Distribution Statement

Distribution A: Public Release.

The views presented here are those of the author and are not to be construed as official or reflecting the views of the Uniformed Services University of the Health Sciences, the Department of Defense or the U.S. Government.

UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES
POSTGRADUATE DENTAL COLLEGE
ARMY POSTGRADUATE DENTAL SCHOOL
BUILDING B-6837 NORMANDY DRIVE
FORT BRAGG, NORTH CAROLINA 28310

THESIS APPROVAL PAGE FOR MASTER OF SCIENCE IN ORAL BIOLOGY

Title of Thesis: A Survey of Patient Perceptions of Consent Within a Military Dental Treatment Setting

Name of Candidate: Peter H. Vogen
Master of Science Degree
June 04, 2021

THESIS/MANUSCRIPT APPROVED:

_____
MAJ Joshua P. Berridge, DMD, MS
PERIODONTAL AND IMPLANT SURGERY, FORT BRAGG
Committee Chairperson

MAJ Steven Delgado, DDS
ENDODONTICS, FORT BRAGG
Committee Member

COL Kimberly Lindsey, DDS
ENDODONTICS, FORT BRAGG
Committee Member

The author hereby certifies that the use of any copyrighted material in the thesis/dissertation manuscript entitled:

"A survey of patient perceptions of consent within a military dental treatment setting"

is appropriately acknowledged and, beyond brief excerpts, is with the permission of the copyright owner.

Peter H. Vogen
Fort Bragg Endodontics
Uniformed Services University
04JUN2021

A survey of patient perceptions of consent within a military dental treatment setting

P. Vogen[1], S. Delgado[1], K. Lindsey[1], T. Beltran[2]

[1]Fort Bragg Endodontic Residency Program, NC;
[2]Womack Army Medical Center, Fort Bragg, NC

Introduction

Operating under the assumption that patients did not have the requisite specialized knowledge and experience to make major medical decisions for themselves, healthcare practice in the West maintained a largely paternalistic attitude until the later 20th century (Wolfendale). However, in recent decades, Western healthcare has progressed toward a more patient-centered model; a significant part of this shift has been a strengthened concept of the role of consent within the treatment experience (Umar). Indeed, in most modern healthcare settings, consent has become an ethical—and legal—mandate (Umar). This is the case in dentistry as it has been in dentistry as it has been in medicine at large (King). In a military setting, however, patients and clinicians may face barriers to consent that do not exist in civilian setting (Wolfendale), and dentists serving in this setting need to be cognizant of potential limitations and patient perceptions regarding consent in this environment.

The principles of beneficence, non-maleficence, justice, and autonomy form the philosophical backbone of modern biomedical ethics (Main). The modern concept of informed consent primarily derives from the principle of autonomy—though other philosophical models resting on justice or non-maleficence have also been proposed (Main, ONeill). Indeed, absolute autonomy may be undesirable when weighed against the other principles; nonetheless, it is generally considered ideal that the patient's wishes and goals—supported by scientific evidence and clinical opinion—form the basis of a shared treatment decision between patient and clinician (Main).

Consent has three components essential to its validity: capacity, knowledge, and voluntariness (Umar, King). The first, capacity, demands that the patient be able to understand what they are being told and be competent to make decisions for themselves (Umar, King). It is important to understand that capacity is not necessarily constant, and can be altered or diminished as a result of fear, pain, pharmaceutical influence, sickness, or simply malaise (Umar, Cassell, ONeill).

The second component, knowledge, is the information that ought to be provided to the patient (Umar). This information should include available treatment options—to include non-treatment—and attendant risks and benefits (Umar). Communication of this information can complicated by low rates of science and health literacy (Grady). Excessive technical detail can reduce understanding and undermine the possibility of consent, but vague or over-generalized information can fail to provide adequate basis for the patient to make a decision (ONeill). Accordingly, providing the proper amount and detail of information is often a balancing act which relies on identifying what the patient and clinician care about in the context of the patient's capacity and the complexity of the treatment (Umar, Grady). Allowing the patient some control how much information they receive can go a long way toward achieving an appropriate balance point (ONeill).

The third component of consent is voluntariness, or non-coercion (Umar, King). What seems like straightforward requirement not to force a patient's decision one way or the other can be complicated by subtle, often unintentional, pressures on a patient's decisional process. Clinicians exercise, by virtue of their position, several sources of social power which could have an indirectly coercive effect on a patient's decision; among these are power as a potential source of approval, power as an admired authority, power from expertise, and power deriving

from information given in a convincing manner (Cassell). Awareness of a patient's potential susceptibility to these influences ought to frame a clinician's presentation of treatment options in order to avoid undue influence and respond to the patient's best interest (Cassell).

It becomes clear when looking at these components that consent is highly subject to contextual and subjective framing. It is not simply a matter of providing some requisite information, the words being understood, and a signature obtained; rather it relies on a process of communication in which mutual understanding and agreement is reached and the patient perceives that they have had some level of control over their treatment (King). Regardless of how clinicians educate their patients, demographic characteristics—to include age, sex, race, socio-economic status, etc—can still have significant effects on how patients perceive and approach treatment choice (Reese). Awareness of some of the demographic trends regarding patient perceptions of consent can help clinicians to anticipate and ameliorate potential obstacles to consent when communicating with their patients, particularly in environments in which consent may already face some uphill battles.

Some of those uphill battles become particularly apparent in the provision of healthcare within military settings. In volunteer militaries, a service member exercises autonomy in their decision to enter the service, but that autonomy can be severely limited while they are serving; as a matter of daily life, service members face many requirements or orders that are not subject to consent (Wolfendale). Service members exist in a rigid hierarchy and deference to appropriate authority and instruction is engrained into the cultural fabric of the military. Within this environment, the voluntariness of consent, particularly, has been recognized as a potential vulnerability (Warner). Clinicians—who already may exercise intrinsic social power in their role as doctors—take on additional social power as a function of their position within the hierarchy (Cassell). Additionally, service members may feel compelled to opt for particular treatment recommendations due to real or perceived career impacts (Warner). Indeed, there are situations involving fitness for duty or readiness for deployment that may dictate or limit a patient's available treatment options (Warner). Particularly from a patient perspective, the dividing line between military requirement and clinical recommendation may be unclear. While military clinicians have a duty to both the organization as a whole—taking into account readiness and mission effectiveness—they also maintain an ethical duty to their patients to optimize their ability to consent (Warner).

In military dentistry, a range of conditions and disease states may be encountered, and a range of treatment options are often open to patients and providers. Even in those cases in which military readiness demands an intervention, there are often options as to which intervention is pursued. An understanding of some of the subjective perception of consent and any associated demographic patterns can assist clinicians in identifying potential obstacles to consent and help them to best optimize their communication with patients regarding treatment options and recommendations. The purpose of this investigation is to evaluate patients' perceptions of their role in the consent process in relation to their demographic characteristics within a population of United States Army Soldiers receiving dental care in the military healthcare system at Fort Bragg, NC. The null hypothesis is that no significant demographic effects on consent perception will be apparent in the population.

Materials and Methods

Data for this survey were collected using anonymous short-form surveys distributed via e-mail link to 4,974 active duty Service Members following dental care appointments at Fort Bragg from August to October of 2020. The survey instrument included simple demographic characteristics such as age, gender, race/ethnicity, educational background, and military specific indicators of hierarchical position or time-in-service. The survey also included questions designed to assess patients 'individual experience with military dentistry as well as views

regarding agency in the dental setting. Respondents who did not complete the majority of agency questions were excluded from the analysis (n=2).

The Shapiro-Wilk test was used to assess the normality of the data distributions for time to complete survey as well as age. Consequently, measures of central tendency and dispersion for time are reported as medians with associated interquartile ranges and age is reported using means with associated standard deviations. Descriptive statistics were used for frequency of responses. Multiple comparisons were accomplished using the Kruskal-Wallis test with Dunn-Bonferroni post-hoc comparisons used to elucidate significant results. A chi-square test of independence was used for pairwise comparisons. Significance was declared at $P < 0.05$ for all tests. All data was analyzed by using SPSS version 25.0 (SPSS, Chicago, IL).

Results

A total of 221 individuals initiated the survey with 219 (99.1%) completing the survey, a response rate of 4.4%. Excluded from the analyses were two incomplete surveys. The median time to complete the survey was 1.52min (IQR 1.23-2.3).

As expected in a military population, the majority of respondents completing the survey were male (n = 160; 73.1%). The average age of male respondents was 37yrs (SD = 7.7). Although numerically younger with an average age of 35 years (SD = 11) the 59 women (26.9%) in the study were not statistically different from the men in terms of age, $P>0.05$. Similarly, no racial/ethnic differences were observed by gender, $P > 0.05$. The majority of respondents self-identified as white (n = 133, 60.7%) with blacks (n = 41; 18.7%) and Hispanics (n = 23; 10.5%) being the next most common. The remaining 21 respondents (10%) identified as Asian or other race. In terms of education, most respondents (n = 138; 63.1%) reported having at least a 4 year college degree. Seventy-one respondents (32.4%) reported having an associate's degree or some college. Less than 5% (n = 10) reported no formal education beyond the high school level. As with race, no differences were noted between the educational accomplishments or rank structure of male and female respondents (both $P > 0.05$). Table 1 summarizes the demographic characteristics of the sample.

Table 1. Respondent Characteristics

Characteristic	n	%
Gender		
Male	160	73.1
Female	59	26.9
Race/Ethnicity		
White	133	60.7
Black	41	18.7
Hispanic	23	10.5
Other	21	10.0
Education		
Graduate degree	68	31.1
Bachelor degree	70	32.0
Some college	71	32.4
High school or GED	10	4.6
Rank		
Enlisted	125	57.1
Officer	94	42.9
Time in service, yrs		
0-4	48	21.9
5-12	55	25.1
>12	116	53.0

Where rank structure was found to be a significant factor was in dental care utilization, $P < 0.01$. Table 2 shows prior interaction with the Army dental care system between officers and enlisted respondents. Although both groups showed similar rates of utilization in the mid-range of care (crowns, fillings, tooth extraction, etc) they differed significantly on the extremes ($P = 0.02$). Compared to enlisted patients, officers had a higher proportion of individuals seeking care only for the required annual exam or cleaning (65.6% and 70.2% respectively). In contrast, enlisted patients had higher rates of extensive specialist care (implants, oral surgery, braces, etc) utilization compared to officers (20.0% and 5.2% respectively).

Table 2. Dental Care Utilization by Rank Type

	Enlisted		Officer		Total	
Level of utilization	n	%	n	%	n	%
Annual exam or cleaning only	82	65.6	66	70.2	148	67.6
Light utilization: 1 -3 Fillings	9	7.2	15	16.0	24	11.0
Moderate utilization: Crowns, tooth removal, root canal, or more than 3 fillings	9	7.2	8	8.5	17	7.8
Extensive specialist care: implant, braces, or oral surgery excluding wisdom tooth removal	25	20.0	5	5.3	30	13.7

Table 3 summarizes responses to the questions covering dental healthcare agency. Overall the majority of respondents indicated high levels of satisfaction with their dental care experience (all >65% strongly agree). No differences were noted among respondents based on rank type, $P > 0.05$. The same however was not true for gender. While the majority of questions showed no difference between males and females, the two questions focusing on information showed that females were less satisfied with the amount and quality of information provided (both $P = 0.01$). Males on average reported 82% “strongly agree” in being satisfied with the amount and quality of information compared to only 66% of females.

Table 3. Survey Response Summary

	Strongly Agree		Somewhat Agree		Somewhat Disagree		Strongly Disagree		N/A	
Survey Question	n	%	n	%	n	%	n	%	n	%
I was given information on my state of dental health.	173	79.0	30	13.7	4	1.8	9	4.1	3	1.4
If treatment was recommended, I was informed of my available treatment options.	145	66.2	32	14.6	7	3.2	7	3.2	28	12.8
I was satisfied with the amount and quality of information provided to me.	167	76.3	32	14.6	6	2.7	12	5.5	2	0.9
I was involved in making decisions about my treatment. *	144	65.8	33	15.1	14	6.4	13	5.9	14	6.4
I was satisfied with my level of involvement in making decisions about my treatment. *	151	68.9	33	15.1	13	5.9	11	5.0	10	4.6

* Total number of responses does not sum to 219 due to non-response.

Similarly, in looking at racial/ethnic differences, patients were overall very satisfied with their experience. The sole difference was found when asking if the respondent felt informed of available treatment options (in cases where treatment was recommended). Here data suggest that patients who identified as white were overall least satisfied with the treatment options presented, P = 0.03. They had the highest rates of reporting “somewhat agree” (n = 23; 17.3%), “somewhat disagree” (n = 3; 2.3%), and “strongly disagree” (n = 4; 3.0%).

Although for most questions no differences were found with respect to age; when asked if they felt involved in making decisions about treatment, respondents indicating “strongly agree” were on average older (38years, SD =8.3) than those with other responses (34years, SD = .8.5), P = 0.3. No differences were noted with respect to education, rank, or time in service (all P > 0.05). Lastly, the questions were combined into a composite score to examine if respondents had an overall positive or negative feeling regarding their dental health care agency. The majority of respondents (n=203; 92.7%) reported mostly positive views, while 1.4% (n = 3) reported equally positive and negative views, and 5.9% (n = 13) reported mostly negative views.

Discussion

Informed consent has been described as having three primary components: capacity, knowledge, and voluntariness. (Umar) In examining these components, it becomes clear that consent is highly susceptible to contextual and subjective framing, a concern even in highly democratic and individual-centric societies. These concerns may be magnified in a social environment defined by power, authority, and agency dynamics that are inherently more hierarchical, centralized, and authoritarian.

This study’s initial concept grew out of the question of whether the hierarchical social positions peculiar to military service might influence patients ’perceptions of their role within the informed consent process. Due to limitations in the available population, the use of a control group of non-military patients was impossible. Thus the question was reframed; rather than examining whether military service altered perceptions of consent, this study instead aimed to examine whether position within the military hierarchy—or time spent within it—were associated with differing self-perceptions of role in the consent process. The results of this study do not lend support to a hypothesis of differential consent perception associated with military specific demographic measures.

Indeed, the only association noted in reference to military-specific demographic measures was the level of dental care utilization between officer and enlisted ranks. While both officers and enlisted members utilized mid-level dental care—defined as crowns, fillings, simple extractions, etc—at similar rates, the distribution at the ends of the care spectrum was markedly different. Officers were more likely to present for routine hygienic maintenance as their only interaction with the dental care system in a given year. Conversely enlisted members were much more likely to seek complex, specialist-level care. This is suggestive of underlying differences in baseline oral health levels between the rank structures.

Most respondents reported high levels of satisfaction with their experience of consent within the military dental care system. However, it is worth noting that if military hierarchy does indeed influence—consciously or subconsciously—patients’ perceived agency in the consent process, that same effect could manifest as an acquiescence bias wherein respondents experienced conscious or subconscious pressure to respond with ‘good’ evaluations. The usage of of an anonymous, voluntary-response survey was intended to mitigate this effect to the extent possible; however, the possibility of such a bias remains a limitation of the study design.

In terms of non-military demographics, isolated associations were noted in terms of gender, race/ethnicity, and age. Males tended to be more satisfied with both the amount and quality of information provided to them; it is unclear whether this is indicative of a male predisposition toward greater acceptance of paternalistic structure and clinician authority or a female predisposition for desiring more information. White respondents reported lower levels of satisfaction regarding the treatment options presented to them. Finally, older patients reported higher rates of feeling involved in treatment decision-making processes; again, there is uncertainty as to whether this demonstrates a real reduction in decisional participation by younger patients or a more assertive attitude amongst older patients in making their desires known.

Conclusions

While the results of this study do not appear to indicate problematic trends with consent perception in military populations, it is important to remember that the absence of evidence does not constitute evidence of absence. Military clinicians ought always to be aware of the potential for consent-limiting factors and ensure that they are attentive and responsive to the individual patient's needs to the extent possible while still maintaining a focus on overall mission effectiveness.

Cassell, E. Consent or obedience? power and authority in medicine. N Engl J Med. 20

Grady C. Enduring and emerging challenges of informed consent. N Engl J Med. 2015;372(9):855-62.
05;352(4):328-330.

King J. Consent: the patients' view—a summary of findings from a study of patients' perceptions of their consent to dental care. Br Dent J. 2001;191(1):36-40.

Main BG, Adair SR. The changing face of informed consent. Br Dent J. 2015;219(7):325-7.

O'neill O. Some limits of informed consent. J Med Ethics. 2003;29(1):4-7.

Reese R, Aminoshariae A, Montagnese T, Mickel A. Influence of demographics on patients' receipt of endodontic therapy or implant placement. J Endod. 2015;41(4):470-2.

Umar G. Is this the new age of consent? Fac Dent J. 2016;7(4):152-159.

Warner CH, Appenzeller GN, Grieger TA, Benedek DM, Roberts LW. Ethical considerations in military psychiatry. Psychiatr Clin North Am. 2009;32(2):271-81.

Wolfendale J, Clarke S. Paternalism, consent, and the use of experimental drugs in the military. J Med Philos. 2008;33(4):337-55.