

Quality of communication with patients and difficulties in close relationships among health care workers during the COVID-19 pandemic

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ABSTRACT

Introduction: Communication is a skill and its quality is associated with adult attachment styles. This study aimed to assess the association between self-reported quality of health care workers' (HCWs) communication with their patients and HCWs' attachment styles and personal relationship status and quality during the COVID-19 pandemic in Poland.

Material and methods: Two thousand three hundred three HCWs participated in the online survey conducted in all voivodeships in Poland in early 2022, including 1791 individuals living in close relationships (defined as being in a relationship for at least six months). The study explored this association among four groups of HCWs: physicians ($n = 498$), nurses ($n = 1216$), paramedics ($n = 166$), others ($n = 423$). Communication competencies were evaluated using the 12-item Health Professionals Communication Scale (HPCSS-12) (range 12-72) measuring empathy, informative communication, respect, and social skills. The quality of the HCWs' relationships was examined using Experiences in Close Relationships – Revised Scale (ECR-RS), which measures security of attachment.

Results: The overall mean HPCSS-12 index was 59.58 ± 7.36 , with a significant difference between physicians according to their relationship status. Problems in relationships were reported by 24.5% of respondents, ranging from 21.2% among physicians to 31.7% among paramedics. HCWs reporting a less secure attachment style scored 2.73 points lower on the HP-CSS scale as compared to those with no such problems ($p < 0.001$). In males, having good and secure relationships was associated with better communication particularly among the group of other HCWs (64.55 ± 7.05) and in paramedics (61.83 ± 3.94). Also, high HPCSS-12 values were achieved by female physicians and other female professionals living in secure relationships (61.61 ± 7.13 and 61.04 ± 6.30 , respectively).

Conclusions: Health care providers should be aware that the quality of HCW-patient communication is not only associated with gender, age, or occupational group, but also with the HCW's personal situation in a family or other close relationship.

KEY WORDS: healthcare workers, communication skills, occupational groups, gender inequalities, close relationship.

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INTRODUCTION

Recent studies worldwide have shown that during pandemics, health care workers (HCWs) were exposed to increased levels of stress, mental distress, anxiety, depression, insomnia and other mental health problems [1, 2].

Social relationships can have a buffering role, thereby helping to cope with stress by enabling mutual listening and providing emotional regulation [3], and attachment is a method used to conceptualize and measure the quality of the relationship between two individuals. Attachment understood as an emotional bond creates a sense of psychological security [4], and three major attachment styles are secure, insecure-avoidant, and insecure-anxious/ambivalent [5]. In developmental and social psychology, one of the key theories for building effective social relationships is attachment theory. Although attachment in earlier studies has been used to explain individual differences in emotional and physical stress responses, coping styles, feelings and behaviors in interpersonal relationship situations [6, 7], it has relatively recently been applied to understanding interpersonal relationships at work. Hazan and Shaver [8] were among the first to apply attachment theory directly to work research. Their results suggest that compared to insecure workers, secure workers showed higher levels of overall well-being and increased job satisfaction.

Physicians, nurses and workers in other healthcare sectors indicated that one of the main methods of stress reduction was drawing support from family [9], and married persons reported higher levels of support than single ones [10]. The social impact of the pandemic has undoubtedly extended to intra-family relationships, while many people were in sudden, forced closeness to their closest family [3]. It is worth noting that medical professionals and their families have been avoided, shunned, or ostracized due to public fear that they are sources of infection, which contributed to stress and anxiety [11], and may have made it difficult to sustain interpersonal relationships.

In addition, during the pandemic period, employees were exposed to an increase in difficulties related to work-family conflict, which has been shown to be associated with job dissatisfaction, stress and absenteeism [12]. The importance of the quality of romantic relationships in relation to the level of communication, which is directly related to the performance at work, remains important in view of this.

Conducting an effective therapeutic process and obtaining clinical information is largely dependent on the communication taking place between medical professionals and patients. Improved communication leads to better health outcomes, while also affecting patient satisfaction and better compliance. Moreover, patient-centered communication using empathy and clear language can buffer the negative impact of fear of COVID-19 [13].

It remains significant that few studies comparing medical professions have been conducted to date, and particularly regarding the paramedic group. Due to the nature of their work, paramedics are exposed to work accidents and clinical incidents, including failed resuscitations, and may even be victims of assaults and verbal threats, or significant exposure to pathogens [14]. Prehospital care focuses on short-term interventions, more often interacting with families under particularly stressful circumstances. In addition, their work is more often associated with traumatic experiences, such as contact with death [15].

The aim of the study was to assess the level of communication with patients according to the status of being in a relationship and the quality of these relationships in a professionally diverse group of HCWs, adjusting for their gender and age.

MATERIAL AND METHODS

STUDY DESIGN AND PROCEDURE

The survey was conducted as part of a project entitled “Humanizing the treatment process and clinical communication between patients and medical personnel before and during the COVID-19 pandemic”. The project was funded by the Medical Research Agency under a contract with the University of Warsaw (2021/ABM/COVID/UW). The cross-sectional survey, conducted from February 21 to April 28, 2022, included 2340 HCWs. Of this group, 2115 (91.5%) worked in the 114 health care units that agreed to participate in the survey, and 225 (9.5%) completed the questionnaire, refusing to provide their place of work. Interactive Research Center Ltd. was responsible for organizing the field survey, which collected 89.3% of the cases using online techniques through its own survey platform, and 10.7% of the cases using paper surveys.

The procedure and tools used in this research project were approved by the Research Ethics Committee of the Faculty of Pedagogy of the University of Warsaw No. 2021/8. Respondents were informed of the goals of the project, and they could stop their participation in the survey at any time, without giving any reason and without any consequences.

TOOLS, VARIABLES AND INDICATORS

The main dependent variable in this study was a 12-item scale describing the communication competencies of medical professionals. The questions were derived from the Health Professionals Communication Scale (HP-CSS), which originally contains 18 items indexed into four dimensions: empathy, informative communication, respect and social skills (assertiveness) [16]. Responses were given on a 6-point Likert-type scale (1 = almost never to 6 = many times). In our project, the full version was used in a pilot study, after which it was decided to limit ourselves to 12 items (naming

the scale HPCSS-12), with three statements from each dimension.

Example items were: *I try to understand the feelings of my patient (empathy); I make sure that patients have comprehended the information provided (informative communication); I respect the right of patients to express themselves freely (respect); When I interact with patients, I express my opinions clearly and firmly (social skills).*

The overall index takes a range from 12 to 72 points, where high scores indicate better communication skills. The HPCSS-12 scale had good psychometric properties with a Cronbach's α coefficient of 0.880.

Gender, age, occupational group, status of being in a relationship and quality of relationship were used as independent variables. Respondents were asked: *Are you currently in a stable relationship?* – with the option to answer yes/no or to refuse to answer. Questions on relationship quality were answered by 1,791 respondents living in stable relationships. The 9-item ECR-RS (*Experiences in Close Relationships – Revised Scale*) scale [17] was used. For the purposes of this project, permission was obtained from the author and M. Marszał's translation was used. Four questions make up the dimension related to anxious attachment style, and five questions make up the dimension related to avoidant attachment style. However, the assumption was made to use a general summary index, taking a range of 9-63 points. Responses are given on a 5-point Likert scale, ranging from strongly disagree to strongly agree.

Example items were: *I usually discuss my problems and concerns with my partner; I prefer not to show this person how I feel deep down; I worry that this person won't care about me as much as I care about him or her.*

Some of the questions had to be recoded so that a high score meant less security in the relationship. In the study sample, the reliability of the ECR-RS, as measured by the Cronbach coefficient, is 0.848. In further analyses an arbitrary division into three categories was adopted, with a cutoff of 11/12 and 30/31 points, respectively.

STATISTICAL ANALYSIS

In the first step of the analyses, occupational groups were compared according to gender, age and relationship status. The second step examined the distribution of ECR-RS and HPCSS-12 results by gender, age and profession. In the third step of the analyses, it was examined how the mean values of HPCSS-12 change in different groups of HCWs singled out due to relationship status and relationship quality.

The χ^2 test of independence was used for categorized variables, while for comparison of means, the non-parametric Mann-Whitney *U* test (two independent samples) or the Kruskal-Wallis *H* test (three independent samples) was used. SPSS software version 27 was used to analyze the data. All significance levels were set as $p < 0.05$ (two-tailed).

RESULTS

Two thousand three hundred three HCWs who worked with patients during the COVID-19 pandemic were included in the analyses, including 18.9% men and 81.1% women. They were classified into four occupational groups: physicians, nurses, paramedics and other professions. Due to the unequal size of the groups and general overrepresentation of women (Table 1), the more important analyses were conducted separately for men and women and by profession.

The average age of the respondents was 46.52 (SD = 11.44) years. Those under 35 accounted for 20.6% of the sample, and those over 55 accounted for 24.3%. Women were about 1.7 years older than men ($p = 0.002$). There were also significant differences between occupational groups ($p < 0.001$). The mean age of the respondents was: 38.49 (SD = 9.13) years for paramedics, 41.07 (SD = 10.34) years for other professions, 47.26 (SD = 12.50) for physicians, and the highest, 49.21 years (SD = 10.23), for nurses.

As can be seen from the data presented above in Table 1, in the surveyed group, 1791 health care workers (77.8%) stated that they were in a stable relationship,

TABLE 1. Health care workers by gender, age, and close relationship status

Profession/Age	N	% of the sample	% women	Being in close relationship					
				Yes		No		Refusal to answer	
				N	%	N	%	N	%
Total	2303	100.0	81.1	1791	77.8		14.2	185	8.0
Profession									
Physicians	498	21.6	51.4	386	77.5	66	13.3	46	9.2
Nurses	1216	52.8	97.8	959	78.9	162	13.3	95	7.8
Paramedics	166	7.2	30.7	123	74.1	33	19.9	10	6.0
Other	423	18.4	87.9	323	76.4	66	15.6	34	8.0
Age [years]									
≤ 35	475	20.6	77.3	350	73.7	89	18.7	36	7.6
> 35	1828	79.4	82.1	1441	78.8	238	13.0	149	8.2

TABLE 2. ECR-RS categories (%) among respondents who are in a relationship ($N = 1791$) by profession and gender

Attachment security/Gender	N (%)	Profession				χ^2 p
		Physicians	Nurses	Paramedics	Others	
Total						0.027
High	458 (25.6)	23.1	25.7	20.3	30.3	
Average	894 (49.9)	55.7	48.5	48.0	47.7	
Low	439 (24.5)	21.2	25.8	31.7	22.0	
Males						0.179
High	74 (20.6)	21.0	21.7	19.8	19.5	
Average	189 (52.5)	52.7	74.0	46.1	53.7	
Low	97 (26.9)	26.3	4.3	34.1	26.8	
Females						0.012
High	384 (26.8)	25.4	25.7	21.9	31.9	
Average	705 (49.3)	59.1	48.0	53.1	46.8	
Low	342 (23.9)	15.5	26.3	25.0	21.3	

TABLE 3. Mean HPCSS-12 indices by profession, gender, age, and relationship status

Profession/ Gender/Age	Total, M \pm SD	Being in close relationship			p
		Yes, M \pm SD	No, M \pm SD	Refusal to answer, M \pm SD	
Total	59.58 \pm 7.36	59.66 \pm 7.29	59.55 \pm 7.57	58.89 \pm 7.68	0.542
Professions					
Physicians	59.78 \pm 8.12	59.63 \pm 8.31	61.39 \pm 7.75	58.63 \pm 6.71	0.039
Nurses	59.61 \pm 7.07	59.75 \pm 7.04	59.01 \pm 6.86	59.19 \pm 7.68	0.398
Paramedics	57.59 \pm 7.85	57.71 \pm 7.11	57.36 \pm 10.28	56.90 \pm 8.31	0.855
Other	60.05 \pm 6.96	60.15 \pm 6.69	60.11 \pm 7.19	58.97 \pm 8.87	0.917
Gender					
Males	58.79 \pm 7.71	58.64 \pm 7.54	59.51 \pm 9.14	59.42 \pm 7.22	0.439
Females	59.77 \pm 7.27	59.92 \pm 7.21	59.55 \pm 7.26	58.81 \pm 7.76	0.292
Age [years]					
≤ 35	59.78 \pm 7.03	59.99 \pm 6.85	59.03 \pm 7.73	59.50 \pm 7.08	0.537
> 35	59.53 \pm 7.45	59.58 \pm 7.40	59.74 \pm 7.52	58.74 \pm 7.83	0.570

Kruskal-Wallis or Mann-Whitney nonparametric test.

and in most cases, there was one union ($N = 1707$). Formal relationships (marriage) predominated, which was the case for 1424 respondents (61.8%). Almost one in eight unions was informal, and 2.4% of 1,791 respondents did not specify the nature of their relationship. Also 327 people living alone were identified. The average age of respondents was similar across the three groups distinguished by relationship status ($p = 0.315$). In contrast, those living in informal relationships were significantly younger (37.63 ± 11.87 years).

Professional groups did not differ significantly in terms of relationship status ($p = 0.259$).

However, gender-related differences were observed ($p = 0.016$). Women were more likely to report being

single or refuse to state their relationship status, while men were more likely to be in a stable relationship. A significantly higher percentage of singles was found among younger respondents ($p = 0.006$).

Table 2 shows the distributions of ECR-RS attachment style categories by gender and profession. Differences between occupational groups proved to be statistically significant ($p = 0.027$). They were expressed in a higher proportion of relationships with a safer attachment style among representatives of other professions, an above-average proportion of average quality relationships among physicians, and an increase in relationship difficulties among paramedics. The same comparison by gender showed statistically significant differences only among

TABLE 4. Mean HPCSS-12 indices by profession and gender according to ECR-RS level

Profession/Gender	Attachment security (ECR-RS)			Kruskal-Wallis <i>p</i>
	High	Average	Low	
Total sample	60.98 ± 6.48	59.68 ± 6.94	58.25 ± 8.46	< 0.001
Professions in total				
Physicians	61.11 ± 6.57	59.63 ± 7.74	58.05 ± 10.88	0.151
Nurses	60.80 ± 6.69	59.82 ± 6.69	58.60 ± 7.84	0.008
Paramedics	60.88 ± 4.29	58.27 ± 6.05	54.82 ± 8.89	0.005
Other	61.33 ± 6.40	59.87 ± 6.84	59.15 ± 6.63	0.084
Profession males				
Physicians	60.58 ± 5.94	59.69 ± 7.16	57.72 ± 10.12	0.419
Nurses	59.00 ± 5.43	57.41 ± 5.11	57.00*	0.830
Paramedics	61.83 ± 3.94	57.48 ± 5.83	53.29 ± 8.26	< 0.001
Other	64.55 ± 7.05	58.36 ± 7.58	57.91 ± 6.67	0.097
Profession females				
Physicians	61.61 ± 7.13	59.57 ± 8.32	58.68 ± 12.41	0.285
Nurses	60.83 ± 6.72	59.91 ± 6.73	58.61 ± 7.85	0.008
Paramedics	58.43 ± 4.47	60.24 ± 6.30	60.75 ± 9.27	0.677
Other	61.04 ± 6.30	60.12 ± 6.71	59.38 ± 6.65	0.323

*One man with major problems.

women. Female nurses and paramedics were most likely to indicate significant relationship problems, manifesting a less secure attachment style.

Gender-related differences within four occupational groups are presented in Table 3. Among physicians, significantly more problems were reported by men. Introducing the age factor into the analyses, no differences were obtained between younger and older people (*p* = 0.126). The lack of age-dependent differences persisted in all professional groups.

The communication skills of HCWs were used as the main outcome variable in this study (Table 4). Among the 2303 respondents, the mean HPCSS-12 index was 59.58 ± 7.36, with no age-dependent differences (*p* = 0.376) or differences according to relationship status (*p* = 0.953) (Table 4). A gender-related and occupation-related difference were found (*p* = 0.031). The mean HPCSS-12 score ranged from 57.59 ± 7.85 among paramedics to 60.05 ± 6.96 in other occupations (*p* = 0.009). Analyzing the status of remaining in a relationship showed a statistically significant difference among physicians, in favor of those living alone.

The most important results from the point of view of the objectives of this study are shown in Table 4. Those reporting a less secure attachment style in their stable relationships scored 2.73 points lower in communication skills with the patient compared to those with no such problems in their relationships (*p* < 0.001). There was a 6.06-point difference between the extreme ECR-RS categories. After stratifying the analyses by

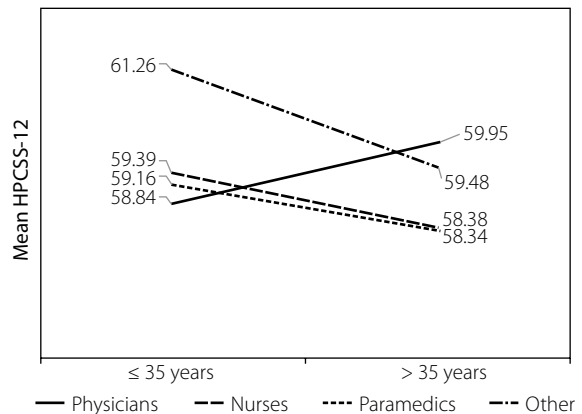


FIGURE 1. The comparison of junior and senior health professionals within occupational groups

gender, a statistically significant difference depending on relationship attachment style persisted for male paramedics and female nurses.

Including the age factor, younger and older HCWs within professional groups were compared, adjusting the analyses for gender and relationship quality (Figure 1).

Younger people representing other medical or non-medical professions had the highest level of communication skills, with no differences between the other groups. For other professions, however, the rate of decline in the index value after age 35 was the highest. Only for physicians did the HPCSS-12 average increase with age. Among relatively older paramedics and nurses, the aver-

age HPCSS-12 was much the same and significantly lower than the values recorded in the other two groups, albeit with a slower rate of age-related decline.

DISCUSSION

The literature has indicated that an opportunity to manage HCWs' fears during health emergencies – such as COVID-19 – may involve restoring interpersonal interactions [18]. Social skills are particularly important in health care, as HCWs are in constant contact with other workers and with patients and their families.

There is some evidence that physicians with insecure attachment styles show a reduced ability to empathize and take the perspective of others, and exhibit increased negative affect compared to those with secure attachment styles [19]. The present study has shown that among nurses and paramedics, the relationship quality associated with insecure attachment styles significantly decreases communication resources, and in the other groups, the average HP-CSS indexes also were lowered.

Research supports predictions based on attachment theory that insecure attachment of physicians can have negative effects on physician-patient interactions [20], and is also associated with lower levels of empathy in both nurses and paramedics [21]. Medical students with insecure attachment styles have also been shown to exhibit less empathy and cause greater emotional distress to patients than their peers with secure attachment [22-24]. Later-career physicians' attachment styles also influence patient care, with providers with insecure attachment showing greater criticism of patients with medically unexplained symptoms [25]. Those with secure attachment, on the other hand, communicate more effectively about medically unexplained symptoms and offer medical interventions that are more sensitive to patients' needs [26]. Moreover, physicians with insecure attachment have more symptoms of burnout and lower job satisfaction [27], and nurses have higher rates of stress [28]. A previous study emphasized that a lack of secure attachment style is associated with aggressive behavior, which inhibits empathy [29]. Moreover, the study also found that it was women health care workers in relationships who scored higher on communication skills. In the context of gender differences, another study found that female physicians respond more easily to emotional cues and spend more time seeing their patients than male physicians [30].

A noteworthy observation is the protective nature of secure attachment. Studies have shown an association between secure attachment style and lower levels of PTS symptoms [31]. And HCWs involved in emergency medicine and frontline workers involved in the direct diagnosis, treatment and care of patients with COVID-19 were more likely to exhibit symptoms of stress, anxiety and depression [32]. As our results suggested the highest involvement of relationship problems in the paramedic

group, work overload and also working under particularly difficult conditions may have played a significant role in this outcome.

Additionally, it has been shown that communication skills deteriorate with age in health care workers, except for physicians. When working 6-10 years, the rate of professional burnout was the highest, with 41.4% presenting such symptoms. Working both 6-10 years and more than ten years remained a significant predictor of professional burnout, which can contribute to depersonalization and thus communication impairment [33]. In addition, research indicates that communication skills acquired by paramedics during training are subject to regression during working life [34]. It is possible that communication skills deteriorate due to a lack of adequate didactic activities, and work-related burnout promotes the activation of mechanisms responsible for the decreased quality of communication. Older people may also have been more fearful of COVID-19 infection during the study period, which contributed to a reduction in interpersonal contact.

This study is one of only a few that have compared different professional groups, allowing conclusions to be made about each of them separately. An additional strength of the survey is its regional nationwide coverage. Further research is needed to establish whether and how different strategies to improve HCWs' communication skills could be effective at different stages of pre-graduate and post-graduate training.

STUDY STRENGTHS AND LIMITATIONS

The results presented here are consistent with attachment theory, which posits that childhood experiences with caregivers are an important predictor of later social and emotional functioning. Although attachment theory suggests a causal mechanism for this relationship, causality cannot be confirmed by the results of this study. The cross-sectional nature of the study and the lack of longitudinal follow-up do not allow causal relationships to be inferred between variables and the long-term consequences of the psychological effects found. In future studies, it would be worthwhile to analyze attachment style in the context of patient communication together with other individual and environmental factors. In addition, the study showed an overrepresentation of the professional group of nurses, as well as a significant overrepresentation of females among the respondents, but this is consistent with the well-described gender gap in the health care sector [35]. The significant differentiation of HPCSS-12 values in the group of problematic relationships should also be noted. It may mean that with personal problems communication may be significantly impaired, but may also remain at a good level. This is worth further investigation to determine whether forming satisfying relationships with other people can be a compensatory mechanism for personal difficulties.

PRACTICE IMPLICATIONS

A deeper understanding of the role of attachment in the doctor-patient relationship in health care can lead to improved patient care and enhance the clinical experience of health care professionals. The present research identifies practical implications for interventions regarding how HCWs' attachment orientations can be approached in the context of adequate training programs. HCWs with an insecure orientation may be educated to utilize more caring strategies and smarter emotion regulation [36]. In addition, educating students about the possible impact of their attachment styles on their effective communication with patients can make a valuable contribution to undergraduate and postgraduate medical education programs. It can help students understand how their conscious feelings about close relationships can affect their communication. Education could also help practicing HCWs' identify situations in which their attachment styles may affect their clinical communication. This would allow students and HCWs to be aware of the impact of their attachment styles prior to clinical interaction with patients.

CONCLUSIONS

In conclusion, increased self-awareness of personal relational abilities, including attachment style, can help HCWs understand their strengths and limitations at the workplace. It is suggested that psycho-educational training be implemented according to how the attachment style formed in childhood affects medical practice. It is also important to take proactive, preventive measures to increase protective factors.

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DISCLOSURE

The authors report no conflict of interest.

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AUTHORS' CONTRIBUTIONS

ZI, AK, JM prepared research concept and design of the publication. All authors took part in data collection. AK, JM analysed and interpreted data. ZI and JM prepared the first draft of the article. AK, SM, MB i JM critically revised it. All authors approved the final text of the publication.