comparisons between institutional and extra-institutional care-seekers.

	Institutional Care (<i>n</i> = 333)	Extra-Institutional Care (<i>n</i> = 241)	Difference [95% CI]	Test	<i>p</i>	Effect Size [95% CI]
Refused-knowledge beliefs	4.31 (0.83)	4.53 (0.66)	0.22 [0.10, 0.34]	$t = 3.53$	<0.001	$d = 0.29$ [0.12, 0.45]
Perceived COVID-19 risk	2.17 (0.65)	2.21 (0.70)	0.04 [−0.07, 0.15]	$t = 0.70$	0.487	$d = 0.06$ [−0.11, 0.23]
Trust in official medicine	2.35 (0.66)	2.16 (0.62)	−0.19 [−0.30, −0.08]	$t = −3.53$	<0.001	$d = −0.30$ [−0.46, −0.13]
Digital health literacy	3.25 (1.03)	3.51 (1.08)	0.26 [0.08, 0.44]	$t = 2.90$	0.004	$d = 0.25$ [0.08, 0.41]
Overconfidence	2.66 (1.13)	2.84 (1.17)	0.18 [−0.01, 0.37]	$t = 1.85$	0.066	$d = 0.16$ [−0.01, 0.32]
Age	50.24 (9.39)	50.67 (9.07)	0.43 [−1.10, 1.96]	$t = 0.55$	0.581	$d = 0.05$ [−0.12, 0.21]
Male sex (%)	16.5%	23.7%	7.1 pp [0.4, 13.8]	$\chi^2(1) = 4.53$	0.033	$h = 0.18$
University degree (%)	26.3%	32.9%	6.4 pp [−1.2, 13.9]	$\chi^2(1) = 2.74$	0.098	$h = 0.14$

Note. Continuous variables reported as M (SD); binary variables as percentages. Differences computed as extra-institutional minus institutional. Welch's *t*-tests for continuous variables; Pearson's chi-square tests for binary variables. Effect sizes: Cohen's *d* for continuous variables, Cohen's *h* for binary variables. pp = percentage points.

We first estimated the total effect of refused-knowledge beliefs on extra-institutional care-seeking, which was positive and statistically significant on the log-odds scale ($b = 0.406$, $SE = 0.132$, $p = 0.002$). The mediation analyses (Figure 1; Table 3) then examined the indirect pathways underlying this association.

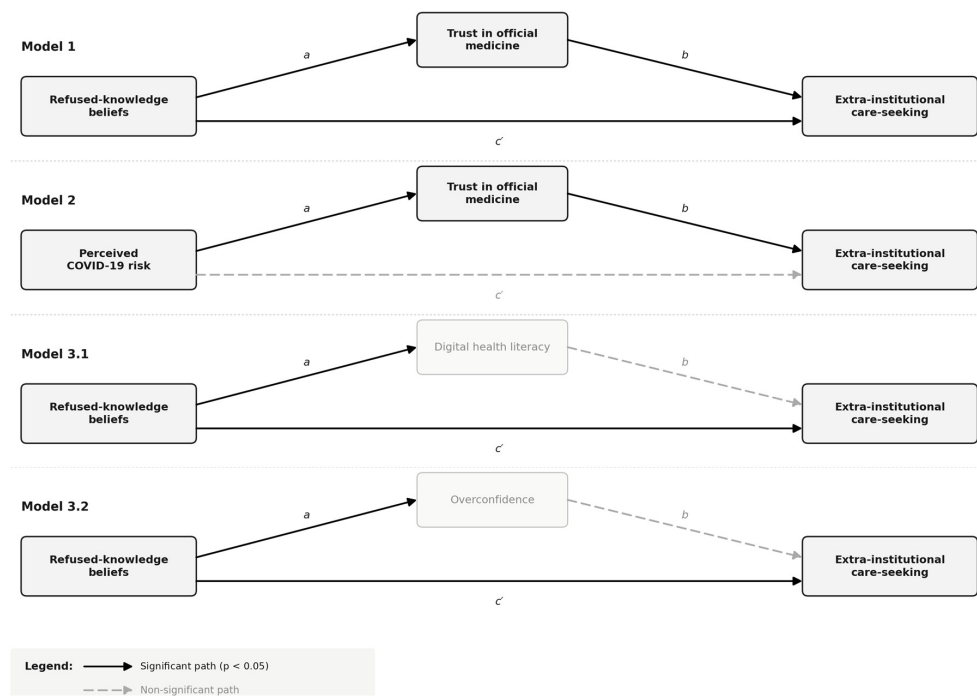


Figure 1. Results of the mediation analyses: path coefficients and indirect effects for Models 1–3.2.

Table 3. Results of the mediation analyses (DV = extra-institutional care-seeking; $N = 574$).

Model	IV	Mediator	Path a	Path b	Path c'	IE	95% CI Bootstrap
1	Refused-knowledge beliefs	Trust in official medicine	−0.265 *	−0.374 *	0.41 *	0.099	[0.02, 0.19]
2	Perceived COVID-19 risk	Trust in official medicine	0.276 ***	−0.544 ***	−0.241 †	−0.150 ***	[−0.24, −0.06]
3.1	Refused-knowledge beliefs	Digital health literacy	0.156 ***	0.161	0.449 **	0.025	[−0.02, 0.07]
3.2	Refused-knowledge beliefs	Overconfidence	0.318 ***	0.084	0.450 **	0.027	[−0.04, 0.09]

Note. Path a estimated with OLS regression; path b and c' estimated with logistic regression (binary outcome). Indirect effects (IE = $a \times b$) were assessed via percentile bootstrapping (1000 resamples). A 95% CI that excludes zero indicates a statistically significant indirect effect. Covariates in all models: sex, age, university degree. † $p < 0.10$. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

The analysis revealed a significant indirect association, with trust in official medicine emerging as the primary pathway linking refused-knowledge beliefs to care-seeking behaviour (Table 3). Specifically, higher endorsement of refused-knowledge beliefs was associated with lower trust in official medicine (path $a = -0.265$, $p < 0.05$), which, in turn, was significantly associated with a higher likelihood of seeking care through the #TDC19 community (path $b = -0.374$, $p < 0.05$). The resulting indirect effect was positive (IE = 0.099). As the product of a linear and a log-odds coefficient, this value reflects the direction of the indirect association rather than a change in probability. The statistical significance of this indirect effect was confirmed via percentile bootstrapping, with a 95% confidence interval [0.02, 0.19] that excludes zero. Notably, the direct effect of refused-knowledge

beliefs remained statistically significant after controlling for trust ($c' = 0.41$, $p < 0.05$), indicating that the association between refused-knowledge beliefs and extra-institutional care-seeking is partly indirect via trust in official medicine.

The remaining mediation models yielded a more nuanced pattern of results. In Model 2, testing the mediating role of trust in official medicine between perceived COVID-19 risk and care-seeking, both path a and path b reached statistical significance. The direct effect of perceived COVID-19 risk was not statistically significant after introducing the mediator. However, the absence of a statistically significant direct effect is not, by itself, definitive evidence of full mediation.

By contrast, Models 3.1 and 3.2, which examined digital health literacy and overconfidence as mediators of the relationship between refused-knowledge beliefs and care-seeking, did not yield significant indirect effects. While path a was positive and significant in both cases, indicating that stronger endorsement of refused-knowledge beliefs co-occurred with higher self-perceived digital health literacy and greater overconfidence, neither variable was significantly associated with the outcome (path b = ns) when adjusted for other model covariates. Furthermore, the direct effect of refused-knowledge beliefs remained robustly significant across all specifications (Model 3.1: $c' = 0.449$, $p < 0.01$; Model 3.2: $c' = 0.450$, $p < 0.01$).

The results of the sensitivity analysis were consistent with the substantive interpretation of the original findings (Supplementary Table S1). In Model 1, trust in official medicine continued to exhibit a positive indirect effect on the relationship between refused-knowledge beliefs and extra-institutional care-seeking (ACME = 0.024, 95% CI [0.008, 0.044]), while the direct effect remained positive (ADE = 0.083, [0.025, 0.143]). On the probability scale, a one-unit increase in refused-knowledge beliefs was thus associated with an average difference of about 2.4 percentage points in the probability of extra-institutional care-seeking via trust, and of about 8.3 percentage points through the direct path. In Model 2, perceived COVID-19 risk continued to exhibit a negative indirect effect through trust in official medicine (ACME = −0.036, [−0.061, −0.014]); the direct effect was not statistically significant at the conventional 5% level (ADE = −0.032, [−0.075, 0.008]). In Models 3.1 and 3.2, the indirect effects through digital health literacy and overconfidence remained statistically non-significant, whereas the direct effects of refused-knowledge beliefs remained positive.

When trust was decomposed, the indirect effect in Model 1 was significant via trust in one's general practitioner but not via trust in medical institutions, whereas in Model 2 it was significant via both (Supplementary Table S2). The indirect effect in Model 1 was also robust to alternative specifications of refused-knowledge beliefs (Supplementary Table S2).

4. Discussion

This study examined the sociocognitive factors associated with extra-institutional care-seeking among members of the #TDC19 Facebook group, a distinctive refused-knowledge community driven by outsider physicians who proposed a protocol to cure COVID-19-related disease, dissociated from the official guidelines of the Italian Ministry of Health. As all respondents were already members of the community, our findings concern differences in care choices among people already exposed to refused knowledge and should not be read as explaining why individuals join such communities or as applying to the general population. Our main hypothesis (H1) was that adherence to refused-knowledge beliefs would be positively associated with extra-institutional care-seeking, both directly and indirectly via trust in official medicine.

The results indicated that endorsement of beliefs that #TDC19's protocol was safer and more effective than the official protocol was positively associated with extra-institutional care-seeking ($b = 0.406$, $p = 0.002$). This association is partly indirect via trust in institutional

medicine, as individuals who endorse beliefs aligned with refused knowledge show lower trust in official medicine (path $a = -0.265$), which, in turn, is associated with a higher likelihood of extra-institutional care-seeking (indirect effect = 0.099, CI bootstrap [0.02, 0.19]). However, when controlling for trust, the direct effect of refused-knowledge beliefs remains significant ($c' = 0.41, p < 0.05$), indicating that this association is not fully captured by lower trust in official medicine.

This finding is in line with research showing that beliefs aligned with non-official medicine are associated with the adoption of concrete health behaviours among laypersons, such as adherence to complementary medicine [57] or behaviours consistent with COVID-related conspiracy beliefs [62]. However, in our study, the role of distrust in official medicine appears less straightforward. Previous studies have found that distrust in medicine is associated with reduced adherence to medication [63], delayed medical care [13], vaccine hesitancy [14,64], poorer self-reported health outcomes [65], and use of complementary medicine [66].

Nevertheless, our results showed that the association between refused-knowledge beliefs and extra-institutional care-seeking is partly indirect via trust in official medicine. This pattern is consistent with the reinforcing dynamic described by Ienca et al. [15], whereby distrust in institutional medicine and engagement with confirmatory alternative sources sustain one another, making it difficult to disentangle their distinct contributions to care-seeking behaviour. It is plausible that refused-knowledge communities offer laypersons a more effective remedy for uncertainty than conventional medicine [24]. The experiential expertise that is socially constructed within these communities, combined with emotional resonance, social support and in-group identity, produces and reinforces the credibility of the experts who operate in them, as well as the adherence of the members to a distinctive body of knowledge. In other words, refused-knowledge communities may give rise to the intertwining dimensions of trust we elucidated in the Introduction, i.e., weak inductive knowledge (confidence) and the leap by which laypeople come to rely on a system despite a margin of uncertainty (faith) [23]. As shown in Supplementary Table S2, the indirect association in Model 1 was significant via trust in one's general practitioner but not via trust in medical institutions. This finding should be interpreted with caution, since the outcome variable itself contrasts care received from one's general practitioner with care received from #TDC19 physicians. A reverse relationship therefore cannot be ruled out, as respondents who turned to the community's physicians rather than to their own general practitioner may have developed lower trust in the latter as a consequence of that choice.

In either direction, trust in official medicine appears to become consequential for care choices primarily at access points, through facework commitments with general practitioners, rather than through faceless commitments to abstract institutions [25]. This interpretation is consistent with the configuration of #TDC19, whose physicians offered not only an alternative protocol but also a personal relationship of care, thereby acting as an alternative access point to medical expertise. By contrast, in Model 2, the indirect association ran through both trust in one's general practitioner and trust in medical institutions. Perceived COVID-19 risk may thus relate to trust in official medicine at both levels, whereas care choices relate primarily to the level of facework.

Concerning the second hypothesis (H2), perceived COVID-19 severity was positively associated with trust in official medicine (path a), and trust was, in turn, negatively associated with the likelihood of extra-institutional care-seeking (path b). The indirect effect through trust was statistically significant, whereas perceived severity showed no significant direct association with care-seeking once trust was taken into account. The link between perceived severity and care-seeking therefore appears to pass mainly through trust in official medicine, although the absence of a significant direct effect does not, by itself, establish

full mediation. The positive association between perceived severity and trust is consistent with research linking higher trust in science and medical practitioners to greater COVID-19 risk perception [67].

As regards the role of two cognitive mediators, digital health literacy (H3a) and overconfidence (H3b) in relation to the likelihood of seeking care outside institutional channels, the models tested yielded no significant indirect effects. In both cases, path α was positive and significant, indicating that stronger endorsement of refused-knowledge beliefs co-occurred with higher digital health literacy and greater overconfidence, but neither mediator was significantly associated with extra-institutional care-seeking in the presence of the other model variables, and the corresponding indirect effects did not reach significance. These findings diverge partially from research suggesting that both overconfidence and digital health literacy play a role in shaping non-institutional health behaviours. In a study on anti-vaccine policy attitudes among US adults, Motta et al. [20] showed that individuals with low objective knowledge about the causes of autism but high subjective confidence in their own knowledge relative to medical experts were significantly more likely to oppose mandatory vaccination policies and to attribute greater policymaking authority to non-experts, suggesting that overconfidence may function as an independent driver of scepticism toward professional and scientific authority. Similarly, Author 1 et al. [56], in a survey study among Italian university students, found that overconfidence in evaluating online health information predicted self-care practices, which, in turn, increased online health information-seeking, suggesting that perceived epistemic superiority may foster autonomous health management at the expense of professional consultation.

However, the absence of significant indirect effects does not necessarily contradict these findings. The #TDC19 case may represent a distinctive configuration in which the credibility of the alternative protocol rests primarily on the institutional credentials of its producers (i.e., licensed physicians) rather than on members' self-perceived capacity to evaluate medical information autonomously. In this sense, the boundary between lay and expert knowledge within the community is not dissolved but reconfigured, as trust is redirected toward outsider professionals rather than toward lay self-assessment. Self-perceived overconfidence and digital health literacy may therefore function as general predisposing orientations toward refused-knowledge communities, without constituting the specific pathway through which refused-knowledge beliefs are linked to care-seeking behaviour in this particular setting.

Although they concern members of a refused-knowledge community and do not directly assess policy interventions, the findings of this study suggest some broader implications for public health policy and health communication. If longitudinal research confirms the role of trust in official medicine, and particularly of trust in general practitioners as access points to the healthcare system, interventions aimed at reducing reliance on dissenting medical communities should not be limited to correcting misinformation or improving individuals' capacity to critically evaluate online health information. In our study, self-perceived digital health literacy did not emerge as a pathway linking refused-knowledge beliefs to extra-institutional care-seeking, whereas trust in official medicine did; this result does not rule out a role for actual health literacy, which our instrument did not measure, but points to the relevance of confidence and faith in the institutional apparatus of medicine. Public health strategies may therefore need to address the structural conditions that undermine trust in medicine, including the lack of transparency in clinical guideline development, the difficulty of maintaining timely and coherent institutional communication during health emergencies, and the visibility of expert disagreement in the public sphere, rather than focusing exclusively on individual-level cognitive factors.

The relationship between institutional trust and risk perception points in a similar direction. If individuals with low institutional trust also tend to perceive COVID-19 as less severe, the consequences may extend beyond care-seeking choices to delayed treatment and potentially worse health outcomes, although our data do not assess health outcomes. Risk communication strategies might therefore benefit from moving beyond the purely informational register toward genuinely relational approaches, oriented toward rebuilding the affective and moral dimensions of trust rather than simply conveying epidemiological evidence to a presumed rational audience.

Finally, the #TDC19 case raises questions concerning professional accountability and the regulatory dimension of clinical dissent, precisely because refused knowledge was produced and administered by licensed physicians operating outside institutional oversight while retaining their formal credentials. This configuration suggests a possible regulatory gap that existing mechanisms of professional accountability may struggle to address, and may call for clearer frameworks capable of distinguishing legitimate scientific controversy from the organised promotion of protocols that deviate from validated clinical guidelines.

Several limitations of the present study should be acknowledged. First, the purposive sampling strategy, while appropriate to the research design, limits the representativeness of the findings and precludes generalisation to the broader Italian population of COVID-19 patients. More specifically, as all respondents were already members of the #TDC19 community, the associations observed concern care choices within a population selected into a refused-knowledge environment; the study cannot identify the factors leading individuals to join such communities, nor establish whether the same associations hold outside this group. Moreover, self-selection operates at two levels: membership in the group is itself shaped by specific characteristics, and, within the group, participation in the survey was voluntary, so that the most engaged members may be overrepresented, as also suggested by the very high levels of endorsement of refused-knowledge beliefs. We note that purposive sampling is a common and often unavoidable feature of research on hard-to-reach populations, and that the analytical focus of the study lies in the examination of attitudinal and belief-based pathways rather than in the estimation of population prevalence. Future studies conducted on general population samples would therefore enhance the comparative value of these findings.

Additionally, 430 of 1004 respondents (42.8%) were excluded because they did not provide information on the outcome variable, mostly because they interrupted the questionnaire before the section on the COVID-19 care pathway. Although included and excluded respondents did not differ significantly in age, gender, or university degree attainment, these comparisons do not establish that the missing data are Missing Completely at Random (MCAR), nor do they rule out selection bias associated with unobserved characteristics or the substantive variables used in the mediation models. Since missingness mainly concerns the outcome variable, multiple imputation was not considered appropriate [68]; the robustness of the complete-case estimates cannot be inferred solely from the absence of statistically significant demographic differences, and both the stability of these estimates and their generalisability to the wider membership of the community should therefore be interpreted with caution.

Second, the cross-sectional design of the study precludes causal inference. The mediation models estimated here are path-analytic in nature and rely on the assumption of correctly specified causal ordering. The direction of effects, particularly between trust in official medicine and endorsement of alternative health beliefs, may be bidirectional, and longitudinal or experimental designs would be required to establish temporal precedence. This concern is heightened by the fact that the behavioural outcome preceded the measurement of the proposed mediators. The experience of being treated by physicians affiliated

with the #TDC19 community may itself have shaped respondents' trust in official medicine and their endorsement of refused-knowledge beliefs. This possibility is consistent with the reinforcing dynamic between institutional distrust and engagement with alternative sources described by Ienca et al. [15].

Third, the internal consistency of the refused-knowledge beliefs scale was modest ($\alpha = 0.64$; $\omega = 0.72$). This partly reflects the small number of items, to which α is sensitive, and a ceiling effect on two items, which restricted variance among respondents who most strongly endorsed the community's protocol. Measurement error in this variable may have affected the precision of its estimated associations, although the main results were robust to alternative specifications of the scale. Future studies would benefit from a longer, validated measure of refused-knowledge beliefs.

Fourth, the moderate overlap between digital health literacy and overconfidence raises concerns about discriminant validity in the mediation models testing these constructs separately. The non-significant indirect effects observed in Models 3.1 and 3.2 may therefore reflect the overlap between the two constructs as much as a genuine absence of mediation. Moreover, since the survey did not include a measure of objective knowledge, overconfidence was captured as perceived epistemic superiority over medical experts rather than as miscalibration between subjective confidence and objective accuracy. Similarly, the eHEALS measures perceived rather than actual digital health literacy; the null indirect effect observed in Model 3.1 therefore indicates that self-perceived competence did not mediate the association in this sample, not that actual health literacy is irrelevant.

5. Conclusions

The present study is situated within a broader social process of legitimization crisis affecting expert systems and, in particular, medicine, driven by endogenous factors such as the internal contestation of biomedical knowledge and the erosion of Evidence-Based Medicine as an unquestioned epistemic standard, and by exogenous factors such as the transformation of the information environment and the rise in digital platforms as alternative sites of health knowledge production and validation.

The #TDC19 Facebook group represents a distinctive case in this regard, as a community in which refused knowledge was produced and legitimised by licensed physicians, reconfiguring rather than rejecting the expert/lay boundary. A key finding of this study is that the association between refused-knowledge beliefs and extra-institutional care-seeking is partly indirect via trust in official medicine. Lower trust thus emerges as a relevant but partial component of this link, since refused-knowledge beliefs remain directly associated with care-seeking outside institutional channels after adjustment for trust. These results call for further research on the sociocognitive factors associated with care-seeking in other refused-knowledge communities and in the general population, including the reasons why people join such communities and the role of personal variables, such as individual illness experiences and relationships with physicians. They also invite policymakers to address the structural conditions underlying the crisis of trust in official medicine rather than treating extra-institutional care-seeking as a mere product of individual misinformation or limited health literacy.

Supplementary Materials: The following supporting information can be downloaded at <https://www.mdpi.com/article/10.3390/soc16110368/s1>. Table S1: Sensitivity analysis (ACME/ADE); Table S2: Models 1–2 with decomposed trust and alternative specifications of refused-knowledge beliefs; File S1: Questionnaire.

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Abbreviations

The following abbreviations are used in this manuscript:

#TDC19 Facebook group #TERAPIADOMICILIARECOVID19-in-ogni-regione

References

1. Campo, E.; De Toffoli, M.; Gobo, G.; Strata, F. Early home therapies against COVID-19: An Italian case of politicisation of science? *Partecip. Conflitto* **2022**, *15*, 567–594. [CrossRef]
2. Lusardi, R.; Bronzini, M.; Piras, E.M. Low-intensity epistemic war. Medical communities and the development of legitimate knowledge in times of radical uncertainty. *Rass. Ital. Sociol.* **2023**, *4*, 643–674. [CrossRef]
3. Fazio, S.; Cosentino, M.; Marino, F.; Pandolfi, S.; Zanolin, E.; Bellavite, P. The problem of home therapy during COVID-19 pandemic in Italy: Government guidelines versus freedom of cure? *J. Pharm. Pharmacol. Res.* **2022**, *6*, 100–114. [CrossRef]
4. Fazio, S.; Bellavite, P. Early Multi-Target Treatment of Mild-to-Moderate COVID-19, Particularly in Terms of Non-Steroidal Anti-Inflammatory Drugs and Indomethacin. *BioMed* **2023**, *3*, 177–194. [CrossRef]
5. Bassetti, M.; Andreoni, M.; Santus, P.; Scaglione, F. NSAIDs for early management of acute respiratory infections. *Curr. Opin. Infect. Dis.* **2024**, *37*, 304–311. [CrossRef]
6. Perico, N.; Cortinovis, M.; Suter, F.; Remuzzi, G. Home as the new frontier for the treatment of COVID-19: The case for anti-inflammatory agents. *Lancet Infect. Dis.* **2023**, *23*, e22–e33. [CrossRef]
7. Gremese, E.; Ferraccioli, G. FANS-acido acetilsalicilico: Quando e perché. *Riv. Soc. Ital. Med. Gen.* **2021**, *28*, 13–16. Available online: https://www.simg.it/Riviste/rivista_simg/2021/02_2021/RivSIMG_2_21_4.pdf (accessed on 24 October 2026).
8. Circolare n. 24970; Circolare Recante “Gestione Domiciliare dei Pazienti con Infezione da SARS-CoV-2”. Ministero della Salute: Rome, Italy, 2020.
9. Circolare n. 3435; Circolare Recante “Gestione Domiciliare dei Pazienti con Infezione da SARS-CoV-2” (Aggiornamento). Ministero della Salute: Rome, Italy, 2022.
10. Ardisson, A. “In such a dark period, the only light”: Patients’ motivations and strategies to seek care from an online health community during the COVID-19 pandemic. *SSM Qual. Res. Health* **2024**, *5*, 100425. [CrossRef]
11. Blendon, R.J.; Benson, J.M.; Hero, J.O. Public Trust in Physicians. U.S. Medicine in International Perspective. *N. Engl. J. Med.* **2014**, *371*, 1570–1572. [CrossRef]
12. Huang, E.C.; Pu, C.; Chou, Y.J.; Huang, N. Public Trust in Physicians-Health Care Commodification as a Possible Deteriorating Factor: Cross-sectional Analysis of 23 Countries. *Inquiry* **2018**, *55*, 0046958018759174. [CrossRef]

13. Ewald, L.; Bellettiere, J.; Farag, T.H.; Lee, K.M.; Palani, S.; Castro, E.; Deen, A.; Gillespie, C.W.; Huntley, B.M.; Tracy, A.; et al. Association Between Trust in Health Care Professionals and Health Care Access: Insights From an Online Survey Across 21 Countries. *Int. J. Public Health* **2025**, *70*, 1607884. [\[CrossRef\]](#)
14. Perlis, R.H.; Ognyanova, K.; Uslu, A.; Lunz Trujillo, K.; Santillana, M.; Druckman, J.N.; Baum, M.A.; Lazer, D. Trust in Physicians and Hospitals During the COVID-19 Pandemic in a 50-State Survey of US Adults. *JAMA Netw. Open* **2024**, *7*, e2424984. [\[CrossRef\]](#)
15. Ienca, M.; Gounder, C.; Emanuel, E.J. The paradox of trust in health care in the age of social media. *Lancet* **2026**, *407*, 909–914. [\[CrossRef\]](#)
16. Pariser, E. *The Filter Bubble: What the Internet Is Hiding from You*; Penguin: New York, NY, USA, 2011.
17. Del Vicario, M.; Bessi, A.; Zollo, F.; Petroni, F.; Scala, A.; Caldarelli, G.; Stanley, H.E.; Quattrociocchi, W. The spreading of misinformation online. *Proc. Natl. Acad. Sci. USA* **2016**, *113*, 554–559. [\[CrossRef\]](#)
18. Benegal, S.D. Overconfidence and the discounting of expertise: A commentary. *Soc. Sci. Med.* **2018**, *213*, 95–97. [\[CrossRef\]](#)
19. Bucher, T. *If... Then: Algorithmic Power and Politics*; Oxford University Press: Oxford, UK, 2018.
20. Motta, M.; Callaghan, T.; Sylvester, S. Knowing less but presuming more: Dunning–Kruger effects and the endorsement of anti-vaccine policy attitudes. *Soc. Sci. Med.* **2018**, *211*, 274–281. [\[CrossRef\]](#)
21. Forsyth, D.R. Group-level resistance to health mandates during the COVID-19 pandemic: A groupthink approach. *Group Dyn. Theory Res. Pract.* **2020**, *24*, 139–152. [\[CrossRef\]](#)
22. Lewis, J.D.; Weigert, A. Trust as a Social Reality. *Soc. Forces* **1985**, *63*, 967–985. [\[CrossRef\]](#)
23. Simmel, G. *Sociology: Inquiries into the Construction of Social Forms*; Brill: Leiden, The Netherlands, 2009.
24. Luhmann, N. *Trust and Power*; Polity Press: Cambridge, UK, 2017.
25. Giddens, A. *The Consequences of Modernity*; Polity Press: Cambridge, UK, 1991.
26. Blok, A.; Jensen, M.; Kaltoft, P. Social identities and risk: Expert and lay imaginations on pesticide use. *Public Underst. Sci.* **2008**, *17*, 189–209. [\[CrossRef\]](#)
27. Sjöberg, L. The allegedly simple structure of experts' risk perception: An urban legend in risk research. *Sci. Technol. Hum. Values* **2002**, *27*, 443–459. [\[CrossRef\]](#)
28. Urquhart, J.; Potter, C.; Barnett, J.; Fellenor, J.; Mumford, J.D.; Quine, C. Expert risk perceptions and the social amplification of risk: A case study in invasive tree pests and diseases. *Environ. Sci. Policy* **2017**, *77*, 172–178. [\[CrossRef\]](#)
29. Beck, U.; Bonss, W.; Lau, C. The theory of reflexive modernization. *Theory Cult. Soc.* **2003**, *20*, 1–33. [\[CrossRef\]](#)
30. Eyal, G. *The Crisis of Expertise*; Polity Press: Cambridge, UK, 2019.
31. Beck, U.; Giddens, A.; Lash, S. *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*; Polity Press: Cambridge, UK, 1994.
32. Timmermans, S.; Berg, M. *The Gold Standard: The Challenge of Evidence-Based Medicine and Standardization in Health Care*; Temple University Press: Philadelphia, PA, USA, 2003.
33. Greenhalgh, T.; Howick, J.; Maskrey, N. Evidence Based Medicine Renaissance Group. Evidence based medicine: A movement in crisis? *BMJ* **2014**, *348*, g3725. [\[CrossRef\]](#)
34. Aronson, J.K.; La Caze, A.; Kelly, M.P.; Parkkinen, V.-P.; Williamson, J. The use of mechanistic evidence in drug approval. *J. Eval. Clin. Pract.* **2018**, *24*, 1166–1176. [\[CrossRef\]](#)
35. Cartwright, N.; Hardie, J. *Evidence-Based Policy: A Practical Guide to Doing It Better*; Oxford University Press: Oxford, UK, 2012.
36. Greenhalgh, T.; Fisman, D.; Cane, D.J.; Oliver, M.; Macintyre, C.R. Adapt or die: How the pandemic made the shift from EBM to EBM+ more urgent. *BMJ Evid. Based Med.* **2022**, *27*, 253–260. [\[CrossRef\]](#)
37. Park, J.J.H.; Mogg, R.; Smith, G.E.; Nakimuli-Mpungu, E.; Jehan, F.; Rayner, C.R.; Mills, E.J. How COVID-19 has fundamentally changed clinical research in global health. *Lancet Glob. Health* **2021**, *9*, e711–e720. [\[CrossRef\]](#)
38. Gobo, G.; Sena, B. Questioning and Disputing Vaccination Policies. Scientists and Experts in the Italian Public Debate. *Bull. Sci. Technol. Soc.* **2022**, *42*, 25–38. [\[CrossRef\]](#)
39. Fontaine, G.; Maheu-Cadotte, M.A.; Lavallée, A.; Mailhot, T.; Rouleau, G.; Bouix-Picasso, J.; Bourbonnais, A. Communicating science in the digital and social media ecosystem: Scoping review and typology of strategies used by health scientists. *JMIR Public Health Surveill.* **2019**, *5*, e14447. [\[CrossRef\]](#)
40. Seçkin, G. Expansion of Parsons's sick role into cyberspace: Patient information consumerism and subjective health in a representative sample of U.S. internet users. *Soc. Sci. Med.* **2020**, *247*, 112733. [\[CrossRef\]](#)
41. Nowotny, H. Democratising expertise and socially robust knowledge. *Sci. Public Policy* **2003**, *30*, 151–156. [\[CrossRef\]](#)
42. Bucchi, M. *Science and the Media: Alternative Routes in Scientific Communication*, 2nd ed.; Routledge: London, UK, 2014.
43. Prior, L. Belief, knowledge and expertise: The emergence of the lay expert in medical sociology. *Sociol. Health Illn.* **2003**, *25*, 41–57. [\[CrossRef\]](#)
44. Neresini, F. Can we look at refused knowledge differently? In *Manufacturing Refused Knowledge in the Age of Epistemic Pluralism: Discourses, Imaginaries, and Practices on the Border of Science*; Neresini, F., Agodi, M.C., Crabu, S., Tosoni, S., Eds.; Palgrave Macmillan: Singapore, 2024; pp. 21–52. [\[CrossRef\]](#)

45. Marres, N. *Material Participation: Technology, the Environment and Everyday Publics*; Palgrave Macmillan: Basingstoke, UK, 2012.
46. Van Dijck, J.; Alinejad, D. Social media and trust in scientific expertise: Debating the COVID-19 pandemic in the Netherlands. *Soc. Media Soc.* **2020**, *6*, 2056305120981057. [[CrossRef](#)]
47. Bertolazzi, A.; Bongelli, R.; Riccioni, I. Health risk communication during COVID-19 emergency in Italy: The impact of medical experts' debate on Twitter. *Health Commun.* **2024**, *39*, 1616–1627. [[CrossRef](#)]
48. Kata, A. A postmodern Pandora's box: Anti-vaccination misinformation on the Internet. *Vaccine* **2010**, *28*, 1709–1716. [[CrossRef](#)]
49. Akrich, M. From communities of practice to epistemic communities: Health mobilizations on the internet. *Sociol. Res. Online* **2010**, *15*, 116–132. [[CrossRef](#)]
50. Wynne, B. Misunderstood misunderstanding: Social identities and public uptake of science. *Public Underst. Sci.* **1992**, *1*, 281–304. [[CrossRef](#)]
51. Neresini, F.; Agodi, M.C.; Crabu, S.; Tosoni, S. (Eds.) *Manufacturing Refused Knowledge in the Age of Epistemic Pluralism: Discourses, Imaginaries, and Practices on the Border of Science*; Palgrave Macmillan: Singapore, 2024. [[CrossRef](#)]
52. Crabu, S.; Picardi, I.; Turrini, V. Refused-knowledge during the COVID-19 Pandemic: Mobilising Experiential Expertise for Care and Well-being. *Sci. Cult.* **2023**, *32*, 132–155. [[CrossRef](#)]
53. Bory, P.; Giardullo, P.; Tosoni, S.; Turrini, V. 'We will multiply the fires of resistance': The catalysts of dissent against institutional science and their interplay with refused knowledge communities. *Public Underst. Sci.* **2023**, *32*, 2–19. [[CrossRef](#)]
54. Arakelyan, S.; Jailobaeva, K.; Dakessian, A.; Diaconu, K.; Caperon, L.; Strang, A.; Bou-Orm, I.R.; Witter, S.; Ager, A. The role of trust in health-seeking for non-communicable disease services in fragile contexts: A cross-country comparative study. *Soc. Sci. Med.* **2021**, *291*, 114473. [[CrossRef](#)]
55. Norman, C.D.; Skinner, H.A. eHEALS: The eHealth Literacy Scale. *J. Med. Internet Res.* **2006**, *8*, e27. [[CrossRef](#)]
56. Bertolazzi, A.; Lombi, L.; Lovari, A.; Ducci, G.; D'Ambrosi, L. I know that I know: Online health information seeking, self-care and the overconfidence effect. *Sociol. Forum* **2023**, *38*, 793–812. [[CrossRef](#)]
57. Sirois, F.M.; Gick, M.L. An investigation of the health beliefs and motivations of complementary medicine clients. *Soc. Sci. Med.* **2002**, *55*, 1025–1037. [[CrossRef](#)]
58. Hayes, A.F. Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Commun. Monogr.* **2009**, *76*, 408–420. [[CrossRef](#)]
59. Preacher, K.J.; Hayes, A.F. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav. Res. Methods* **2008**, *40*, 879–891. [[CrossRef](#)]
60. Imai, K.; Keele, L.; Tingley, D. A general approach to causal mediation analysis. *Psychol. Methods* **2010**, *15*, 309–334. [[CrossRef](#)]
61. MacKinnon, D.P. *Introduction to Statistical Mediation Analysis*; Routledge: New York, NY, USA, 2008.
62. Romer, D.; Jamieson, K.H. Conspiracy theories as barriers to controlling the spread of COVID-19 in the U. *Soc. Sci. Med.* **2020**, *263*, 113356. [[CrossRef](#)]
63. Hall, G.L.; Heath, M. Poor Medication Adherence in African Americans Is a Matter of Trust. *J. Racial Ethn. Health Disparities* **2021**, *8*, 927–942. [[CrossRef](#)]
64. Hornsey, M.J.; Lobera, J.; Díaz-Catalán, C. Vaccine hesitancy is strongly associated with distrust of conventional medicine, and only weakly associated with trust in alternative medicine. *Soc. Sci. Med.* **2020**, *255*, 113019. [[CrossRef](#)]
65. Armstrong, K.; Rose, A.; Peters, N.; Long, J.A.; McMurphy, S.; Shea, J.A. Distrust of the health care system and self-reported health in the United States. *J. Gen. Intern. Med.* **2006**, *21*, 292–297. [[CrossRef](#)]
66. van den Brink-Muinen, A.; Rijken, P.M. Does trust in health care influence the use of complementary and alternative medicine by chronically ill people? *BMC Public Health* **2006**, *6*, 188. [[CrossRef](#)]
67. Dryhurst, S.; Schneider, C.R.; Kerr, J.; Freeman, A.L.J.; Recchia, G.; van der Bles, A.M.; Spiegelhalter, D.; van der Linden, S. Risk perceptions of COVID-19 around the world. *J. Risk Res.* **2020**, *23*, 994–1006. [[CrossRef](#)]
68. von Hippel, P.T. Regression with Missing Ys: An Improved Strategy for Analyzing Multiply Imputed Data. *Sociol. Methodol.* **2007**, *37*, 83–117. [[CrossRef](#)]

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