

How the Italian press make sense of physiotherapy and the physiotherapist a retrospective study from 1989 to 2019.

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■ **KEYWORDS:** Physical Therapists; Information Theory; Science ;Professional Autonomy ; Professional Role/History.

ABSTRACT

Introduction

The legitimation of a profession provides for legal, formative, ethical, self-regulating and socially recognized development, which must pass through the appropriate mass media communication channels. The purpose of this study is to investigate the way in which the profession of physiotherapist and physiotherapy as a science are communicated in the newspapers.

Methods

A cross-sectional, descriptive, structured, anonymous, non-funded survey was conducted through the analysis of articles in the daily newspaper "La Repubblica" in 2 distinct periods. A 21-item questionnaire was used, in which a distinction was made between semantic characteristics and content. The differences in the way the physiotherapist as a professional and the discipline of physiotherapy as a science are evaluated before and after the recognition of the professional profile in Italy (1994).

Results

There is an improvement in the way the physiotherapist as a professional is communicated (from 14.6% to 25%), while physiotherapy as a science does not show any significant changes (from 19.5% to 22.2%). There is a meaningful improvement in the communication of various fields from few to multiple. A significant article in communicating educational aspects is often associated with the transmission of the value of Physiotherapy in research (VC 0.598), and the same association occurs between prevention and education (VC 0.552), autonomy of the physiotherapist and communication of the physiotherapist as professional (VC 0.503).

Discussion

The evolution of the profession and of the discipline over time was not matched by an adequate improvement in communication by the newspapers. The term rehabilitation cannot be distinctive from nor synonymous with the discipline of physiotherapy, of which it is an integral part but which cannot be defined by it.

INTRODUCTION

A profession is defined as being based on certain characteristics that scholars codify in relation to its legal value, status, intrinsic values and the professional's attitudes. The definition of the professional from a legal point of view provides for the recognition of the profession by the government, the creation of adequate training courses, and the presence of professional or-

ganizations (associations, boards, etc.), which develop a specific code of ethics and have a self-regulatory function, that is, the control of the professional and ethical standards of the role. The picture is completed by the public acceptance and social recognition of the profession, which is essential for giving value to the activity carried out by the professionals ⁽¹⁾.

The path towards the identification and growth of the profession of physiotherapist began in Italy in the second half of the last century, and it took many years for the physiotherapist to reach legitimacy in terms of autonomy, responsibilities and scope of competence; nonetheless, a social affirmation does not yet seem to be concrete.

The completion of the formal recognition process of the profession is defined in 4 steps: "The identification of a corpus of scientific and technical knowledge, the birth and development of professional schools, the birth and development of professional associations, and recognition and protection by the Government" ⁽²⁾. This took place through provisions of a legislative nature, starting from the publication of Legislative Decree 502/1992 ⁽³⁾, followed by the professional profile (Ministerial Decree 741/94 (MD)) ⁽⁴⁾, Law n°. 42/1999 ⁽⁵⁾, Law n°. 251/2000 ⁽⁶⁾, Law n°. 43/2006 ⁽⁷⁾ and Law n°. 3/2018 ⁽⁸⁾, establishing the board and the related professional register.

The path of legislative definition of the profession in Italy is reflected by the adoption of MD ⁽⁴⁾ "Professional Profile of the Physiotherapist" (14 September 1994). This decree represents the temporal line between the first "historical" phase of physiotherapy and the current period. Subsequently, Law n°. 251/00 ⁽⁶⁾ explicitly reaffirmed the full "*professional ownership and autonomy [of the physiotherapist], with respect to individuals and the community, [and] activities aimed at the prevention, treatment, rehabilitation and functional evaluation procedures*". The path was completed in 2018 with the institution of the professional board ⁽⁸⁾, a subsidiary body of the Government with the function of protecting the profession, and the registration in the register of Scientific Societies of AIFI for the development of the science of Physiotherapy.

However, the completion of the professionalization process, considering the social relevance of the professional, needs to be done through the acquisition of substantial recognition via public opinion, since "In the professions in which the exchange with the users and therefore with the social world is relevant, a particularly important condition to have a formal recognition is the acquisition of substantial recognition from the public opinion" ⁽⁹⁾.

In Italy, and indeed globally, few surveys have been carried out on the public perception of the role of the physiotherapist. The cognitive study of Marcovich *et al.* in 2010 explored the experience and profile of the physiotherapy profession in Italy, its socio-economic position and its social image, evidencing a partial and superficial knowledge of the profession among the population. Research commissioned by AIFI in 2012 to a group of researchers from Ferrara, led by Marco Ingrosso, highlighted how the profession of physiotherapist is evolving ⁽¹⁰⁾. Subsequent research, carried out by Bongiorno *et al.* in 2019 ⁽¹¹⁾, again in Italy, highlighted how far full recognition of the role and skills of the physiotherapist in all its forms, responsibilities and areas of intervention has come.

In a different field to physiotherapy, a study by Pingani *et al.* ⁽¹²⁾ from 2018 highlighted the importance of language in journalistic publications and demonstrated how the improper use of terms can render them far from their original meaning. Sometimes the information provided by newspapers can have "little objectivity", placing emphasis on some aspects that are not especially relevant. This can occur for many different reasons, including the habit of the media to follow trends ⁽¹³⁾.

Some studies, in particular some conducted in North American countries, investigated the specific communication methods of the discipline and the profession. Gross *et al.* in 2008 ⁽¹⁴⁾ carried out an analysis of the role of the mass media in communicating accurate health information, and whether this fostered correct or incorrect "beliefs". In 2013, Devotta *et al.* ⁽¹⁵⁾ observed the representation in the mass media of people with disabilities, highlighting the linguistic and terminological variations that reflect the perceptions of non-disabled people with regard to disability. We can deduce from their findings that the information that the mass media conveys on a daily basis can have a great influence on the population in determining an idea on a specific topic.

In light of these observations, the study aims at evaluating how the press has communicated information on the discipline of physiotherapy and on the physiotherapist over a long period of time, taking into account the legislative evolution of the profession and comparing two distinct time periods, taking as a dividing line the establishment of the physiotherapist's professional profile.

■ METHODS

This is a cross-sectional, descriptive, structured, anonymous, non-funded survey conducted through the analysis of articles in the daily newspaper "La Repubblica" in 2 distinct periods (1989-1993 / 2015-2019). The research conducted using the free electronic archives of the Italian newspaper "Repubblica" (GEDI Gruppo Editoriale). "La Repubblica" newspaper had a global coverage (both paper and digital version) equal to an average/day of 540,000 at 1994 and 241,115 copies at 2019. We selected "La Repubblica" newspaper since it was the only newspaper providing free and complete access to its historical archives of articles among the first four non-thematic Italian newspapers ("Corriere della Sera", "Repubblica", "Quotidiano Nazionale" and "Il Messaggero"). The research conducted online involved analyzing articles containing the terms "physiotherapy", "rehabilitation" or "therapist". A further filter was the use of the following exclusion criteria: "advertisement or advertising items", "terms used in articles not centered on the terms and/or the profession", "news items without reference to the role of the physiotherapist or organization of the profession". The survey was developed by six researchers (E.G., B.D., C.G., P.S., C.E., D.R.) based on a review of the theoretical basis of survey elabo-

ration and a review of the relevant literature in the field. The text of the ministerial decree establishing the professional profile of the physiotherapist was analyzed to structure the contents of the survey. The article analysis tool consists of 3 sections ("article characteristics", "communication evaluation", and "overall article evaluation") for a total of 21 items. A group of senior authors (F.R., G.A., B.F., C, F.), ex-

perts in the discipline, were identified outside the group promoting the survey, in order to assess the validity of the content of the questionnaire accepting first single items, and then validating the questionnaire in its entirety when there was 75% agreement within the panel (Table 1). No request for approval was made to the Territorial Ethics Committee in relation to the nature of the study.

Characteristics of the article	
Year of publication	between 1989 and 1993 (pre-MD) between 2015 and 2019 (post-MD)
Q1. Word count	< 250 between 250 and 500 between 500 and 1000 between 1000 and 2000 greater than 2000
Evaluation of the information	
Lexical analysis	
Q2. In the article, are there words referring to autonomy present? (AUTONOM*)	Yes No
Q3. In the article, are there words related to the activities carried out in multidisciplinary teams present? (EQUIPE, *DISCIPLINAR*, TEAM, STAFF)	Yes No
Q4. In the article, are there words related to prevention present? (PREVEN*)	Yes No
Q5. In the article, are there words related to rehabilitation present? (*ABILITA*, RIEDUCAZIONE, RECUPER*, *FUNZION*)	Yes No
Q6. In the article, are there words related to education present? (DOCEN*, PROFESSOR*)	Yes No
Q7. In the article, are the words that are related to research present? (RICERC*, PUBLIC*)	Yes No
Semantic analysis	
Q8. Does the article convey the idea of the professional autonomy of the physiotherapist?	Yes No Not applicable (N/A)
Q9. Does the article convey the idea of carrying out the activity of the physiotherapist in multidisciplinary teams?	Yes No Not applicable (N/A)
Q10. Does the article convey the idea of the role of the physiotherapist in prevention?	Yes No Not applicable (N/A)
Q11. Does the article convey the idea of the implementation of a rehabilitation process/path by the physiotherapist?	Yes No Not applicable (N/A)
Q12. Does the article convey the idea of the physiotherapist's role as educator?	Yes No Not applicable (N/A)
Q13. Does the article convey the idea of the physiotherapist's role as researcher?	Yes No Not applicable (N/A)
Areas and techniques of intervention	
Q14. Does the article refer to the area of intervention of the physiotherapist?	Yes No
Q15. If yes, which of the following?	Orthopedic Sports Neurologic Cardio-pulmonary Genitourinary and intestinal dysfunctions Geriatric Pediatric
Q16. Does the article refer to physiotherapy techniques?	Yes No
Q17. If yes, which of the following?	Manual therapy Physical therapy Motor re-education techniques Other
Role distortion	
Q18. In the article, is reference made to figures other than the physiotherapist using physiotherapy intervention techniques?	Yes No
Q19. If yes, which ones?	Osteopath Masseur Massophysiotherapist Motor Science graduates Chiropractic Chinesiologist Physiatrist Other

...continue on
next page

Overall assessment of the article	
Q20. Is the idea of the physiotherapist as a professional conveyed?	Totally disagree Disagree Neither agree nor disagree Agree Totally agree
Q21. Does the article in question convey the idea of physiotherapy as the science of motor function recovery?	Totally disagree Disagree Neither agree nor disagree Agree Totally agree

Table 1 - Questionnaire

Two members of the promoting team conducted the screening in terms of inclusion and exclusion criteria; subsequently four groups were divided into pairs, including the four previously trained researchers, and they conducted an evaluation of the articles using the questionnaire. Each group analyzed all the selected articles, which were randomly assigned to each group. The analysis was conducted in the period between November 2019 and June 2020. The data collection in the four groups was conducted using “Google Forms”, in a blind analysis, without any of the evaluators having access to the results of their own or others' analyses.

The primary outcomes were:

- the variation in the quality of communication with regard to the physiotherapist as a professional between the 2 periods in the study;
- the variation in the quality of communication with regard to the discipline of physiotherapy as the science of recovery of motor function;

The secondary outcomes were:

- the evaluation of the number of articles in the 2 reference periods;
- the evaluation of the number of words per article;
- the identification of the use of terms related to “autonomy”, “prevention”, “recovery”, “training” and “research” associated with the physiotherapist and physiotherapy;

the identification of the areas of intervention of the physiotherapist communicated by the newspapers;

the identification of references to role distortions compared to other professions;

Statistical analysis

The data collected through Google Forms were analyzed on two different levels. In the first phase, univariate analyses were carried out on all elements of the questionnaire, such as the distribution of absolute and relative frequencies, both marginal and conditioned by the pre/post MD variable, represented by a bar plot.

In the second phase, multiple associative analyses were carried out between the questions of the questionnaire, using Cramer's V Test (VC) and relative p-value (P) in order to evaluate the level of statistical significance. The Ps were calculated by Monte Carlo simulation to provide more accurate estimates, especially for tables containing low frequencies. The critical significance level was set at $P < 0.05$. "R" software was used for the analysis.

Results

The articles meeting the inclusion criteria were 6095, of which 664 (10.9%) were from the 1989/94 period ("pre-MD") and 5431 (89.1%) from the 2015/2019 period ("post-MD"). Following a screening using the exclusion criteria, 668 articles were examined (10.95% of the total) of which 77 were pre-MD (11.53%, an average of 15.4 articles per year) and 591 post-MD (88.47%, an average of 118.2 articles per year). Out of the 6095 initial articles, 4807 articles featured words that included the prefix “rehab*”, a term that also includes non-health related content (1698, 35.2% of the total) (Fig.1).

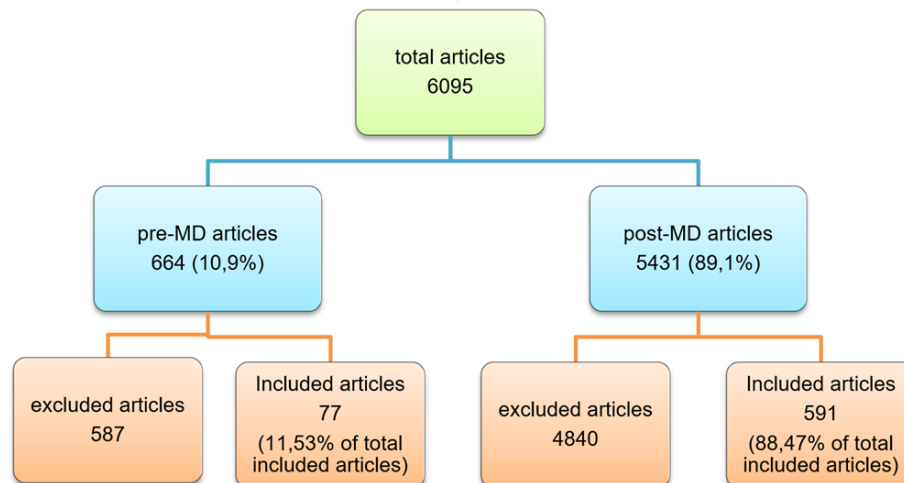


Figure 1 – Study flowchart

The summary of the results is shown in the table 2.

	Pre-MD				Post-MD				V cramer	P value
	yes	n/a	no	%/%	yes	n/a	no	%/%		
Pre-MD/post-MD Vs Q1									0.066	0.01649
Pre-MD/post-MD Vs Q2	16		292	5.2/94.8	220		2144	9.3/90.7	0.046	0.02249
Pre-MD/post-MD Vs Q3	76		232	24.7/75.3	363		1728	26.9/73.1	0.016	0.41129
Pre-MD/post-MD Vs Q4	20		288	6.5/93.5	492		1872	20.8/79.2	0.116	0.0005
Pre-MD/post-MD Vs Q5	232		76	75.3/24.7	1772		592	75/25	0.003	0.9465
Pre-MD/post-MD Vs Q6	116		192	37.7/62.3	352		2012	14.9/85.1	0.191	0.0005
Pre-MD/post-MD Vs Q7	32		276	10.4/89.6	748		1616	31.6/68.4	0.149	0.0005
Pre-MD/post-MD Vs Q8	94	42	172	30.5/13.6/55.8	830	324	1210	35.1/13.7/51.2	0.032	0.23638
Pre-MD/post-MD Vs Q9	74	82	152	24/26.6/49.4	785	435	1144	33.2/18.4/48.4	0.079	0.0005
Pre-MD/post-MD Vs Q10	21	90	197	6.8/29.2/64	445	571	1348	18.8/24.2/57	0.102	0.0005
Pre-MD/post-MD Vs Q11	127	47	134	41.2/15.3/43.5	942	399	1023	39.8/16.9/43.3	0.015	0.74213
Pre-MD/post-MD Vs Q12	4	101	203	1.3/32.8/65.9	165	658	1541	7/27.8/65.2	0.078	0.0005
Pre-MD/post-MD Vs Q13	6	91	211	1.9/29.5/68.5	225	616	1523	9.5/26.1/64.4	0.087	0.0005
Pre-MD/post-MD Vs Q14	259		49	84.1/15.9	1756		608	74.3/25.7	0.073	0.001
Pre-MD/post-MD Vs Q16	74		234	24/76	871		1493	36.8/63.2	0.086	0.0005
Pre-MD/post-MD Vs Q18	20		288	6.5/93.5	277		2087	11.7/88.3	0.053	0.0085
	agree	indifference	Disagree		agree	indifference	Disagree			
Pre-MD/post-MD Vs Q20	45	95	168	14.6/30.8/54.5	586	719	1059	24.8/30.4/44.8	0.089	0.0005
Pre-MD/post-MD Vs Q21	60	113	135	19.5/36.7/43.8	525	675	1164	22.2/28.6/49.2	0.071	0.0085

Table 2 – Results: comparison of the data between the 2 time periods taken into consideration

The 53 other different meanings associated with the term "rehab*" are reported in the Table 3.

rehabilitation from addictions (drugs, alcohol, gambling, video games)	drug rehabilitation
rehabilitation, from the Internet	cholesterol rehabilitation
digital rehabilitation	sports rehabilitation
animal rehabilitation	rehabilitation of food products
rehabilitation from sexual abuse	rehabilitation of soldiers
psychological rehabilitation	rehabilitation of the cartoon character
behavioral rehabilitation	rehabilitation of the Theology of Liberation
rehabilitation at work	rehabilitation of wildlife
theological rehabilitation	ecological rehabilitation
ethical rehabilitation	rehabilitation for homosexuals
rehabilitation from egolatry	rehabilitation from lesbian
cultural rehabilitation	sexual rehabilitation
literary rehabilitation	moral and legal rehabilitation
rehabilitation of words	rehabilitation for traffic code violators
artistic rehabilitation	judicial rehabilitation
rehabilitation of dialects	legal rehabilitation
poetic rehabilitation	financial rehabilitation
rehabilitation of victims of torture	political rehabilitation
rehabilitation from discomfort	rehabilitation of prisoners
rehabilitation from war crimes	rehabilitation of structure - building
rehabilitation from psychic trauma	rehabilitation of water basins
moral and social rehabilitation	rehabilitation of the environment
historical rehabilitation	rehabilitation of a continent
rehabilitation from fascism	rehabilitation of nature
rehabilitation of the Neanderthal	urban rehabilitation
food rehabilitation	rehabilitation of fossil energies
	structural rehabilitation

Tab.3– Other different meanings associated with the term rehab*

Characteristics of the articles

Word counts for each article were analyzed: 45.1% of articles contained between 500 and 999 words, and only 7% of articles were longer. Very few and insignificant differences occurred between the pre-MD and the post-MD period.

Evaluation of the communication

Lexical analysis

A search for the presence in the article of meaningful words for the profession and discipline (“autonomy”, “teamwork”, “prevention”, “functional recovery”, “training”, and “research”) was conducted. The presence of words referring to “autonom*” was 8.8% with a minimum increase post-MD (from 5.2% to 9.3%). “Teamwork” appeared at a rate of 26.6%. “Prevention” occurred at a rate of 19.2%, with an increase from 6.5% to 20.8% - this figure is significant from a statistical point of view with a positive association value (VC 0.116). The presence of the term “functional recovery” increased considerably with an overall presence of 75%. The same cannot be said of the presence of terms related to “training” and “education” with an overall figure of 17.5%, which, if separated between pre and post-MD, features a reduction from 37.7% to 14.9% (P 0.0005; VC 0.191). A percentage increase is observed in words referring to “research”, with an overall figure of 29.2%, and an increase from 10.4% (pre-MD) to 31.6% (post-MD) (P 0.0005; VC 0.149).

Semantic analysis

The quality of the communication was analyzed with reference to the conveyed meanings. The variation in the presence of the term “autonomy” between the two periods is not statistically significant (P 0.23). “Teamwork of the physiotherapist” records an overall communication of 32.1% with a minimum increase post-MD (P 0.0005; VC 0.079). A slight significance was found for the variation in the communication of the role in “prevention” of the physiotherapist (from 6.8% to 18.8%, VC 0.102). With reference to the communication of the implementation of a “rehabilitation” process/path, the figure is 40.0% with no variations pre-MD and post-MD. Positive variations occur with regard to the role of educator (from 1.3% to 7.0%). A similar variation is seen for the physiotherapist's role as researcher (8.6%, from 1.9% to 9.5%; P 0.0005; VC 0.078).

Areas and techniques of intervention

In 75.4% of the articles, references were made to the different areas of intervention of the physiotherapist with considerable variation pre-MD and post-MD; in fact, some of the biggest changes can be seen in the prevalence of articles mentioning sports, orthopedics, and neurology. There is a rebalancing represented by a reduction in the reference to sports (97.3% to 42.9%), an increase in the number of citations of orthopedics (67.6% to 79.1%) and substantial growth in references to neurology (25.5% to 63.0%). Significant increases are also seen in terms of citations for the cardio-

pulmonary area (from 0.0% to 19.9%), genitourinary dysfunctions (from 0.8% to 17.1%), geriatrics (from 0.8% to 17.7%), pediatrics (from 0.0% to 21.9%) and oncological and lymphological areas (from 0.0% to 10.5%).

The presence of other professionals in the articles accounts for 11.1%, with an increase from 6.5% to 11.7% post-MD. In particular, the most represented figures, especially post-MD, are those of the osteopath (0.0%-8.6%) and physiatrist (1.4%-8.5%). Over the years, graduates in motor science (4.1%-3.0%) and the kinesiologist (5.4%-0.9%) are less cited. The total number of citations ranges from 26 pre-MD to 397 post-MD.

Overall evaluation of the articles

The consistent communication of the idea of the “physiotherapist as a professional” shows an increase from 14.6% to 24.8%, a positive variation supported by a minimally positive VC with a value of 0.089. The communication of the idea of physiotherapy as a motor recovery science is represented positively 21.9% of the time, with minimal variation pre- and post-MD from 19.5% to 22.2%, while negative evaluations stand at 48.6% and show a variation of 43.8% to 49.2% (VC 0.071).

Associations of variables under study

The study determined an association value between the variables under examination, analyzing the variations pre-MD and post-MD. The presence of a term in an article rarely has statistical significance, as in the case of items related to autonomy. Greater significance is evident in the presence of words referring to education (VC 0.105), the professional as part of a team (VC 0.303), and in the communication of the physiotherapist as a professional (VC 0.133). The presence of terms referring to prevention has significance when describing the role played by the professional in the prevention process (VC 0.276). There is a weak association between the presence of words referring to functional recovery and prevention and the physiotherapist (VC 0.127); likewise, in the presence of words related to recovery and the physiotherapist as a professional (VC 0.147), autonomy of the professional (VC 0.121) and of the physiotherapist as a professional (VC 0.128).

Considerable variation in significance, in associations and in strength among the variables studied is evident in the transmission of meanings in relation to the other variables. The most interesting values are represented by associations regarding the communication of the autonomy profile with respect to the rehabilitation process (VC 0.434) and the representation of the physiotherapist as a professional (VC 0.503); the communication of teamwork with respect to the role in the prevention process (VC 0.429), implementor of the rehabilitation process (VC 0.415) and the role of educator (VC 0.423). A strong association emerges with respect to the role in the prevention process and the role as educator (VC 0.552) and researcher (VC 0.469). Equally strong are the associations in the articles that

present the physiotherapist in the implementation of a rehabilitation process with respect to the role of educator (VC 0.41), of the physiotherapist as a professional (VC 0.429) and of the discipline as a science (VC 0.439). Furthermore, it is possible to notice a strong association when the physiotherapist is introduced as an educator closely linked to the role of researcher (VC 0.598). An interesting fact is the presence of articles describing physiotherapy techniques associated with the communi-

cation of physiotherapy as a science (VC 0.436). Another consideration is the strong correlation between the communication of the message of the physiotherapist as a professional and the simultaneous idea of physiotherapy as a science of motor recovery (VC 0.503). (Fig. 2 and Fig. 3)

		P value																			
V P	pre/post MD	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q16	Q18	Q20	Q21		
pre/post MD		0.01649	0.02249	0.41129	0.0005	0.94653	0.0005	0.0005	0.23638	0.0005	0.0005	0.74213	0.0005	0.0005	0.001	0.0005	0.0085	0.0005	0.0085		
Q1	0.066		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.02899	0.02699	0.0005	0.54523	0.24038	0.12494	0.0005	0.10295	0.0005	0.0015	0.02499		
Q2	0.046	0.154		0.0005	0.12044	0.0005	0.25237	0.002	0.89655	0.0005	0.3938	0.12694	0.38331	0.52874	0.76162	0.005	0.37831	0.0015	0.01199		
Q3	0.016	0.202	0.099		0.0005	0.0005	0.0005	0.05297	0.0005	0.0005	0.50975	0.001	0.41329	0.02199	0.0005	0.0055	0.01449	0.0005	0.004		
Q4	0.116	0.168	0.031	0.096		0.1959	0.0025	0.7936	0.69265	0.5987	0.0005	0.01249	0.03748	0.2064	0.05847	0.03348	0.0005	0.49475	0.38581		
Q5	0.003	0.139	0.131	0.082	0.026		0.0005	0.03098	0.001	0.18191	0.0005	0.36182	0.004	0.11994	0.56772	0.0045	0.06697	0.0005	0.0005		
Q6	0.191	0.173	0.023	0.105	0.064	0.084		0.0005	0.07396	0.4043	0.02399	0.96502	0.7996	0.01999	0.11894	0.91904	0.0075	0.01149	0.36332		
Q7	0.149	0.278	0.067	0.038	0.005	0.044	0.085		0.0005	0.001	0.003	0.0005	0.57121	0.0005	0.01399	0.13243	0.21839	0.0005	0.0005		
Q8	0.032	0.058	0.01	0.088	0.017	0.078	0.044	0.121		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Q9	0.079	0.057	0.087	0.303	0.02	0.036	0.025	0.078	0.396		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Q10	0.102	0.09	0.026	0.023	0.276	0.127	0.054	0.067	0.39	0.429		0.0005	0.0005	0.0005	0.0005	0.0005	0.22439	0.0005	0.0005		
Q11	0.015	0.036	0.041	0.071	0.056	0.028	0.006	0.099	0.434	0.415	0.449		0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005		
Q12	0.078	0.043	0.028	0.025	0.051	0.068	0.013	0.02	0.331	0.423	0.552	0.41		0.0005	0.0005	0.0005	0.04548	0.0005	0.0005		
Q13	0.087	0.049	0.022	0.056	0.034	0.04	0.055	0.173	0.295	0.393	0.469	0.39	0.598		0.0005	0.0005	0.009	0.0005	0.0005		
Q14	0.073	0.114	0.006	0.085	0.04	0.012	0.03	0.05	0.218	0.285	0.231	0.328	0.163	0.164		0.0005	0.35432	0.0005	0.0005		
Q16	0.086	0.054	0.054	0.056	0.042	0.062	0.003	0.03	0.175	0.146	0.251	0.379	0.233	0.253	0.255		0.0005	0.0005	0.0005		
Q18	0.053	0.086	0.018	0.049	0.073	0.036	0.05	0.024	0.168	0.129	0.034	0.164	0.048	0.061	0.019	0.182		0.0005	0.0005		
Q20	0.089	0.059	0.087	0.133	0.035	0.147	0.071	0.128	0.503	0.362	0.322	0.429	0.303	0.239	0.351	0.238	0.185		0.0005		
Q21	0.071	0.052	0.071	0.077	0.04	0.095	0.041	0.097	0.385	0.288	0.27	0.439	0.209	0.207	0.436	0.382	0.153	0.503			

Fig. 2 - Summary table of the associations between 2 variables analyzed using the "Cramer's V" test.

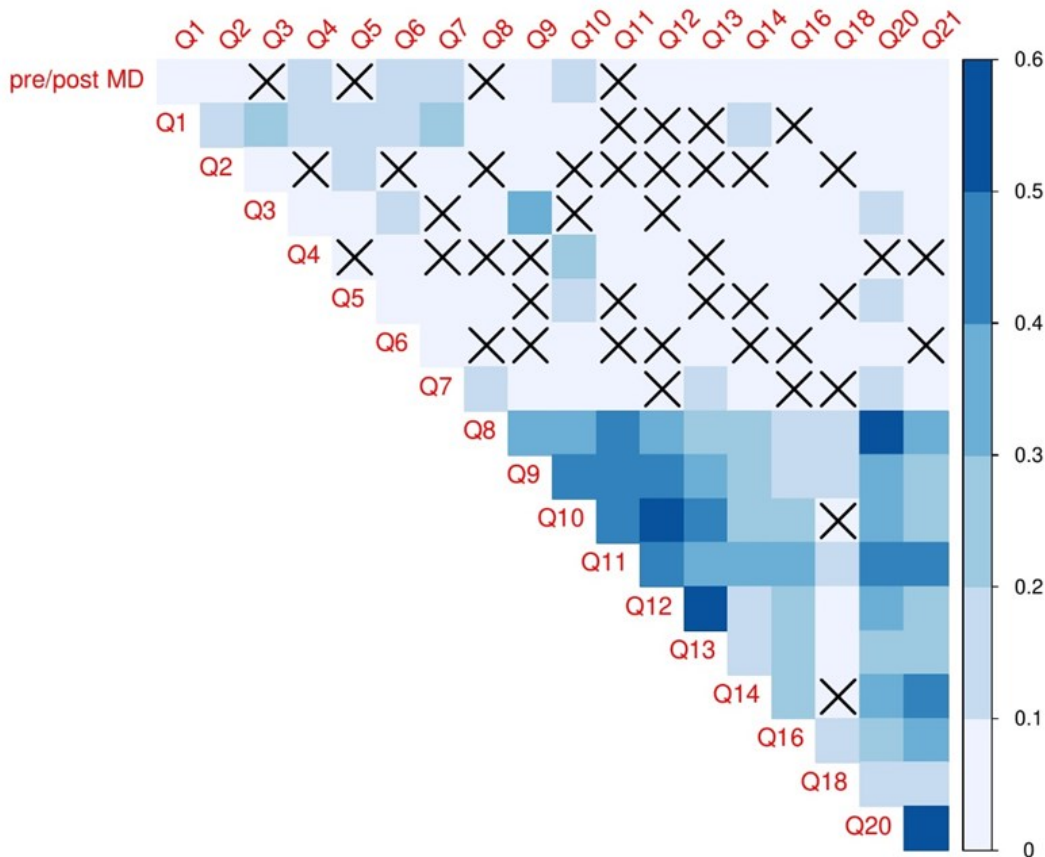


Fig. 3 - "Correlation plot" - summary picture of the values of greater correlation between 2 variables (more intense blue) with the exclusion of the results not of statistical significance (P Value > 0.05 - indicated with an "X").

■ DISCUSSION

Points of weakness

This analysis has some points of weakness that should be recognized. In the first place, the study was conducted over a single newspaper and with reference to the communication of the role of the physiotherapist and the discipline of physiotherapy exclusively in Italy.

More, the screening in terms of exclusion criteria resulted in a significant reduction in the number of articles initially considered (only 10%). The first significant piece of data is represented by the much higher number of selected articles belonging to the second five-year period under analysis. This is not the result of a causal relationship with respect to a greater frequency of publications in which physiotherapy or the physiotherapist are mentioned, rather it is likely that this is justified by a wider diffusion of communication tools.

The significant reduction between the articles initially included and those actually analyzed could essentially indicate that the terms "physiotherapist" and "physiotherapy" are often used only for a citation or that the citation itself is not pivotal for the overall message of the text.

Another point of weakness is particularly in the area of education, there is poor communication of the value of the physiotherapist as educator. The term "autonomy" contained in the articles does not often reflect the value of autonomy defined by the law for the profile of physiotherapist, exposing the figure as a subordinate to other professionals, seen as a mere manual performer. Furthermore, the numbers prove that there is no significant or decisive difference between the first and the second period under analysis.

There is an insufficient use of the term "doctor" with reference to the physiotherapist, compared to its greater use to introduce the name of a medic. Moreover, many articles dealing with physiotherapy/rehabilitation and robotics are written by engineers, doctors and other professionals.

Although the analysis considering only the term "rehabilitation" presents a substantial number of articles, however 35% are not associated with the health sector, but with 53 other very different terms, with a huge discrepancy between pre-MD and post-MD.

From a semantic point of view, the concept of the "rehabilitation process" presents fairly frequently, not as being clearly related to the activity of the physiotherapist, but more often in relation to teamwork, with a strong emphasis on the presence of the physician, but not always specifying the executor of the rehabilitation process.

It is evident that the presence of a term often does not reflect the communication of a particular meaning, except in isolated cases ("teamwork"), a condition that is sometimes simultaneously associated with the communication of the image of the physiotherapist as a professional. The same association also exists in the presence of terms related to "recovery" and "research". In general, this study has highlighted how information (an element that allows knowledge of a concept, an

action, a situation) and communication play a central role even in a delicate area such as health, especially at this time of the important variations we currently witness in both interpersonal and social relationship.

Considering that communication loads an instrumental role being able to help acquire knowledge, it itself thus assumes a priority character in the implementation of effective strategies aimed at the prevention and treatment of diseases. So, we hope that further studies can be developed in order to broaden the horizon towards knowledge on the results of the effects of communication, towards the perception by the population.

Strengths

An aspect of certain interest is the time span examined. The period of time between the first period under study and the second is fairly long (22 years), considering the date of publication of the professional profile of physiotherapist, the academic evolution of the professional, and a series of other laws and decrees concerning its legitimacy.

Additionally, the analysis was conducted by searching for the characteristics considered to be of particular significance in the communication of the role and discipline, through a search for both the presence of specific terms and the communication of specific meanings in a single article, and then looking for associations between the term and its meaning within the context of physiotherapy.

The communication of the role of the physiotherapist as a professional improves over time, even if this is statistically limited (from a value of 14.6 to 25), but this does not happen with the communication of physiotherapy as a science nor with the recognition of the profession by the reader.

Furthermore, the strong association that exists in communicating the physiotherapist as a professional and physiotherapy as a science appears significant. So, a further aspect of considerable interest is linked to the contents conveyed by the articles and the meanings conveyed. Overall, the communication of meanings in the articles seems to have increased over time, but most of the data do not show significant differences, even more so if analyzed over a fairly long period of time.

The concept of "multidisciplinary teamwork" is on the rise and is also defined more clearly, which is often reinforced by the coexisting association in the communication of the professional's autonomy.

With regard to the field of prevention, a significant development has been recorded especially with respect to two areas within the profession (sports and oncology).

Significant differences were highlighted both in terms of an increase in the description of the fields of application of physiotherapy, going from a prevalent and almost exclusive interest in the sports and orthopedic fields pre-MD to a diversification in the fields of intervention post-MD, with the addition of many other fields that were previously completely absent, such as cardio-pulmonary, geriatric, oncology, lymphology, and genitourinary and intestinal dysfunctions.

Also, in the case of emerging professionals, the evolution presents significantly and this is demonstrated by the presence of terms such as "osteopath" (from 0% to 8.6%) and "physiatrist".

Positive associations do exist between "training" and "research", "prevention" and "training", "autonomy" and communication of the physiotherapist as a professional, and communication of the rehabilitation process both in communicating the physiotherapist as a professional and physiotherapy as a science.

Another important point is the diversification of the different areas of intervention of the physiotherapist, and the strong association between the discipline of physiotherapy and science.

■ CONCLUSIONS

After 22 years, the communication methods used by journalists have proven to be ineffective and inexhaustive compared to similar articles or articles focused mainly on the role of the physiotherapist and on the science of physiotherapy. The quality of the communication of information is one of the factors that can influence a reader's perception, thereby garnering social recognition of a profession. Such recognition is defined, in this case, by the "legislative" history of the physiotherapist, by the specific scientific substrate of the discipline, and by the relationship between the professional and patients, but also by how the profession is reported in the media. An example from this study is the group of articles mentioning the various areas of competence of the physiotherapist, which are uniquely associated with the professional and can also influence public perception. Among these articles, the sports and orthopedic fields emerge as being common in those published from 1989 to 1993. Today, however, the array of areas written about appears to be much more varied. The interpretation of the data also reveals how the articles increasingly convey the idea of a physiotherapist as a professional, but not of physiotherapy as a science. Overall, the analysis shows how the quantitative increase in articles published pre-MD and post-MD is not associated with a parallel, qualitative increase in the content relating to the physiotherapist and physiotherapy. This discrepancy could depend on poor communication on the part of the professional class, who for a multitude of reasons can induce journalists and the media to report about them in an inconsistent way, which can be damaging for the legitimacy of the profession in the eyes of the public. Therefore, it is essential to foster good communication by investing in resources and specialized professionals, in order to determine a qualitative and quantitative development of information and, consequently, professional recognition.

List of abbreviation

Ministerial Decree 741/94 (MD)

Cramer's V Test (VC)

p-value (P)

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