Role of Physician's Personality on their Drug Prescription Behavior

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ABSTRACT

Physicians Prescription behavior is the results of 4P’s namely Product, Physicians, Promotion, and Patient’s expectation. In today’s world of evidence-based medicine with ever-growing demand in patient expectations, physician-Patient-centric managing a pathological condition is gaining acceptance from the normal disease management approach. Like all citizenry is Unique; similarly, physicians also possess a singular personality that responds differently even to an equivalent stimulus. Aiming for better patient care and Patient expectations, research work across the world has been administered for identifying the perfect physician personality traits right from selection of specialty, knowledge dissemination during the study period, and managing patients during the Practice sessions. However, there’s little, or no research conducted thus far, in understanding the "Physician’s personality" make-up focussing on their motives, values, preferences in their professional practice. Understanding "physician's personality" traits will lay a robust foundation for developing effective medico-marketing initiatives from the pharmaceutical industry with the assistance of smart and customized marketing initiatives resulting in a healthy environment for physician-Pharma association towards adopting better therapeutic interventions for patient benefit. This review is an effort to specialize in the research work done thus far in understanding the impact of “physician’s personality” aimed toward improving patient care. Further research in understanding "Physician's personality" and its role in physicians prescribing decisions will help the Pharma industry towards developing much needed medico-marketing initiatives with optimal utilization of resources towards disseminating the latest therapeutic interventions to the physicians for better patient care which is the stepping stone for Physician-patient centric management.

INTRODUCTION

Physician’s Personality

Personality is a mirror image and a combination of self & environmental effects. Demographic factors, cultural factors, socioeconomic conditions, and study intensity contribute strongly towards developing values, attitudes, perceptions leading to the development of specific behaviour, representing a specific personality trait (Rosenstein, 2016). Personality is defined as a set of psychological traits and mechanisms within the individual that are rel-
Physicians Personality vs Patient centricity

In today's world of evidence-based medicine, physicians are adopting a Patient-centric approach for managing the disease state with the available therapeutic interventions in their day to day practice (Epstein et al., 2005; Levenstein et al., 1986). This patient-centric approach will help physician for better patient know-how and understanding, a strong collaborative communication results from both the end leading to better treatment choice from the physician and adherence from the patient for early recovery in primary care settings (Clever et al., 2006; Shah et al., 2016).

Benjamin et al. (2008) investigated the benefit of patient-centric communication and its impact on primary care "physician's personality" towards proper disease condition diagnosis leading to better treatment selection for early patient's recovery. The study was carried out with 46 Primary care Physicians and 88 Patients presenting with depression symptoms with co-morbid conditions. All the Primary care physicians' personality was assessed using NEO-Personality inventory. Patients were asked to rate a physician's ability with respect to three factors which include, their illness identification experience, understanding experience, and improvement in communication/discussion experience (Benjamin et al., 2008).

The study demonstrates that Physicians with increased openness led to better illness experience.
from patients, Physicians’ emotional sharpness led to better patient understanding of patients, and Physicians more dutiful led to better communication with fewer questions in getting patients family history towards formalizing effective intervention. Whereas in the case of Physicians with more anxious nature were found to engage less in communication with patients. The results from the study emphasize the need for training physicians for aligning personality needs with improvements in line to a patient-centric approach for better management of clinical outcomes (Benjamin et al., 2008; Chapman et al., 2008).

**Physicians Personality vs Patient Confidence**

The physician-Patient relationship is the central aspect for the development of an effective treatment strategy for the early recovery of Patients from the underlying pathological condition, as the Physician-Patient relationship helps the physician to gather the necessary details like suffering, impact on the quality of life, expectations by keeping the patient integrity intact. This leads to the development of patient confidence on physician’s intervention which in turn leads to better treatment adherence and compliance from the patient end towards a faster recovery (Kopel, 2018).

(Stilwell et al., 2000) in their research studied the personality type by MBTI vs specialty choice and shown that the physicians exhibited different personalities across various specialties with variation among them within the specialty (Stilwell et al., 2000).

Clever et al. (2008) from their hospital-based study involving 300120 patients confirmed the existence of a relationship between patient satisfaction vs the physician communication towards developing effective treatment strategies with better adherence and compliance from the patient end for their early recovery (Clever et al., 2008).

Duberstein et al. (2007) analyzed the influence of Patients ratings of physicians based on physician’s demographic profile and physicians Personality assessed from NEO-FFI inventory in a cross-sectional study of 4616 Patients aged 18-65 years involving 96 Primary care physicians. The study revealed that patients expressed their satisfaction with those physicians who are more in openness and average in consciousness. This observation is evident in older patients vs younger patients. The study concluded that the “physician’s personality” identification that promotes communication with patients is crucial in building patient trust, patient adherence, and compliance for the recommended treatment in an effort for developing patient-centric management (Duberstein et al., 2007).

Chitale (2018) studied the influence of the Indian “Physician’s Personality” type from the Patient Perception window. The study confirmed that the “physician’s personality” is playing an important role in building the perception of the patient. The study revealed that Physicians, either introverts or extroverts, are emotionally stable, analytical, and objective and relationship-oriented in their approach, aiming for better patient care. From the study population, extroverts were in favor of asking questions in looking at various options with minimal receiving from the patients whereas in the case of introverts there were mostly on receiving from the patients towards developing an effective treatment strategy. The author could not find the use of counseling, empathizing, and guiding with the patients. From this study, we can conclude that physicians’ training for self-awareness should be undertaken with prior problem definition which will help develop physicians to adjust personality for an effective Physician-Patient interaction for a predictable outcome which will be beneficial to all the stakeholders (Chitale, 2018).

**Systematic Review**

Boerebach et al. (2014) performed a systematic review of the impact of clinicians’ personality and their interpersonal behaviors on the quality of patient care. PRISMA criteria were followed for article inclusion in the systematic review. 85 studies met the inclusion criteria, with 4 studies focusing on the clinician’s personality and 81 studies focusing on clinician’s interpersonal behaviors. The outcome that was measured in this systematic review includes Quality of the process of care, patient health outcomes. Clinician’s personality was based on interpersonal behaviors calculated with available instruments apart from registering verbal and non-verbal behaviors and affective behaviors. It has been noted that, apart from the included observational studies, most of the other studies which constituted this systematic review had shown little or no effect of clinician’s personality traits and their interpersonal behaviors on the standard of patient care. The systemic review concluded that clinicians can adapt their interactions toward patients’ needs and preferences instead of displaying certain specific behaviors per (Boerebach et al., 2014).

As Patient confidence is the Trust Pillar for Physician-patient confidence towards adopting a Patient-centric approach for disease management, Physicians’ self-knowledge concerning Personality and their adaptability as per individual patient needs becomes critical for developing effective,
personalized treatment strategies for better patient care. This approach will also help physicians to spend quality time, leading to improved Physician-patient interaction. Hence based on the specialty of care efforts should be made in aligning physician Personality traits right for a quality Physician-Patient interaction, which is crucial for developing effective treatment strategies towards patient-centric management approach (Boerebach et al., 2014).

**Physicians Personality Dimensions -Stress, Depression, Anxiety, burnout Vs Impact on Patient Care**

Collier (2012) in work titled - The "physician personality" and other factors in physician health, cited that providing best in class patient care is being felt like the most important responsibility by physicians. As physicians are experts in their domain and work hard with their daily routine, spanning long hours with a high pace and time pressure, this tight schedule puts physicians at the risk of mental distress. Hence, in addition to the work environment, a "Physician's personality" forms the most important factor for the distress as they have a paucity of time allocating to themselves for relaxation. The burnout among physicians, which is the result of the amalgamation of both internal and external factors, leads to emotional exhaustion, low on accomplishment, and depersonalization. This situation may lead to compromised services by physicians, with an increase in errors in their field of expertise leading to unsatisfactory patient care and outcomes. The author emphasized the need for creating a balanced life among physicians for their welling & providing better patient care (Collier, 2012).

Alan (2017) studied the Impact of Stress, Burnout, and Personality on Physician Attitudes and Behaviours that Impact Patient Care and recommended the need to focus in managing stress as it offers solutions to physicians to manage time, pressure better vs professional medical practice. Studies have proved that physicians decrease in wellbeing, satisfaction, engagement, patient care, Treatment efficiency, patient relationship hurt patient care outcomes (Alan, 2017).

Pejušković et al. (2011) in their study assessed the intensity of Burnout syndrome and “physician’s personality” dimensions as well as with coping strategies in 3 groups of 160 physicians from 3 different specialties by Maslach burnout inventory and The Temperament and Character Inventory and Manual for the Ways of Coping Questionnaire. The study has revealed that GP’s were found to be high on emotional exhaustion, whereas surgeons were found to be high depersonalization. Among physicians

1. Self-directedness and Cooperativeness were prominent with a low level of BS.
2. Work avoidance was seen in physicians with low attachment quality and low on personal accomplishing nature. While physicians with low BS displayed high control of oneself.

The researcher concluded that the findings of the important role of personality dimensions and coping strategies could help identify individuals with a tendency towards the development of BS and timely application of preventive strategies (Pejušković et al., 2011).

Gramstad et al. (2013) explored the influence of physicians personality traits with respect to stress, depression and anxiety during their graduation study period. The researcher enrolled 201 physicians and for measuring personality BCI scale measuring 4 traits namely neuroticism, extroversion, conscientiousness and reality weakness was used, similarly HAD scale for mental health and, SCL-25 for symptom checklist and Stress (PMSS) were used. The main finding of this study was that two personality traits predicted psychological state problems among junior physicians. The trait reality weakness was associated with higher levels of hysteria symptoms, symptoms of depression, and stress reactions, while neuroticism only predicted stress reactions. Furthermore, trait extroversion protected against symptoms of depression. In comparison to male, female students were observed to experience more stress during work. The study concluded that both personality trait characteristics and psychological state are associated with one another among medical students and junior physicians. The study also indicated that among all the factors, the personality trait factor is the most affected factor, which in turn affects the mental health deterioration among medical students. Hence assessing personality trait among medical students and junior doctors for identifying the individuals at risk of developing mental health challenges in the future and enrolling them into intervention initiatives aimed at controlling stress and offering protection from future mental healthcare challenges (Gramstad et al., 2013).

Brown et al. (2019) their international study aimed to investigate the association between personality type and burnout in 77 primary care physicians in Canada and Jamaica with the help of Maslach Burnout Inventory, Human Services Survey, and therefore the Big Five Inventory. The research further confirmed that burnout was a common prob-
lem among primary care physicians. Personality traits like neuroticism, conscientiousness and agreeable nature are also resulting in burnout of physicians. Hence, plans on working “physician’s personality” must be in place which can minimize burnout with maintaining optimal health for physicians which will positively impact on their work (Brown et al., 2019).

Meta-analysis

Connor-Smith and Flachsbart (2007) performed a meta-analysis concerning relations between personality and coping on Big Five personality traits and coping using 165 physicians and 33,094 participants. The meta-analysis concluded that personality traits interact to predict coping and was weakly related to broad coping (e.g., Engagement or Disengagement), but all 5 traits predicted specific strategies. Extra version predicting support seeking, Conscientiousness predicted more problem-solving and cognitive restructuring, and Neuroticism predicted wishful thinking, withdrawal, and emotion-focused coping. The meta-analysis further concluded that Personality more strongly predicted coping in young samples, stressed samples, and samples reporting dispositional instead of situation-specific coping (Connor-Smith and Flachsbart, 2007).

Salyers et al. (2017) conducted Meta-analysis and concluded that towards the improvement of physician’s attitudes and behaviours, the other avenues to be looked upon include improving emotional intelligence, mindfulness, resiliency, managing conflicts, communication, collaboration, and leadership in their day to day life (Salyers et al., 2017).

Physicians Personality vs Empathy

Magalhães et al. (2012) studied impact of empathy of medical students and personality by using the Five-Factor Model with the Portuguese version of NEO-FFI (Neuroticism, Extraversion, Agreeableness, Openness to Experience, and Conscientiousness) in 242 medical students. The results showed an association between personality and empathy in medical education. Agreeableness and Openness to Experience are positively associated with self-reported empathy measures, whereas Neuroticism, Conscientiousness, and Extra version do not show associations with empathy. The research concluded that education to enhance empathy in students must consider student personality (Magalhães et al., 2012).

Torres et al. (2015) investigated the association between leave prescription and physician burnout and empathy during a medical care health district in Lleida, Spain. This descriptive study included 108 medical care doctors from 22 medical care centres in Lleida in 2014 (183,600 patients). Maslach Burnout Inventory for Burnout and Jefferson Scale of Physician Empathy was employed. Results revealed that high empathy was significantly associated with low burnout. Neither empathy nor burnout was significantly associated with sick leave prescription. The study concluded that Sick leave prescription by physicians is not associated with physicians’ empathy or burnout and may mostly depend on prescribing guidelines (Torres et al., 2015).

Physicians Personality vs Wellbeing at work

Mullola et al. (2019) studied the influence of “physician’s personality” based on their speciality with their performance and well-being. 2815 Finnish physicians aged 25-72 years were part of this study. Big factor scale for personality determination, work ability index for measuring well being at work were employed in addition to the general health questionnaire. Among specialities high on extra version, openness and agreeing nature were found to improve the productivity and well-being of physicians at work and representing mass specialities. In the case of sophisticated super specialities physicians with high consciousness & agreeable nature but with the closed mindset was useful for their performance. A personality trait, namely neuroticism, was found to have a minimal role. The study concluded that Physicians’ personality traits may moderate the association between medical speciality and well being at work (Mullola et al., 2019).

Physicians Personality vs Medical education

Scheepers et al. (2014) studied the relationship of physicians’ personality traits with their teaching performance both in surgical and non-surgical specialties consisting of 622 attending physicians and 549 residents from the Netherlands. Attending physicians were rated for their attitude, overall teaching performance, communication and feedback by residents with the help of SETQ scale, attending physicians self-evaluated their personality traits on Big Five Inventory (BFI). The study showed that extroverted quality led to better teaching performance in normal specialties, whereas in surgical specialties closed behaviour and high on consciousness in specialties other than surgery had better feedback from attending residents (Scheepers et al., 2014).

Physicians Personality vs Prescription behavior

Sarma et al. (2015) from their Indian experience stated that Prescription is not a simple piece of paper. Each prescription can show many things like the orientation, attitude, personality, etc., of the pre-
sibber (Sarma et al., 2015).

Davari et al. (2018) Physicians’ Qualities, Price of the drug and drug advertising found to influence physicians prescribing decision. This proves that a physician prescribes a drug based on patient benefit as well as personal benefit. Hence, laying down stringent measures and policies involving all the stakeholders will promote towards rational prescribing of effective drugs by physicians for patient benefit (Davari et al., 2018).

Ibrahim (2013) from their Jordan experience established that each physician has a unique personality, and responds differently to various personal selling factors, there is a significant relationship between the individual characteristics of the medical doctors and their prescription behavior (Ibrahim, 2013).

(Virji and Britten, 1991) studied the relationship between patient’s attitudes and doctor’s prescribing behaviour and concluded that the physician’s prescription decision is influenced by their attitude of giving preference to drug treatment which matches the patient’s attitude of being prescribed with medicines even in case of self-recovery. The study also confirmed that among patients who walk-in Vs prior appointee patients for consultation, the above behaviour was prominently seen in the latter group, thereby building pressure to prescribe medicine at physician level (Virji and Britten, 1991).

Lemaire and Wallace (2014) in their cross-sectional study involving 1178 physicians from a western Canadian province, aimed to measure the extent to which physicians identify with three predetermined personalities namely work alcoholic, type-A, and control freak, and explore the relationship to their perception of performance and wellness. The study confirmed that most of the physicians enrolled in this study were found to have at least one out of the three above personality components, making them feel for becoming a better physician. The study also revealed that differences in personality components also resulted in differences in wellness outcomes, with

1. High Emotional exhaustion: Work alcoholics, Type-A, Control freak.
2. High Anxiety: Type-A, Control freak
3. High Depression, Poor mental health and Job satisfaction: control freak

Physicians identified with the workaholic personality reported higher levels of job satisfaction, rewarding patient experiences, and career commitment (Lemaire and Wallace, 2014).

Shah et al. (2016) in their research work from Pakistan tried to identify the factors that motivate and hold them back as a part of a retention strategy among physicians working in primary healthcare centres. The study revealed adequate remuneration, reasonable facilities at residence, high standards of environment, stable government, adequate supplies, and medical facilities can contribute to a high level of motivation among physicians leading to improvement towards patient responses and services (Shah et al., 2016).

Kasliwal (2013) in her empirical study from India et al., studied the role of Psychosocial Factors on Doctors Prescribing Behaviour. The study reveals that that non-medical factors, the personality factors of the doctors and marketing initiatives taken by the companies like MR’s product knowledge and MR as a source of information of new drugs varies across different demographic characteristics of the doctors are more influenced by them as compared to the senior doctors (Kasliwal, 2013).

Ibrahim (2013) investigated the Factors Affecting Doctor’s Prescribing Behavior in Jordan: Anti-Hypertensive Drugs as an Example. The study concluded that among other factors, Physicians personality features a statistically significant positive effect on doctors’ prescribing behaviour

The personality components mainly consisted of physicians quality characteristics, namely helpful & unselfish nature, reliability, trustworthiness, cooperativeness, sophistication, imaginative and task oriented (Ibrahim, 2013).

CONCLUSIONS

To our knowledge Physicians, Personality and its impact on various facets or stakeholders of the healthcare system has been documented and well-studied with the available most powerful personality instruments for generating insights towards developing actionable points for implementation so that patient experience can be enhanced with optimal/ stable Physician personality in place.

"Physician’s personality" on patient care, patient satisfaction, empathy, education, education has been well studied in different parts of the world by many researchers with the help of validated personality instruments from developed and developing countries. However, In the case of assessing the impact of "physician’s personality" on prescribing behaviour, so far research work has been limited to few studies, which focused on Physician's Quality characteristics and psychological characteristics of a well-trained medical representative. Very little research work was done in India towards under-
standing the same. Hence there is a need for studying Physicians personality focusing on Physicians’ core values, motives, preferences and its impact on the prescribing decision.

Understanding “physician’s personality” not only play an important role in understanding physicians motivates, values and preferences but also help us in developing effective marketing communication strategies aiming adoption of better, cost-effective therapeutic interventions by physicians which benefit patients thereby by transforming disease management to physician –patient-centric management. The ongoing study undertaken by the researcher aims to study the impact of Physicians personality on the prescribing behavior among Indian Physicians.

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