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Dentist–assistant interaction styles in Jordan

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Abstract: *Objectives:* To assess dentist–assistant interaction and communication styles and their associated factors in Jordan. *Methods:* Three different areas in Amman where private dental clinics heavily cluster were chosen. The researcher visited all dental clinics in these areas and invited dentists to participate in this study. A structured self-administered questionnaire was designed and included the 22 items on staff communication that were used by Gorter and Freeman to assess communication styles. The culturally adapted items were analysed in such a way to reflect the structure that is used in the original study. *Results:* There was a significant interaction between dentist's gender and communication styles ($F = 3.8$, $P = 0.022$). The only significant difference between men and women was for professional leadership style ($P = 0.011$) where men were more likely to adopt professional leadership style than women. For men, the average score for friendly leadership style was significantly lower than that for other styles. For women, the average score was the highest for gender interacting style which was significantly higher than that for friendly leadership style and professional interacting style, but not business leadership style. *Conclusions:* Communication and interaction styles between Jordanian dentists and their assistants differ according to gender. Jordanian dentists are less likely to adopt friendly leadership communication style compared with other styles.

Key words: communication style; dental assistant; dentist

Introduction

Communication is the means through which people interact, exchange information and relate one to another. Male-dominated professions are known to be characterized by decisiveness,

competitiveness and action within members of the professional group (1). Men are more likely to engage in a style that is characterized by communicating asymmetrically and finding solutions instead of focusing on feelings, and hence their interactions are more competitive. In dental profession, nearly all dental assistants are women (2, 3) which may affect the way of interaction and communication within the dental team (4–7).

Dental assistants are an invaluable part of the dental care team, enhancing the efficiency of the dentist in the delivery of oral health care and increasingly influencing the productivity of the dental office through interpersonal, business and technical skills. In Jordan, as well as other eastern Mediterranean countries, dental assistants work full-time and play many roles in dental practice: receptionist, office manager, chairside assistant, X-ray technician or dental educator. In the USA and Europe, dental assistants may have the so-called 'expanded duties', permitting them to do many additional tasks related to patient care.

Dentist–assistant communication style is considered a multifactorial relationship. The staff communication pattern in dental practice needs to be understood to make working interactions stress free. Therefore, there is a need to examine the communication styles, not only from the perspective of the dentist, but also from the perspective of the dental assistants. In 2007, a total of 2008 dentists and approximately the same number of dental assistants were working in Amman, the biggest city in Jordan. It is not clear how dentists and assistants interact and communicate in Jordan. Therefore, this study was conducted to assess dentist–assistant interaction and communication styles and their associated factors in Jordan, as perceived by dentists.

Methods

Study population

Three different areas in Amman where private dental clinics heavily cluster were chosen. The researcher visited all dental clinics in these areas and invited dentists to participate in this study. Of 120 dentists, only 99 (82.5%) agreed to participate in this study. Lack of interest and being busy were the main reasons of refusal to participate. They were informed about the purpose of the study and requested to fill a questionnaire. The respondents were assured of the confidentiality of the information.

Instrument

A structured self-administered questionnaire was designed and included the 22 statements on staff communication that were used by Gorter and Freeman (8) to assess communication styles. They reached these items based on the results of a series of interviews among Dutch and Northern Irish dentists (9). The culturally adapted items were analysed in such a way to reflect the structure that is used in the original study. Responses on these 22 items were based on a five-point Likert scale, varying from 1 (I disagree completely) through 3 (neutral, no opinion or not applicable to my situation) to 5 (I agree completely).

Additionally, the questionnaire included information about demographic and job-related variables including age, gender, marital status, nationality, country of graduation, years of experience, speciality, academic degree, work place, the average number of patients treated per day, the average monthly income and smoking status.

Factor analysis

Factor analysis with principal components method of factor extraction and varimax method of factor rotation was conducted to extract the same four factors (styles) which were obtained by Gorter and Freeman (8). The four factors were similarly interpreted as: businesslike leadership style – the content of this scale reflects a rational, not necessarily emotional understanding in the working relationship; friendly leadership style – the content of this scale reflects the exchange of feelings and paying attention to one's emotional needs; professional interacting style – the content of this scale reflects a relationship in which communication is aimed at good professional results; and gender interacting style – the content of this scale reflects one's opinion about gender preferences in the working relation.

The item-level validity of the scale was examined by checking the following scoring assumptions: for item-internal consistency, the correlation between items and hypothesized scale should exceed 0.40. For item-discriminant validity, the correlation between each item and its hypothesized scale should be higher than the correlation between that item and other scales (10). The correlation between an item and its hypothesized scale was estimated as if the item in question was not in the total scale score (corrected for overlap) to avoid inflating the item-scale correlation coefficient. If these conditions are met, it is appropriate to combine items as hypothesized into simple summated rating scales (11). Cronbach's alpha was calculated to assess the degree of internal consistency and homogeneity between the items. The minimum score of 0.70 is required to support claims of internal consistency (10).

Statistical analysis

Demographic characteristics were analysed using chi-squared tests. The general linear model repeated measures procedure was used to test the differences between communication styles and to determine factors associated with these styles. In addition, interaction between communication styles and other independent variables was tested. Bonferroni test was used to determine which mean scores of different styles differ. The Statistical Package for Social Science software (SPSS, version 11.5, SPSS Inc., Chicago, IL, USA) was used for data analysis. A value of $P < 0.05$ was considered statistically significant.

Results

Dentists' characteristics

This study included a total of 99 dentists (62 men and 37 women) working in their private clinics. Age of dentists ranged from 24.0 to 51.0 years with a mean of 34.8 years (SD 6.6). Years of experience ranged from 1 to 23 years with a mean of 9.2 years (SD 5.5). The average income was JD 728.3 (JD 1 = $1.41). About 72% were general practitioners and two-thirds of the participants were married (Table 1).

Dental assistants' characteristics

Age of dental assistants ranged from 22 to 48 years with a mean of 28.1 years (SD 5.1). The majority (85.5%) had diploma or lower level of education and only 14.5% had Bachelor's degree in health or non-health-related sciences. About half of them (51.2%) had less than 3 years of experience. About 26.8% had a salary of more than JD 200 and 45.5% used to work for more than 8 h daily. The most commonly self-reported duties performed by dental assistants in the dental clinic were patient assurance, infection control, post-operative instructions, oral health education, communicating with suppliers and customers and office management.

Scaling assumptions and reliability

Table 2 shows that item-style correlations within each scale were moderate to strong. All item-style correlations were greater than the recommended correlation of 0.4 for adequate item-internal consistency. At the level of individual items, it was apparent that all items were more strongly correlated with their own style than with other styles. All styles (scales) demonstrated acceptable internal consistency and Cronbach's alpha ranged from 0.71 to 0.81.

Communication styles

The general linear model repeated measure analysis showed that there was a significant interaction between dentist's gender and communication styles ($F = 3.8$, $P = 0.022$). Further analysis showed that the only significant difference between men and women was for professional leadership style ($P = 0.011$) where men were more likely to adopt professional leadership style than women (Fig. 1 and Table 3). For men, the average score for friendly leadership style was significantly lower than that for other styles, which means that they were more likely to adopt businesslike leadership style, professional interacting style and gender interacting style than friendly leadership style. For women, the average score was the highest for gender interacting style which was significantly higher than that for friendly leadership style and professional interacting style, but not business leadership style. Friendly leadership

Table 1. **Socio-demographic characteristics of 99 dentists working in their private clinics in Amman**

Variables	Male, *n* (%)	Female, *n* (%)	Total	*P*-value
Age (mean ± SD)	36.0 ± 6.7	32.9 ± 6.2	34.8 ± 6.6	0.026
Marital status				<0.005
Not married	12 (19.4)	20 (54.1)	32 (32)	
Married	50 (80.6)	17 (45.9)	67 (67.7)	
Academic degree				<0.005
Bachelor	34 (56.7)	36 (97.3)	70 (72.2)	
Master	22 (36.7)	1 (2.7)	23 (23.7)	
PhD	4 (6.7)	0 (0.0)	4 (4.1)	
Years of experience (mean ± SD)	10.0 ± 5.7	7.7 ± 4.9	9.2 ± 5.5	0.044
Number of daily patients (mean ± SD)	12.8 ± 8.5	11.4 ± 6.0	12 ± 7.5	0.513
Working hours (mean ± SD)	9.2 ± 1.6	8.0 ± 1.9	8.5 ± 2	0.019
Monthly income (mean ± SD)	790.5 ± 451.9	627.6 ± 352.5	728.0 ± 402	0.077

Table 2. **Item scaling tests, validity and reliability estimation**

Style	Number of items	Range of item correlations, item-internal consistency*	Cronbach's alpha†
Businesslike leadership style	7	0.41–0.61	0.77
Friendly leadership style	7	0.54–0.84	0.81
Professional interacting style	4	0.58–0.74	0.79
Gender interacting style	4	0.49–0.74	0.71

*Correlations between items and scale corrected for overlap.
†Internal consistency reliability.

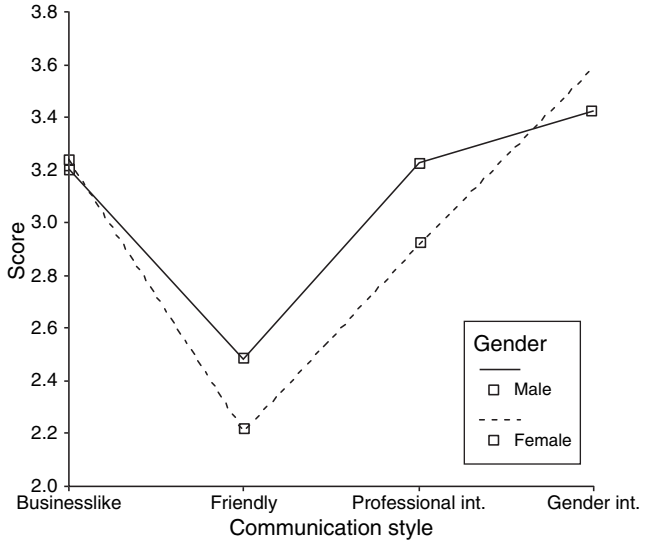

Fig. 1. Average scores for communication styles according to dentist's gender.

Table 3. **Mean and standard deviation of communication styles scales by gender**

Style	Men, mean (SD)	Women, mean (SD)	Total, mean (SD)	*P*-value (men vs. women)
Businesslike leadership style (1)	3.2 (0.5)a	3.2 (0.5)a	3.2 (0.5)	0.734
Friendly leadership style (2)	2.5 (0.7)abc	2.2 (0.7)abc	2.4 (0.7)	0.063
Professional leadership style (3)	3.2 (0.6)b	2.9 (0.6)bd	3.1 (0.6)	0.011
Gender interacting style (4)	3.4 (0.8)c	3.6 (0.6)cd	3.5 (0.8)	0.298

Values followed by same letters within columns are significantly different at $P < 0.05$.

style was the least likely to be adopted by women. None of the studied variables for dentists, including age, years of experience, number of daily treated patients, number of working hours and monthly income, was associated with any of these leadership styles in the multivariate analysis.

Discussion

Only dentists working in the private sector were included in this study because the majority of dental services in Jordan is offered by private dental professionals. This study did not attempt to include those working in Ministry of Health because dental procedures that are performed in public sector are mainly limited to simple dental procedures including fillings and extractions.

Four major communication styles between dentists and their assistants were interpreted in previous studies (8, 9). These styles were defined as business leadership style, friendly leadership style, professional interacting style and gender interacting style. In our study, each group of items that represents specific communication style yielded the communication style score. All item-style correlations exceeded 0.4 for adequate internal consistency.

Our study showed that communication styles differed according to gender. However, the only significant difference between men and women was in professional leadership style, where men were more likely to adopt professional leadership style than women. Men were more likely to adopt businesslike leadership style, professional interacting style and gender interacting style than friendly leadership style. For women, the average score was the highest for gender interacting style which was significantly higher than that for friendly leadership style and professional interacting style, but not business leadership style. Friendly leadership style was the least likely to be adopted by women. The finding that friendly leadership style is the least likely to be adopted by women may be explained by that dental assistants may neglect instructions and/or react in a disrupted manner towards clinical requests made by the female dentists. Other personal and work-related factors including age of the dentist, age of the assistant, number of assistant daily working works and the number of years the assistant had been employed could explain this finding. Furthermore, work pressure and economic status of both dentists and assistants deter them from adopting friendly leadership communication style.

Gender differences in communication styles vary from one country to another and this was expected because these styles are shaped by the country's culture and norms (8, 9). In the Netherlands and Northern Ireland (9), male and female dentists reported different and distinguishable communication

styles when interacting with their assistant. Female dentists perceived a predominantly friendly leadership style and a professional interaction style, whereas male dentists reported to adopt a businesslike leadership style and a gender interacting style.

In the present study, female dentists were younger with lower years of experience when compared with men. Age and experience may explain the differences in reported communication style. In previous studies (8, 9), age of the dental nurse explained some differences.

In conclusion, communication and working styles between dentists and their assistants differ according to gender. Male and female dentists were significantly less likely to adopt friendly leadership communication style compared with other styles. The only difference between male and female dentists was in professional interacting style where male dentists are more likely to be professional compared with female dentists. Given the tendency for a growing number of staff to be involved in dental practices, team communication skills seems to become a necessary undergraduate dental competence. Dental schools in Jordan should consider including management skills in the curricula and dental students should be introduced to the role of the dental assistant as part of the dental team and oriented to the physical set-up of a typical dental office.

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