

Assessment of Psychiatry Trainees Satisfaction towards Postgraduate Psychiatry Clinical MD in Sudan

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Abstract

Background

Assessment of trainees and graduate's satisfaction in medical education and clinical training is an important guide for the improvement of educational and training programs. Local information is scarce on psychiatry trainees' satisfaction to their training program.

Objective

To assess psychiatry trainees satisfaction towards postgraduate program in Clinical MD in Psychiatry at the Sudan Medical Specialization Board in 2021.

Method

This is a cross-sectional observational study conducted at the Sudan Medical Specialization Board / psychiatry council/ Clinical MD in Psychiatry program, within the period from August 2021 to January 2022. 137 of current psychiatry trainees and graduates were surveyed using a closed-ended unipolar 5 grade Likert's scale, through adapted a self-administered questionnaire covering eight dimensions and variety of psychiatry training items. Areas covered were curriculum coverage, research involvement and training assessment methods, clinical experiences, academic experiences, supervision, training centers support and training environment.

Result

The overall trainee's satisfaction with the provided training program was reported in 35%. The satisfaction score was observed to be more common in the graduates (62%) compared to the current trainees (38%). The areas of good satisfaction include: training in adult general psychiatry (69.6%), diversity of patients' population (72%), part-1 exam (77.5%) and level of support from peers (75.2%). while areas of low level satisfaction include: quality of physical facilities(10.4%), education prioritization over service(11.2%) training in psychiatry subspecialties(12.6%), learning resources(13.6%), safety of environment(14.2%). overall research experiences(21.9%), academic activity at training centers(24.8%), organization of learning activities(24.8%), responsiveness of program to feedback from residents(24%), frequency of supervision received(30.4%) continuous assessment(36.4%), received constructive feedback(37.6%) and training in emergency room(40%).

Conclusion

The frequency of satisfaction was found to be alarmingly low among psychiatry trainees in the variety of training constructs used in the study, and the results were in agreement with many international studies.

Keywords: Psychiatry Trainees, Satisfaction Assessment, Training Program, Medical Education, Mental Health

List of Abbreviation

COVID-19: Coronavirus disease of 2019
DALYs: Disability-adjusted life-years
LAMICs: low- and middle-income countries
MNS: Mental, neurological and substance use disorders
MD: Medical degree

MH: Mental health
MHSB: Medical and Health Studies Board
NHS: National Health Services
PGME: Postgraduate Medical Education
UK: United Kingdom
U of K: University of Khartoum

USA: United States of America

R1: Residency year 1

R2: Residency year 2

R3: Residency year 3

R4: Residency year 4

WHO: World Health Organization

SMSB: Sudan medical specialization board

SCFHS: Saudi Commission for the Health Specialties

SPSS: Statistical Package for Social Sciences

1. Introduction

1.1. Background

mental, neurological and substance use disorders (MNS) in low- and middle-income countries (LAMICs), are largely unrecognized and untreated, in part due to lack of mental health services, lack of trained personnel and lack of capacity of the primary healthcare (PHC) system to provide the care required. The mental health services in Sudan suffer from acute shortages in trained personnel [1]. There are no health human resources plans, universities and other training institutions work in isolation from the Ministry of Health. Training and education are thus not directed towards the meeting of national needs. There are only 72 hospital beds and 19 physicians per 100,000 populations in the public sector. Medical education contributes significantly to the vision for Sustainability in Health in developing countries such as Sudan [2]. In our times, with the COVID-19 pandemic wide-spreading worldwide, the necessity to empower health experts with knowledge, skills, and competencies is a key priority for the management of healthcare. The development of high-skilled experts in mental health and increased satisfaction from their work must be set as a key objective towards achieving Sustainable Health.

The assessment of medical Training Programs and the evaluation of their added value must be a strategic initiative for empowerment and sustainability. Postgraduate Medical Education (PGME) in Sudan started at the University of Khartoum in 1953. Following this, two other universities started providing such training: Gezira and Juba University [3]. In 1995, the training was handed over to the Sudan Medical Specialization Board. There is a scarce research evaluating the quality of the training since the inauguration of PGME in Sudan. The late professor Tigani El Mahi, the first psychiatrist in Africa, started his work in 1949 in Sudan. His continuous efforts to promote mental health (MH) and Psychiatry are well recognized [4]. He started to train doctors and sent them for qualification & further training in the United Kingdom. In Sudan the Postgraduate psychiatry training started in 1990 under the oversight of the Faculty of Medicine at the University of Khartoum, while currently the postgraduate training is overseen by the Sudan Medical Specialization Board.

The programme of the clinical M.D in Psychiatry is composed of full time training in general adult psychiatry, neurology, and psychiatric sub specialties lasting for a minimum period of four calendar years distributed in 6-months placements in different approved training centers supervised by accredited trainers. Different tools of assessment, formative and summative, are used based on the curriculum [5]. In 2020 the psychiatry council at SMSB released the revised and updated version of

the curriculum comprises new methods and trends in medical education which build based on the rich experiences of psychiatry council to further promote the abilities of trainees to graduate competent and safe Psychiatrists [6]. This updated curriculum is an attempt to meet all the needs for a sound and effective training and hence it contains some of the crucial changes and reforms in postgraduate training. The programme is expected to help bridging the huge gap in psychiatric services and education by graduating good number of specialists. So far, 178 graduates have qualified to become specialists in psychiatry, 75% of whom have since emigrated, mostly to work in the Gulf States [5]. Evaluation of psychiatry training program is vital for psychiatry curriculum development and in determining if the curriculum is operating as intended and achieving the expected outcomes. Also, it's important to ensure that supporting programmes and services are meeting users' needs. It is often used to identify areas where the curriculum needs to improve [7]. Medical schools and training bodies are highly concerned with students and trainee's satisfaction because of its strong association with future professional attitudes, carrier commitment and retention [8]. The practice of graduates and trainees' surveys is global; many postgraduate training boards and medical councils undertake comprehensive surveys of doctors in training for their views about the training they are receiving. Data on postgraduate students' satisfaction can be gathered through trainees and graduates' surveys. Such data form constructive feedback for improving the quality of medical education and clinical training. Different aspects of training can be included in the trainees and graduates surveys: educational supervision, clinical supervision, research, feedback, hand over, assessment, cost, mentoring, Professionalism, communication, environment, enrolment requirements, clinical experience, and others. Evaluating postgraduate medical training programmes in developing countries such as Sudan is not a usual practice [9]. In addition, considering the views of trainees in regard to the quality of their training has been a missing area which must be addressed. Studying the satisfaction of psychiatry trainees in Sudan has never been looked at before. Which will have it is negative toll on the evaluation and improvement of the training and will create an informational gap. Therefore, this study is expected to be a step forward in the direction of assessment and evaluation of the psychiatry programme in general.

1.2. Problem Statement

Postgraduate medical education in Sudan has faced a variety of constraints and setbacks. In addition, there are scarcity of medical and health facilities in certain medical and health schools, as well as a high service demand. Thus, the learning environment and learning experience of psychiatry trainees will be affected negatively. The poor satisfaction of medical trainees has it is direct effect on the quality of the training program and on the institute offering the program itself [10]. Consequently, affecting the quality of the services provided by the trainees. This situation is complicated by current challenges related to political and social and economic problems that faced the country, which affect the general stability of mental health system and training scheme [8]. In addition, Sudan like the rest of the world, has been experiencing the unprecedented social and economic impact of the COVID-19 (corona virus) pandemic which addressed new

challenges for the stability of training program that need to be evaluated [11]. Also, there is scarce research in evaluating the quality of postgraduate psychiatry training program that required for enriching decisions about improving the postgraduate psychiatry training program in Sudan to improve the quality of health care for the patients [4].

1.3. Rationale and Justification

With the emerging of a new curriculum at the psychiatry council in Sudan comes an urgent and crucial need for a baseline data about the efficiency of the programme in order to follow up the improvements and identify the gaps to ensure the most appropriate and effective interventions in the future [6]. Trainees are considered one of the major stakeholders in the training program and their involvement in the process of all process of evaluation has been advocated for, because it assesses the extent to which a program has caused desired changes in the target audience [12]. Such data from psychiatry trainees form constructive feedback for improving the quality of medical education and clinical training and provide a basis for decision making about future action based on analysis and discussion of the findings [9].

1.4. Research Objectives

1.4.1. General Objectives

1.To determine psychiatry trainees satisfaction towards postgraduate program in Clinical MD in Psychiatry at the Sudan Medical Specialization Board in 2022.

1.4.2. Specific Objectives

1.To measure satisfaction of psychiatry trainees in postgraduate, program in Clinical MD in Psychiatry at the Sudan Medical Specialization Board in 2021in the following areas: training coverage, Research experience, assessment methods, clinical activities, academic activities, training environment.

2.To identify the factors associated with satisfaction among psychiatry trainees and graduates who enrolled in postgraduate program in clinical MD in Psychiatry at the SMSB in 2022

1.5. Literature Review

1.5.1. Trainee Satisfaction

The term of trainee satisfaction has been used commonly in medical education, but it has not been rigorously defined up to the moment. Kotler define satisfaction as ‘a person’s feeling of pleasure that result from comparing a Product’s perceived performance (or outcome) to their expectation’. It means if the performance matches the expectation, the customer will be satisfied. In the context of higher education, the matter of satisfaction is what students expect from their educational institution, in fact, everything that makes them eligible to become productive and successful person in their practical lives. Reid has classified few basic characteristics that employers normally seek from university graduate. These include knowledge, intellectual abilities, ability to work in modern organizations, interpersonal skills, and communication skills [13, 14]. In addition, there are other invisible characteristics required by the market and that include: willingness to learn, be participative and positive to work in teams, problem solving skills, analytical abilities, leadership qualities, adaptability, flexibility, ability to summarize key issues, and last but not least the ability to be productive and loyal team/organizational member [15]. When it comes to the concept of trainees’ satisfaction it is a multidimensional concept that has been associated with environmental factors and is predicted by intrinsic (personal growth and perceived ability to work) and extrinsic (perceived social support) forms of motivation. The image of physicians has two critical components: the continuous development, and the seeking of life-work balance of the trainee/resident. Thus, the training satisfaction remains a core aspect of efficiency of Training Programs [3].

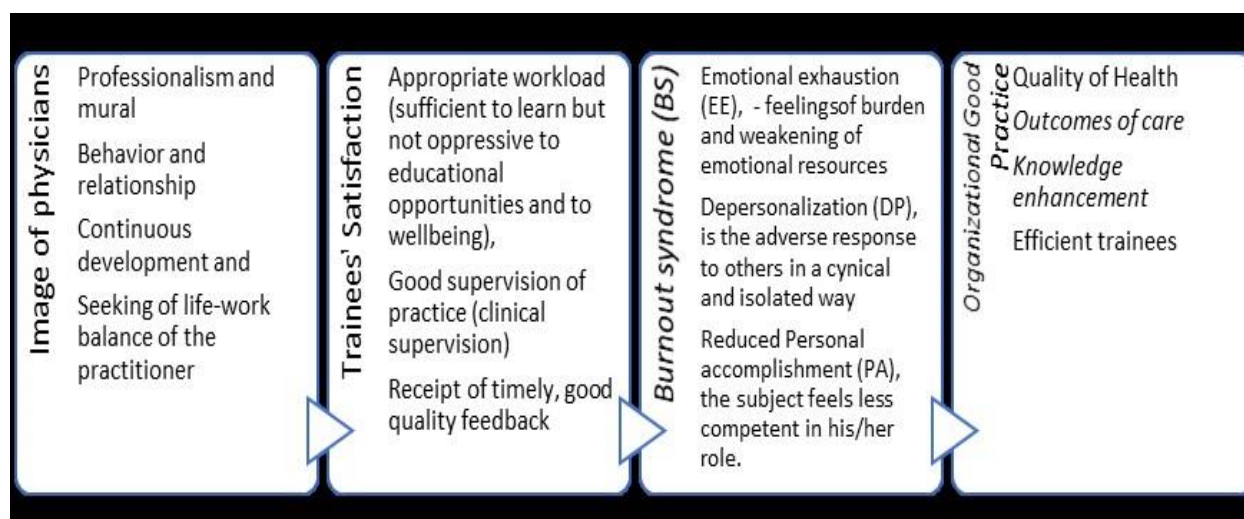


Figure 1: Trainee Satisfaction Concept

1.5.2. Satisfaction Assessment of Postgraduate Medical Training Program

Satisfaction assessment is tool for the evaluation of medical

training program to ensure the quality of training. The term ‘program’ (or programme) can refer to any organized action such as a curriculum, a course, session, student service, event,

guidelines or a policy in medical education. The reasons for conducting an evaluation are varied and can include the desire to improve the implementation and effectiveness of a programme, manage limited resources, justify funding, support the need for increased funding, document social accountability and meet requirements for academic standards or accreditation [16]. Programme evaluation focuses on questions related to whether a programme is working as intended and if there are any unintended consequences. There are different approaches for evaluation of medical training program, Kirkpatrick's hierarchy; one of the

most widely applied evaluation approaches in medical education has been Kirkpatrick's hierarchy, which was first described by Donald Kirkpatrick in 1967 as a series of levels of evaluation on which to focus questions. At the base (the lowest level) of the model is some indication of satisfaction with the teaching and learning. Next up the pyramid is a concern for what learning has taken place, followed by an indication of behavioral change. The apex of the pyramid focuses on the impact of an intervention on society or a community.

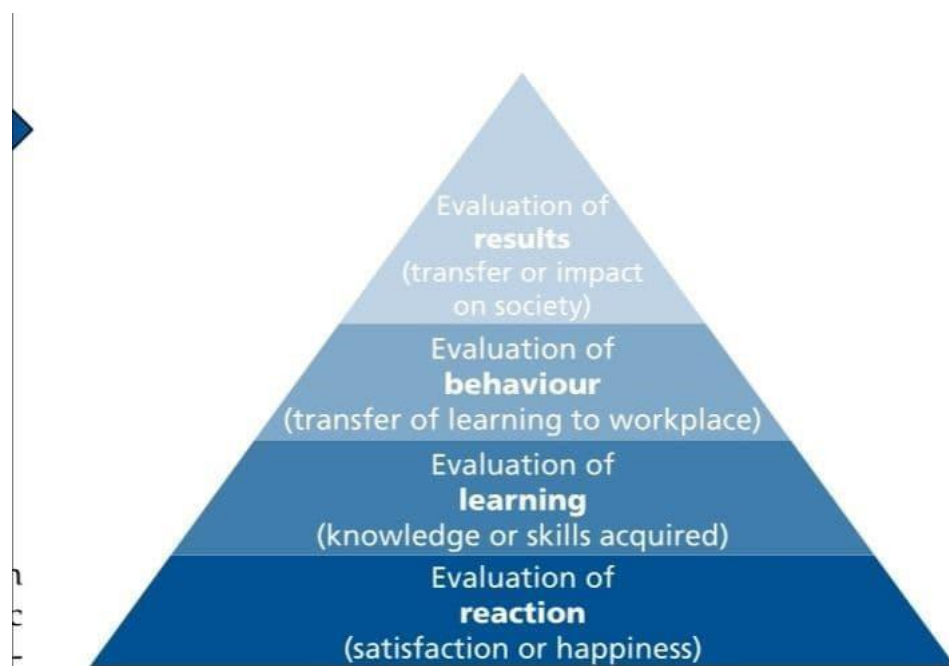


Figure 2: Kirkpatrick's Hierarchy

Other approach is Participatory, collaborative and empowerment evaluation. Participatory, collaborative and empowerment all refer to the involvement of those who have a stake in the programme, including funders, policy-makers, students, faculty, staff, students and members of the community. Participatory evaluation methods are based on the foundations of community-based participatory research and participatory action research. While the level of participation can vary across studies using this approach, the focus is upon valuing and using the knowledge and expertise of those involved with or benefitting from the programme. Participation can include involving stakeholders in identifying evaluation questions, developing indicators and measures, collecting data, analysing and interpreting data, and disseminating results of the evaluation [7]. Those approach emphasis the role of assessment of students, trainees and graduate's satisfaction in medical education and clinical training as part of a multi-dimensional research strategy improving the quality of medical training programme, And work as guidance for psychiatry curriculum development and in determining if the curriculum is operating as intended and achieving the intended outcomes.

Satisfaction assessment used to ensure that supporting programmes and services are meeting users' needs (trainees). It

is often used to identify areas where the curriculum needs to improve [16]. Until the 1980s, feedback from students about their experience in higher education was an uncommon practice. The 2000s witnessed great concerns about quality and student satisfaction and feedback has become an important element of the higher education quality process. Currently the practice of graduates and trainees' surveys is global; many postgraduate training boards and medical councils undertake comprehensive surveys of doctors in training for their views about the training they are receiving [9]. Data on postgraduate students' satisfaction can be gathered through trainees and graduates' surveys. Different aspects of training can be included in the trainees and graduates surveys: domains pertaining to the training center evaluation, research and simulation training, personal issues, residency program evaluation, and recommendations [3].

1.5.3. Previous Studies

Studies of training satisfaction within psychiatry trainees in postgraduate training program are rare in Sudan and over the world. Thus the reviews focus primarily on studies conducted across a variety of medical specialties over the world. Haupt et al. study consider one of the founding studies that search for the factors which determine the level of satisfaction among psychiatry residents toward psychiatry training program as a way

to make a framework to an ideal training program that consider the resident as a corner stone of efficiency of the program, this study surveyed 31 residents for factors contributing to satisfaction with an idealized psychiatry training program. The five most important factors related to resident satisfaction identified by this study were 1) quality of attending teaching; 2) feeling of esprit de corps; 3) degree of responsibility for patient care; 4) quality and number of conferences; and 5) outpatient experience [17]. Another major study was conducted by Richard L. Elliott in the USA, 2009 aimed to develop an instrument to measure resident's satisfaction toward the training, the Resident Satisfaction Questionnaire (RSQ). The study involved a national sample of 180 residents rated 41 items regarding the relative importance of each item in determining resident satisfaction with training. The five items rated most important in determining resident satisfaction with psychiatric training were 1) quality of supervision; 2) respect of faculty for residents; 3) responsiveness of the program to feedback from residents; 4) balance of training between psychosocial and biomedical aspects of psychiatry; and 5) departmental morale. The study found also the balance of training between psychosocial and biomedical aspects of psychiatry was important in determining the overall quality of the training program [18].

Similar study was conducted in Israel, 2009 by Natalie Elleneweig et al aiming to identify the most important factors for Israeli psychiatry residents in determining their satisfaction with psychiatric training programs and to compare the findings with previous U.S. data. They used descriptive cross sectional study. One hundred sixty Israeli psychiatric residents were asked to complete a 40-item questionnaire indicating the relative importance of these items in determining their satisfaction with training on a five-point Likert scale. A total of 100 residents from 15 programs completed the survey. The authors composed a list of the 10 most important items in determining Israeli residents' satisfaction with psychiatric training. "Quality of supervision" and "respect of faculty for residents" were the most important items on this list. These items were ranked significantly higher than all the rest of the items. The authors identified the list of the most important items for Israeli residents was found to be very similar to published findings for U.S. residents [19].

Three UK reports, published in 2013, looking at the quality and safety of care in the NHS have highlighted the need for trainees' views about their training experiences to be heard. Junior doctors have been described as powerful agents for change and the eyes and ears of the NHS. The Francis report had 290 recommendations for improvement including 21 for education and training. These stated that Postgraduate Deans should ensure an effective programme of monitoring and advised the use of trainee surveys especially as a source of information on patient safety [20]. Another a study in 2017 conducted by Simon Gregory to measure the satisfaction of UK junior doctors (medical post graduate Students), multiple regression analysis was performed on responses given by doctors in training (trainees) to General Medical Council (UK) National Trainee Survey annually from 2012 to 2015. Two different research models investigate the determinant of trainee doctor satisfaction. The first model includes clinical supervision,

feedback, workload, and gender as explanatory variables. The second model adds supportive environment to the first mode. The general medical council survey response rate was 97%, factors of appropriate workload (sufficient to learn but not oppressive to educational Opportunities and to wellbeing), good supervision of practice (clinical supervision) and the receipt of timely, good quality feedback were found to be correlated with trainee satisfaction [21]. Many regional studies were published, in 2020; an analytical, prospective, crosssectional study was conducted in Saudi Arabia to evaluate the trainees' satisfaction with the quality of Training Programs that is supervised by the Saudi Commission for the Health Specialties (SCFHS). A self-administered, semi-structured questionnaire survey with both open and close ended questions was distributed to trainees through an online link. The questionnaire comprised items and included domains pertaining to the training center evaluation, research and simulation training, personal issues, residency program evaluation, and recommendations. The trainees' response rate to the online survey was 27% (3696/13,688) and the key aspects of job satisfaction investigated include: Satisfaction with Academic Activities in the Center; Satisfaction with the Residents and Colleagues in the Center; Satisfaction with the Administrative Components in the Center; Satisfaction with the Training Programs; Satisfaction with the Specialty; Satisfaction with the Training Center. With regard to the satisfaction rate of the trainees, 34.7%, 31%, 22%, 25.3%, 25.5%, and 25.3% considered the program, academic half-day, bedside teaching, grand round, bedside round with a senior, and bedside round with a consultant to be good, respectively. The study results emphasize that residents commented that academic half-day is a key aspect of satisfaction, which implies that research and training beyond professional service are recognized as top priorities by trainees. Also more than half (58%) were very likely to recommend the program in which they work to others, while 12.2% were unlikely to do so [5].

Also another study conducted in Saudi Arabia in 2019 that measures the satisfaction of surgical residents with their training programs as a key indicator for program effectiveness. In this study the satisfaction was measured by questionnaire in 119 selected participants at 9 training centers in Eastern Saudi Arabia, as part of the general surgery residency program of Saudi Commission for Health Specialties. The survey response rate was 69.7% (83/119) resident participants. A total of 37 (44.6%) residents expressed dissatisfaction with their current training programs. The residents were least satisfied with research opportunities (78.3%), followed by faculty didactic involvement (59%), mentorship (51.8%), and case volume (41%) offered in their programs [21]. In Africa, the researcher discovered a few researches on training satisfaction within resident doctor. In Northwestern Nigeria the satisfaction of resident doctors was assessed, the study used multiple parameters which include the assessment of intrinsic, extrinsic and overall satisfaction of resident doctors in training as well as associated factors. The Study used electronic questionnaire was distributed to respondents using online links to respondents' emails or personal contacts. Data was collected within a span of two weeks. And the study shows the following Results: A total of 304 respondents filled and submitted the questionnaire. Only 39 (12.8%) of

respondents were Satisfied overall with residency training. The least satisfaction amongst respondents from this study was in availability of study materials, availability of facilities and instruments for diagnosis and treatment, and mentoring by supervising consultants. Also most of the respondents from this study expressed dissatisfaction with their hospital managements' sponsorship of their training and concerns about their welfare; availability of social amenities at places of work; safety and conduciveness of their hospital environment; as well as recognition of hard work by their departments. The study also found there was no significant association between overall satisfaction and socio demographic and residency training characteristics of respondents. However, significant variables that were associated with overall satisfaction include: life in residency training being more stressful than life before; written/considered writing international licensing exams; residency training meeting expectations of respondents; and desire to quit residency training for practice in Europe or United States [22].

In Sudan there were studies on assessment of trainee doctors toward their training program in specialties like pathology, family medicine and dermatology but there have been no published studies in psychiatry. In 2018, the satisfaction of medical doctor trainees with the training in the MD pathology program, Medical and Health Studies Board (MHSB) University of Khartoum (UofK) was measured using a closed-ended unipolar 5 grade Likert's scale, through a self-administered questionnaire covering 15 areas and 33 items of pathology training. Areas covered were: program entry examination, part one two years course, induction, the content of learning, learning methods, duration of the rotation, organization and management of learning activities, laboratory management, research experience, educational and clinical supervision, hand over, communication, professionalism, assessment, and overall satisfaction. Results of assessment of satisfaction with the 15 areas were grouped into three groups: the first group composes of areas with good satisfaction (five areas): Handover 93.7 %, entry examination 86.75%, research experience 80%, learning methods 73.3%, and assessment 70.8%. The second group with moderate satisfaction (five areas) each scored 66.7%: Organization, laboratory management, supervision, communication, and overall satisfaction. The third group reflecting areas of dissatisfaction and scores was less than 50% (areas were induction, part one course, duration of training, teaching about professionalism and learning content [5].

Also there was additional study conducted in Sudan in 2017 that evaluated dermatology curriculum of Sudan medical specialization board and reveal the following results: The overall trainee's satisfaction of the provided program was reported in 89.2%.The majority of trainers believe that the current curriculum is not updated and is not well implemented in the training. Also trainers clearly stated that the number of trainees per batch participated in the program and the number of training centers are inadequate. They also raised their concerns that the current training program didn't meet the desired outcomes. And the evaluation concluded there was a well-developed program, with a good curriculum but poor implementation, leading to an unsatisfactory outcome [23]. In 2015 a situational analysis

report about family medicine in Sudan was released. The report measured the satisfaction of family medicine trainees in regard of their training and the following results were showed. 51.1% trainees were satisfied regarding appropriateness of training in relation to work, 74.2% were satisfied about the contents of family medicine degree, 69.4% were satisfied about the duration of the degree, 62.4% were satisfied about ability to provide quality care in current setting.81.5% were satisfied about Relationship with patients, and 84.5% in Relationship with collage, 78.5% in Relationship with PHC teacher. Also 67.7% were the satisfaction for both Keep up / continuing medical education and Style of teaching [24].

1.5.4. Summary

Psychiatry trainees satisfaction is broadly defined by multiple characteristics, evaluated by different methods and tools. The previous studies reveal the most important factors for the assessment of psychiatry trainees' satisfaction within their postgraduate medical training program. In addition, it's found there is information gap about current psychiatry trainees views about their training program. Therefore, the current study builds upon earlier works that have examined satisfaction among doctors by examining additional parameters and using a set of broader measures that can fit with Sudan situation.

2. Methods

2.1. Study Design

Descriptive cross-sectional study design, institutional- based survey

2.2. Study Duration

The period from August 2021 – January 2022

2.3. Study Area/Study Setting

The survey conducted in different training centers that are accredited for psychiatry trainees who follow the Sudan medical specialization board in Sudan (SMSB). SMSB is responsible for the supervision and evaluation of postgraduate residency training programs in Sudan. The training centers involve different health facilities that provide a variety of mental health services. It include hospitals specialized in psychiatric services (adult psychiatry, forensic psychiatry, addiction and rehabilitation), clinical neurology and others consider as general hospital with liaison psychiatry department [6]. All current training centers are public hospitals except the psychiatry department at military hospital which is followed to the military health services and Abd Elaal Aledrissi forensic psychiatric hospital that follow to the ministry of interior affairs in Sudan [2].

2.3.1. Currently the Approved Training Center Includes Khartoum State

Tigani El Mahi psychiatric teaching hospital, Taha Baasher psychiatric teaching hospital, psychiatry department at military hospital, Abd Elaal Aledrissi forensic psychiatric hospital, Soba teaching hospital, Hayat rehabilitation center, neurology department at Bashaier teaching hospital and Omdurman teaching hospital

Aljazeera State

Madani hospital – psychiatry department

Red Sea State

Portsudan teaching hospital- psychiatry department

Northern Kordofan State

Alobaid teaching hospital –psychiatry department

Al Qadarif State

Al Qadarif teaching hospital –psychiatry department

North Darfur

Al Fashir teaching hospital- psychiatry department

These training centers serve patients with different socio-demographic characteristics and backgrounds coming from all parts of the Sudan. Tigani El Mahi psychiatric teaching hospital in Omdurman city and Taha Baasher psychiatric teaching hospital in Khartoum north city are the two major mental health hospitals available in the country with a total of 0.86 beds per 100,000 populations. These facilities are organizationally integrated with mental health outpatient facilities. Abd Elaal Aledrissi forensic psychiatric hospital is the only forensic psychiatry hospital that has training post for psychiatry trainees in Sudan. Involuntary admission is common but the use of restraints or seclusion is sporadic. There are a total of 200 beds (0.5 per 100,000 of the total population). Forensic facilities treated 0.76 per 100,000 population, 66% stay less than one year [2].

2.4. Study Population

All the Psychiatry trainees and graduates from the postgraduate program whom were enrolled in the clinical MD in psychiatry at the SMSB. Psychiatry trainees who are currently enrolled in the clinical MD in psychiatry at the SMSB were approximately 111 trainees and those whom graduated were approximately 110 [25].

2.4.1. Inclusion Criteria

- Psychiatry trainees who are currently enrolled in the postgraduate program in Clinical MD in Psychiatry at the SMSB for a period of at least 6 months since the beginning of their training.
- Psychiatry trainees who graduated from the postgraduate program in the Clinical MD in Psychiatry at the SMSB.

2.4.2. Exclusion Criteria

- psychiatry trainee doctors in programs not supervised by the SMSB
- Psychiatrists who graduated from other psychiatry postgraduate program rather than SMSB.
- Refusal to participate in the study.

2.5. Sample Size and Sampling Technique

According to lists provided by SMSB secretary the total numbers of psychiatry residents who are currently enrolled in the postgraduate program in Clinical MD in Psychiatry at the SMSB are 111, and who graduated from the program were 110 .thus the total population size is 221.

The following formula was used for measuring the representative sample size for this study:

Yamane's formula:

$$n = \frac{N}{1 + N(e)^2}$$

n=sample size N=population size e=level of precision or sampling of error which is ± 0.05

$$\text{Sample size} = \frac{221}{1 + (0.05)^2} = 144$$

Stratified Random sampling used for the sampling, Psychiatry trainees were divided into the following strata:

- 1) Current psychiatry trainees
- 2) graduated psychiatry trainees

The proportionate stratified random sample will be obtained using this formula: (Sample size / population size) x stratum size

	Strata	Population	Sample size
1	Current psychiatry trainee	111	72
2	Graduated psychiatry trainee	110	72

Table 1: Stratified Random Sample Size According to the Current State of Training

Additional stratification was made for current psychiatry trainees group to be divided according to the phases of training as following; Phase 1: Residency year 1 (R1), Phase 2: Residency year 2 (R2), Phase 3: Residency year 3 (R3), Phase 4: Residency

year 4 (R4)) and the trainees who finish all phases but they did not pass the graduated exam yet, The proportionate stratified random sample obtained using this formula: (Sample size / population size) x stratum size

		Population	Sample size
1	R1	12	6
2	R2	25	17
3	R3	17	14
4	R4	18	14
5	Finished training	36	24

Table 2: Stratified Random Sample Size According to Year of Training

Then the selection of participants was done through simple random sampling in each stratum. The Sudan medical specialization board was contacted to make a list of all the trainees in Clinical MD in Psychiatry at the SMSB including names, and phone numbers.

2.6. Data Collection Tool and Method

The data was collected using a structured questionnaire that measures the psychiatry trainees' satisfaction within psychiatry training program. The following steps were followed to develop the questionnaire. Initially, a review of the literature was conducted to ensure that the construct definition aligns with relevant prior research and theory and to identify existing survey scales and items that may be used or adapted. Consequently, similar questionnaire forms in studies and surveys on assessment of satisfaction of medical students, trainees and graduates were reviewed [9]. Other learning aspects peculiar to psychiatry training were also included. As a result, a self-administered, closed-ended unipolar 5 grade Likert's scale developed to assess the degree of satisfaction of psychiatry trainees and graduates concerning 4 areas of the training program [6, 17].

2.6.1. The Questionnaire Was Developed Comprised Fourth Sections

The first section comprised questions on demographic and training characteristics of psychiatry trainees and graduates, the second section comprised questions on satisfaction within curriculum; includes curriculum coverage, research involvement and training assessment methods, The third section comprised questions satisfaction at training centers; includes clinical experiences, academic experiences, supervision, training centers support, The fourth section comprised questions on satisfaction with training environment. For standardization of data collection tool, the adapted questionnaire was discussed with five psychiatry consultants and biostatistician and their recommendations were considered for consolidating the questionnaire.

The last step in the survey design process was the pilot study which intended to check for problems in the questionnaire, ensure the clarity of questions and fluency, and any constraint in the access to the survey regardless of the device and operating

system used. In addition to check for adequate item variance, reliability and convergent /discriminant validity with respect to other measures which show coefficient of global reliability of 0.79. On the 3rd of December 2021, after approval by the SMSB, due to Covid 19 a software survey tool (Google form) was used. We maintained Anonymity by deleting respondents' email addresses. Multiple messages reminders were sent to engage nonresponders. Pre-notification text messages was first made to the doctors, then direct phone contact to check for ID and described the objectives of the study, and the inclusion and exclusion criteria with verbal and written consent to participate. Then a link to the webpage that contained the informed consent form, description of the objectives of the study, inclusions criteria, and the questionnaire sent to the participants through WhatsApp messages, Data were collected at times other than usual working hours, to avoid stress and distraction during managing patients.

2.7. Study Variables

The outcome variable was the degree of satisfaction and was graded as follows:

— 1) Very Dissatisfied 2) Dissatisfied 3) Neither Satisfied Nor Dissatisfied 4) Satisfied 5) Very Satisfied.

The independent variable that was included in the study cover different dimensions of satisfaction related to psychiatry trainees in the postgraduate program in Clinical MD in Psychiatry at the SMSB, which are:

1-Curriculum Satisfaction

Measured through following variables:

- Curriculum coverage
- Research involvement • Assessment method

2-Training Center Satisfaction

Measured through following variables :

- Training experience in clinical activities
- Education experience in academic activities
- Clinical supervision
- Training center support

3-Training Environmental Satisfaction

The Variables in the Study Are Summarized In the Following Table

Variable category	Variable
Socio-demographic and training data (Independent variables)	Training year Experience years Age Gender Marital Status Type of scholarship Occupational status Training setting Considering change the program Recommend the program

Curriculum coverage (Dependant variables)	Teaching basic sciences related to psychiatry General adult psychiatry Psychiatry subspecialties Biomedical psychiatry Psychosocial aspects of psychiatry Cultural aspect of psychiatry Acquisition of relevant competences Overall Curriculum coverage Duration of the rotation
Research involvement (Dependant variables)	knowledge and skills for conducting research Opportunities for participation in research Supervision of research thesis Ability to conduct new research and publish it overall satisfaction within research process
Assessment methods (Dependant variables)	Entry exam (selection) Part one exam (Promotion 1 exam) Logbook- portfolio assessment Thesis MD exam Part two exam
Training experience in clinical activities (Dependant variables)	Major (ground) round Emergency room Referral clinic Inpatient follow up
Education experience in academic activities (Dependant variables)	Weekly academic activity Academic activity running by local training centers Academic conferences Online learning activities Academic activities that organize by the trainees independent of Sudan medical specialization board
Clinical supervision (Dependant variables)	Skills and Competence of the supervisor Accessibility of senior (consultantspecialist) support during work Received constructive feedback Frequency of supervision received
Training centers support (Dependant variables)	Organization and management of learning activities Responsiveness of program to feedback from residents Number of trainees to trainers Education prioritized over service Learning resources (libraries ,lecture rooms) Quality of physical facilities (hospital, offices)
	Responsibility given to residents for patient care Diversity of patient population (E.g. race, gender, age) Opportunities for continuity of care (including long-term therapy) Work load
Training environment (Dependant variables)	Morale in department(ethical code and professionalism) Leadership style in practice Level of support from peers Supervisor of my practice respect me as professional My patients respect me as professional Co- worker in my practice respect me as professional Doctor of other discipline respect my specialty Amount of time available for personal pursuits activities Safety of environment

Table 3: Study Variables

2.8. Data Analysis

The data processing and analysis performed using the Statistical Package for Social Sciences (SPSS) (Armonk, NY, USA, version 24). The data analyzed using descriptive statistical and analytical metrics that are appropriate for the variables measurement level, and which achieve the objectives of the study. Cross-tabulations, Chi-square test, Fisher exact test, and t-test were used to categorical and continuous data respectively. The P-value is considered significant if <0.05 .

2.9. Ethical Considerations

Ethical clearance was obtained from the SMSB ethical committee from the educational development center (EDC). In addition to verbal and written formal consent from all psychiatry trainees. Confidentiality and privacy were considered and maintained, and the study information and data were only used for research purposes. Data was used anonymously by using identity numbers instead of names to protect residents' identity and kept securely; also we did not collect emails. And the participants had a right to withdraw at any stage of the online questionnaire. No reference to any individual participant made in study reports.

3. Descriptive Results

3.1. Demographic and Training Status Data

Our cross-sectional study included data from 137 postgraduate psychiatry trainees responded and completed the survey exhaustively. (A response rate of 95%). This represents 100% of the minimum proposed sample size needed to detect satisfaction of psychiatry trainees. Current psychiatry trainees constituted the most categories among participants (59.1%). More than half of total doctors (54.3%) were aged more than 35 years (Pie chart 2), and majority were females (57.7%). Approximately all participants were rotated before in Tigani El Mahi psychiatric teaching hospital (97.1%), followed by Taha Baasher psychiatric teaching hospital and AbdElaal Aledrissi forensic psychiatric hospital with (96.4%) (78.8%) respectively. Most doctors were self-sponsored (Private) (85.4%). (Figure 4) also 48.2% of participants had another job during time of rotation. A 35.8% of participants stated that they got into training in less than 5 years after their graduation from university. (Figure 5)

3.2. Level of Satisfaction Regarding Quality of Training in Different Aspect of Curriculum

Training in Psychiatry subspecialties represent the highest in dissatisfaction spectrum with (68.6%), while the highest in the satisfaction spectrum was training in adult general psychiatry with (67.6%). 41.6% were satisfied about the duration of rotation. However, only 33.6% were satisfied about overall curriculum coverage. Also only 31.2% were unsatisfied about teaching basic sciences related to psychiatry. In addition 47.2%, 56%, 51.2% of trainees were dissatisfied about biomedical, psychosocial and cultural aspect of psychiatry respectively. (Bar chart1)

3.3. Level of Satisfaction Regarding Research Experiences

For research involvement, 49.6% and 38.3% were dissatisfied about learning required knowledge and skills for conducting research and Ability to conduct new research and publish it, respectively. Also 38.2% were satisfied with thesis supervision. Only 18.3 were satisfied with opportunities for participation

in research during training program. In addition the overall satisfaction about research experiences was only 21.9%. . (Bar chart2).

3.4. Level of Satisfaction Regarding Fairness of Assessment Methods

The majority of respondents (67.5%) were satisfied by part-1 exam followed by the entry exam (59.2%). while the highest dissatisfaction score come for continuous assessment (Logbook-portfolio assessment) at training centres with 43%. However 50%, 44.6% were satisfied with thesis and part 2 exams respectively. (Bar chart3).

3.5. Level of Satisfaction Regarding Clinical Activities

Questions related to quality of learning level at the following clinical activities at training centers showed different responses, and the most common satisfied activity by doctors was in-patients follow-up 52.0% then major round (48.8%), while the most dissatisfied activity was in emergency room (58%). (Bar chart4).

3.6. Level of Satisfaction Regarding Academic Activities

In addition the scoring on the dimension of quality of learning at academic activities showed different responses, Academic activities that were organized by the trainees independent of Sudan medical specialization board and Academic conferences showed most satisfaction rate with 48% , 45.6 respectively. While the most dissatisfied was academic activity running by local training centres 54%. . (Bar chart5).

3.7. Level of Satisfaction Regarding Clinical Supervision

Regarding level of supervision, accessibility of senior (consultant-specialist) support during work (53.6%) was the most common factor identified as satisfied among other responses, followed by the skills and competence of the supervisor 52%. on another hand, the most dissatisfied factor was the frequency of supervision received (36.2%). where as, only 37.6% were satisfied with received constructive feedback. . (Bar chart6).

3.8. Level of Satisfaction Regarding Training Centers Support

Participants has scored the highest level of dissatisfaction for the quality of physical facilities and learning resources (libraries-lecture rooms) with 76%, 71% respectively. In addition, 74% were dissatisfied about education prioritization over service. On another hand ,72%, 51.2% and 48.8% were satisfied with diversity of patients population, responsibility given to residents for patient care and number of trainees to trainers respectively. And only 37.6% were satisfied with work load. Level of satisfaction about organization and management of learning activities and responsiveness of program to feedback from residents were around 24% for each. . (Bar chart7).

3.9. Level of Satisfaction Regarding Training Environment

More than two third of participants were satisfied and mentioned that "my patients respect me as professional" and "Co- worker in my practice respect me as professional, in addition to said "My Supervisor of my practice respect me as professional ". While approximately half of trainees declared that "Doctors of other discipline respect my specialty". The highest dissatisfaction

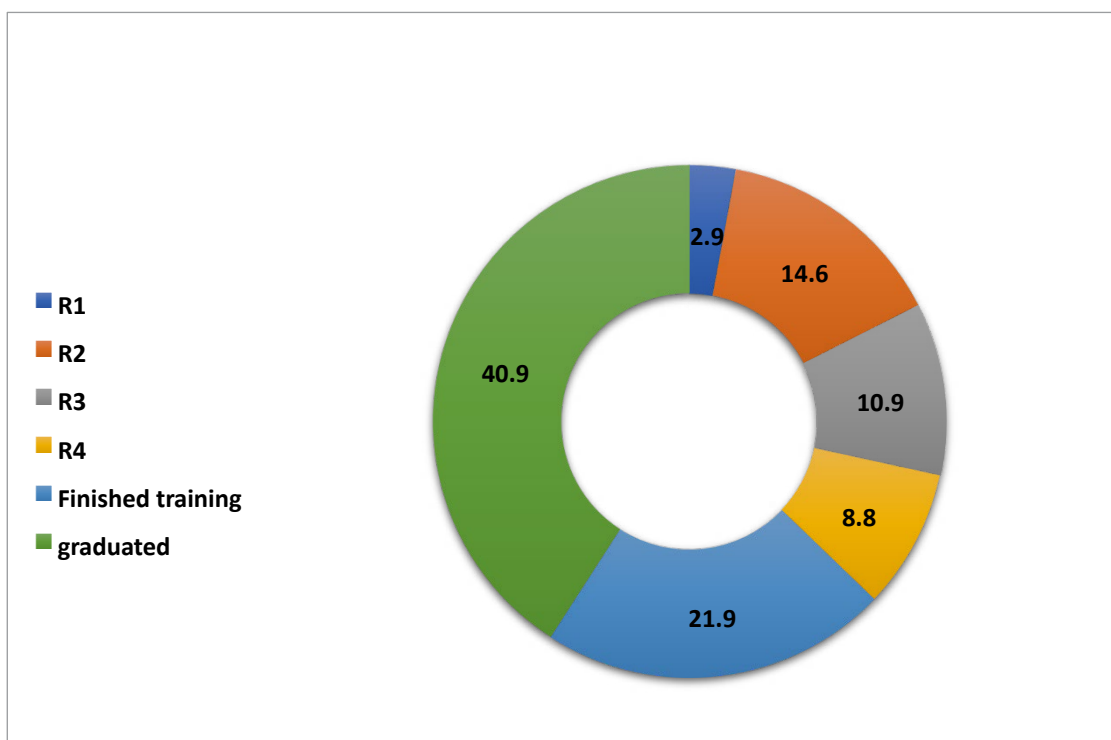
score in this study was record in this dimension for the safety of environment (75.2%). In contrary, the highest satisfaction score was 75.2 % for Level of support from peers. However, only 52%,were satisfied about Amount of time available for personal pursuits activities and only 33.6% were satisfied about morale in department (ethical code and professionalism) respectively. (Bar chart8).

3.10. The Overall Satisfaction

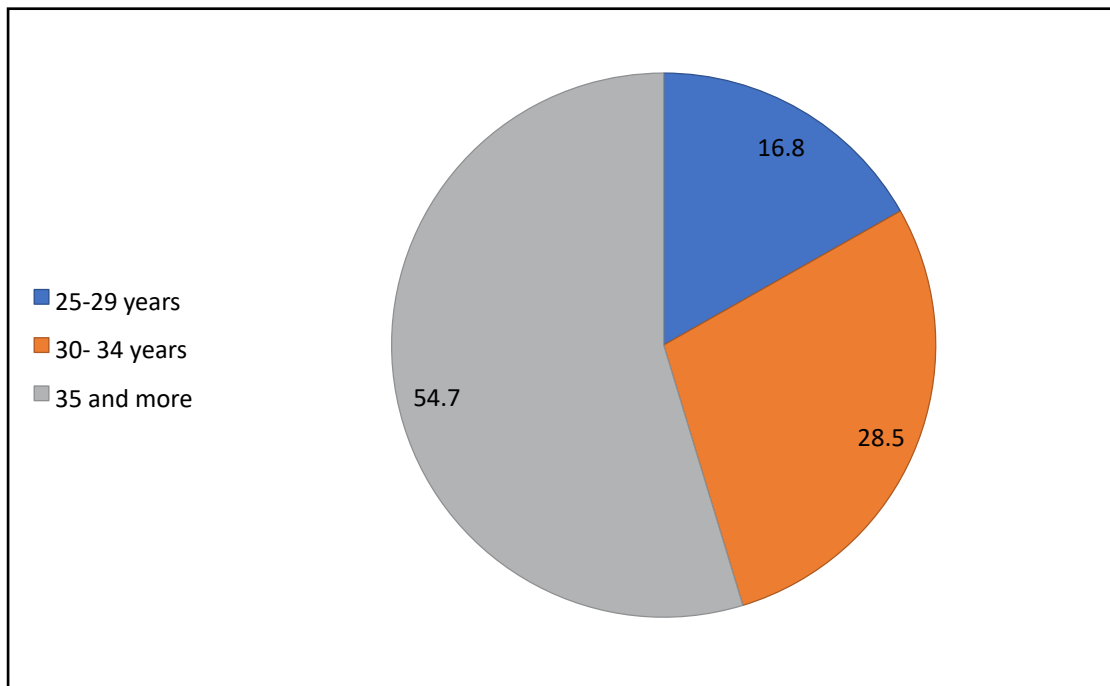
Regarding overall satisfaction about the training program 36.6% were satisfied, while 34% were dissatisfied. Just 8.0% of trainees stated unlikely to recommend the program others compare to 47.4% who will very likely to recommend. And only 16.8% of participants state had consider changing the program to site difficulties. Doctors in R4 were most satisfied about the program (50.0%), while doctors in R1 were dissatisfied about the program (50.0%) (Table 3)(Figure 4).

Regarding predictors of satisfaction, age ($p = 0.014$), marital status ($p=0.008$),year of training ($p=0.001$), being working in Omdurman hospital ($p=0.036$), recommending MD in psychiatry

($p<0.001$) and not considering changing specialty ($p=0.035$) were associated with good overall satisfaction (Table 3). Regarding associated factors with overall satisfaction, all components of quality of training in the following aspects of curriculum and components of research involvement, Continuous assessment at training centers(Logbook- portfolio assessment), Thesis MD exam, Part two exam, all components of Quality of learning level at the following clinical activities at training centers, Academic activity running by local training centers, Academic conferences, all component for Level of Supervision, Organization and management of learning activities, Responsiveness of program to feedback from residents, Number of trainees to trainers, Education prioritized over service, Opportunities for continuity of care (including long-term therapy), Morale in department(ethical code and professionalism), Leadership style in practice, Doctor of other discipline respect my specialty and recommend the postgraduate program in Clinical MD in psychiatry at SMSB to others were associated with overall satisfaction. However, considered changing your specialty program at SMSB due to sitespecific training difficulties was associated with dissatisfaction ($p=0.024$).



Pie Chart 1: Percentage of Psychiatry Trainees Who Participated in the Study. It Includes Different Levels of Current Trainees and the Graduated from SMSB



Pie Chart 2: Distribution of Current Psychiatry Trainees and the Graduated Who Involved in the Study Based on Their Age

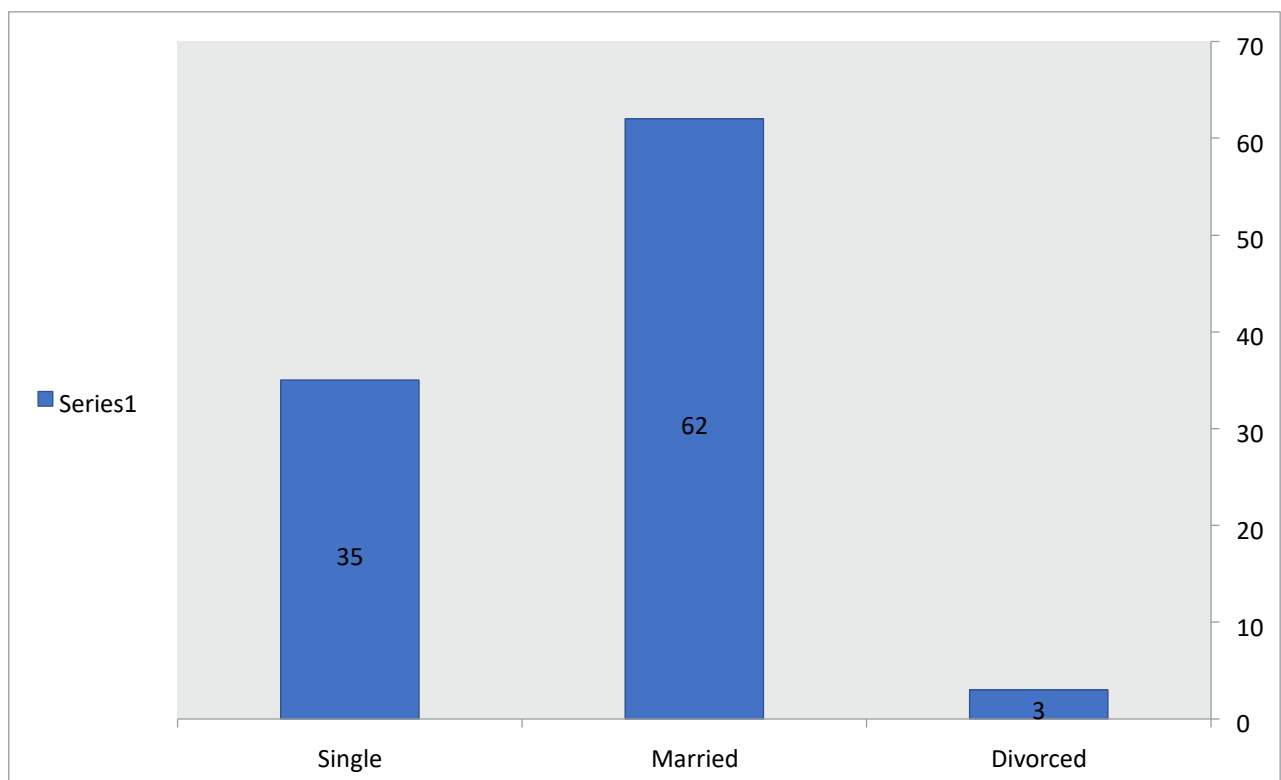


Figure 3: Percentages of the Distribution of Participant in the Study Based on Their Marital Status

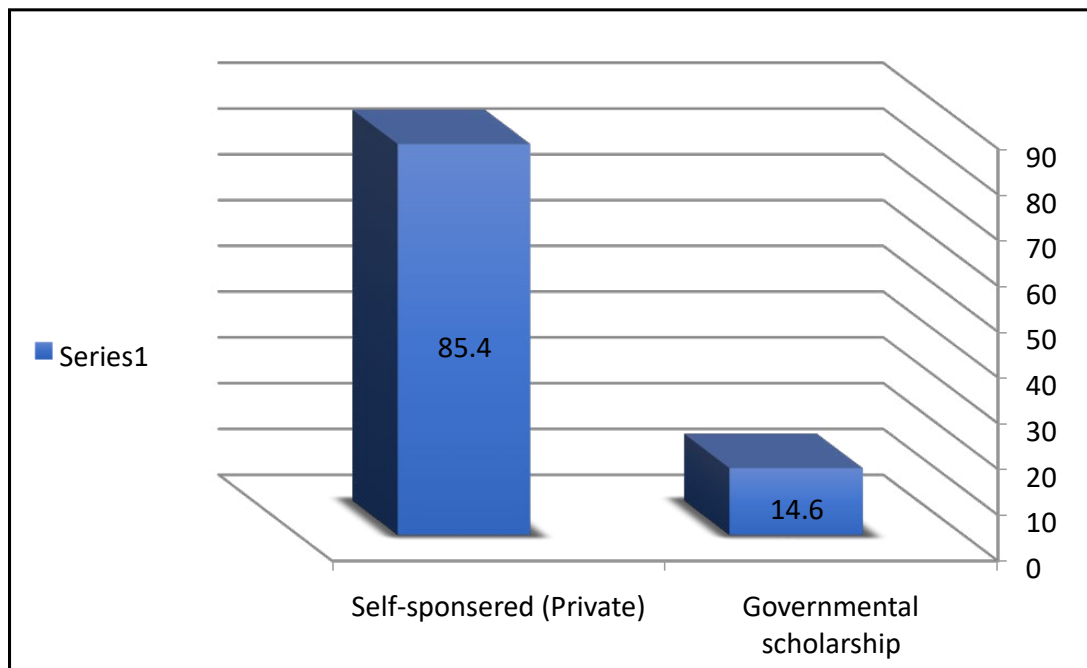
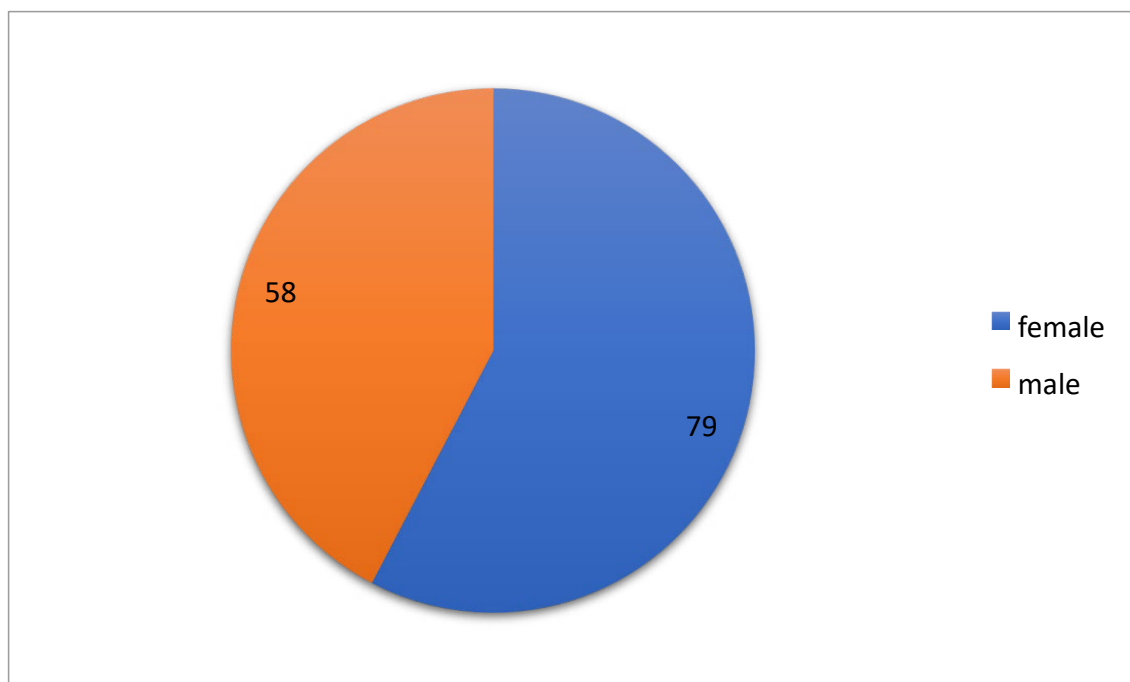


Figure 4: Percentages of the Distribution of the Participants in the Study Based on the Types of Sponsorship for Enrolment in the Program



Pie Chart 3: Percentages of the Distribution of the Participants in the Study Based on Their Gender

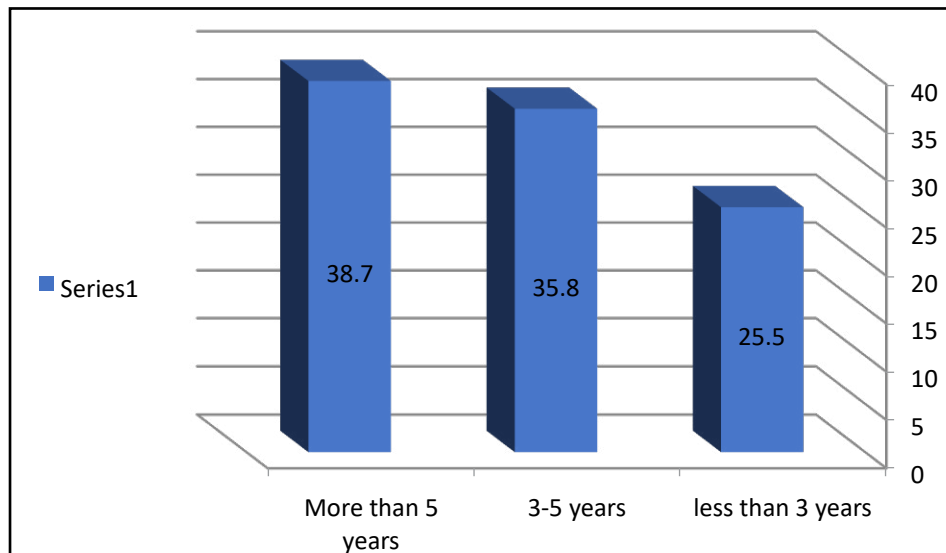
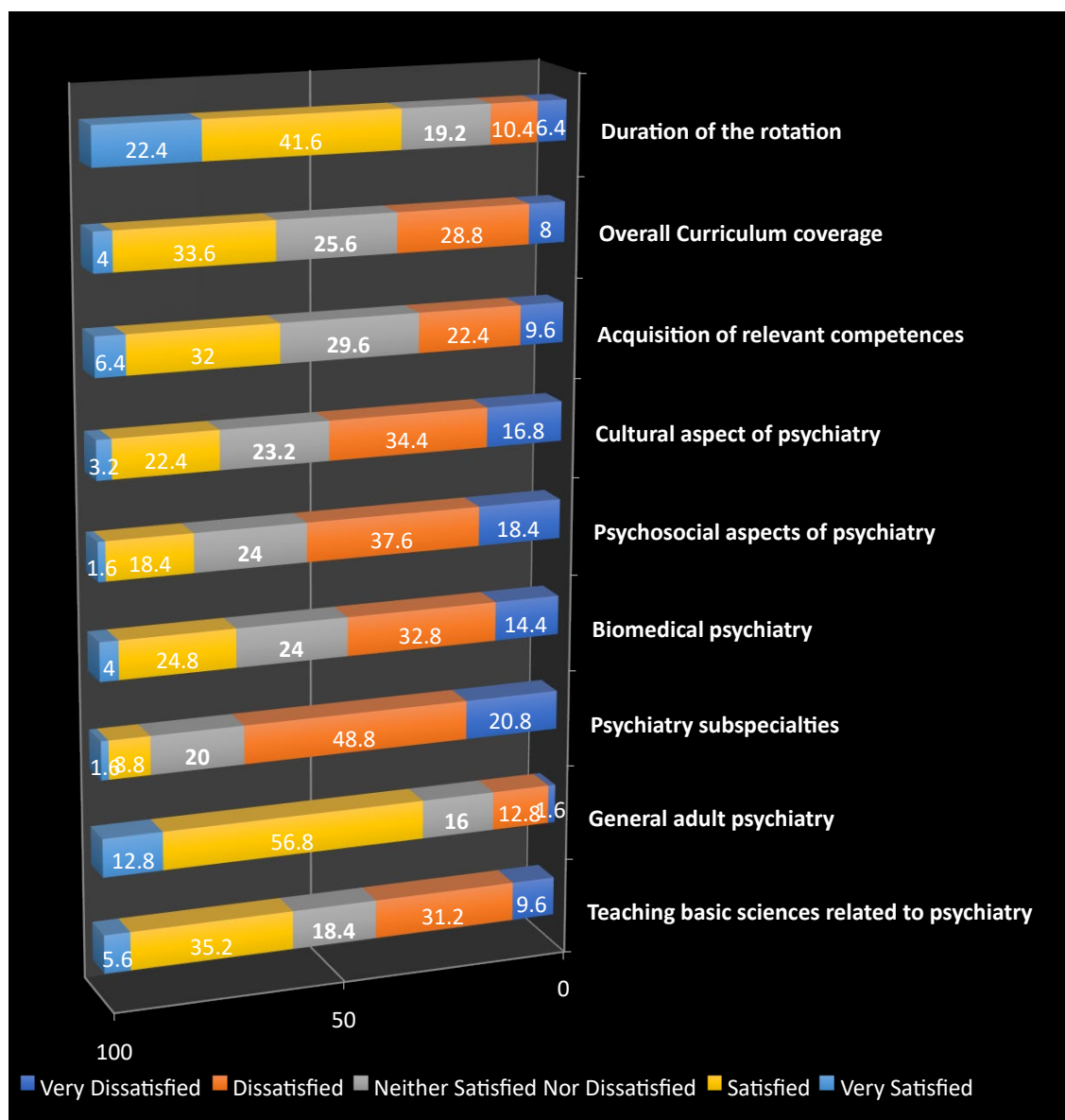
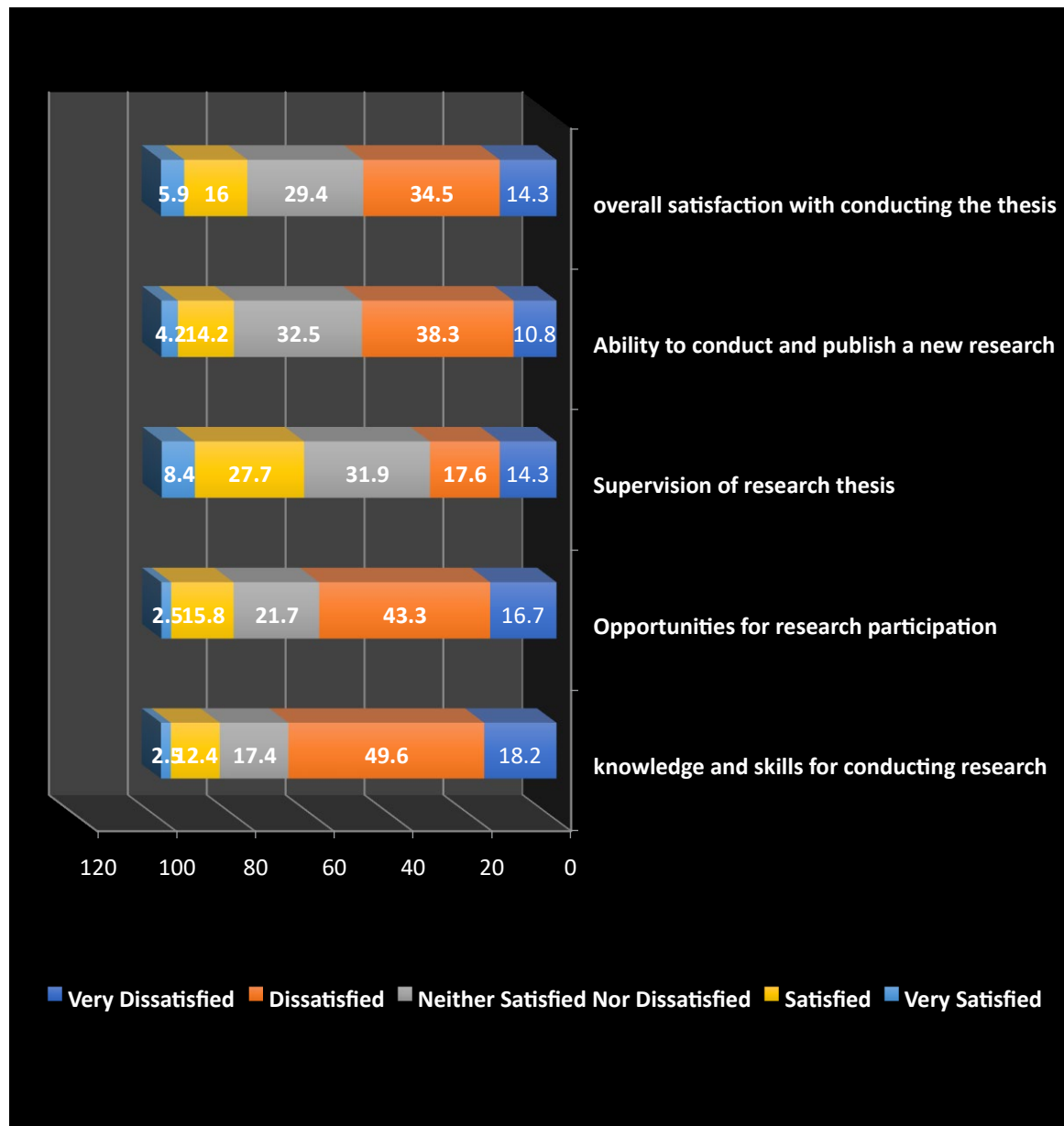


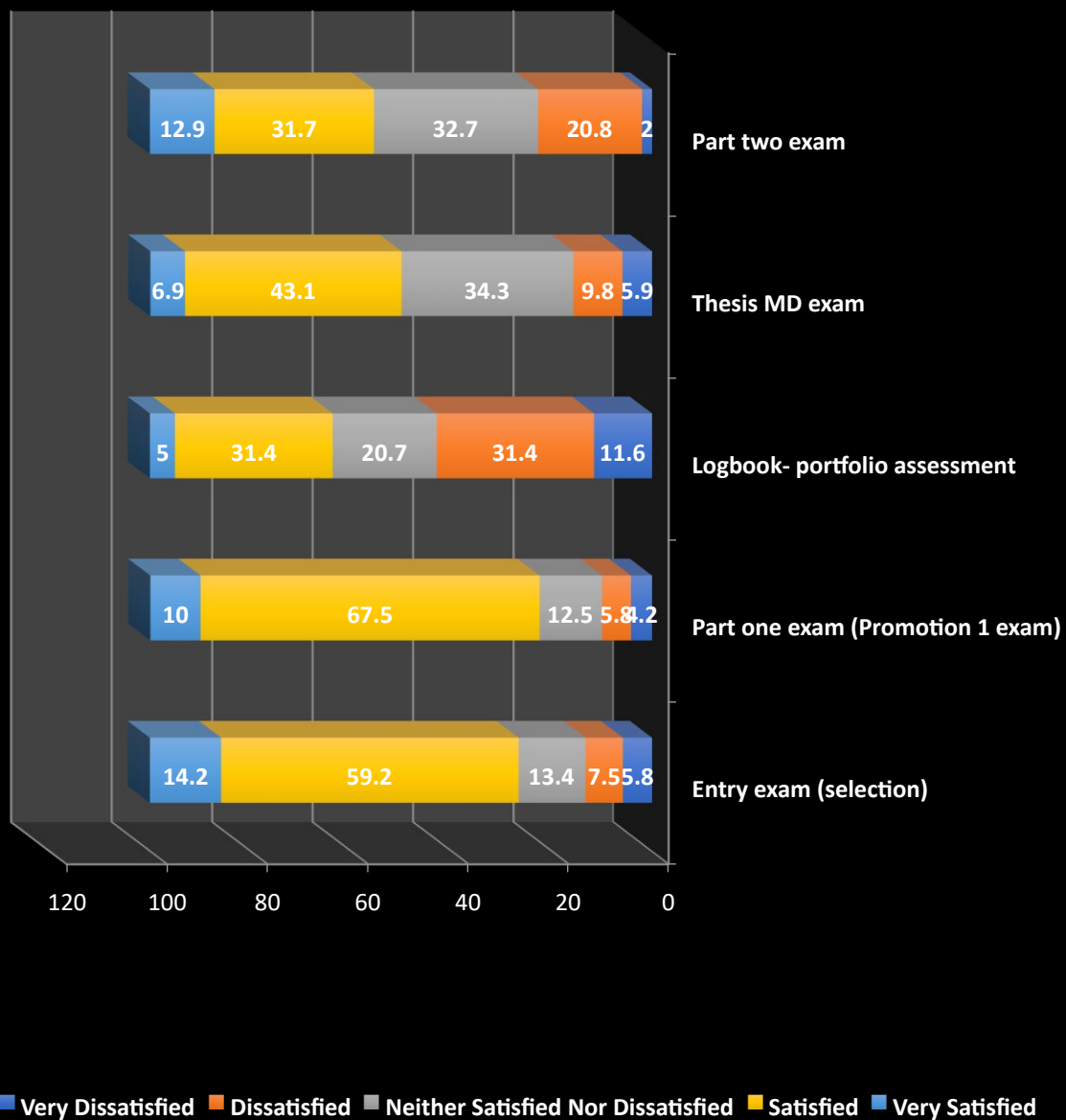
Figure 5: Percentages of the Distribution of the Participants in the Study Based on Their Work Experience Before the Enrolment in Psychiatry Training Program in SMSB



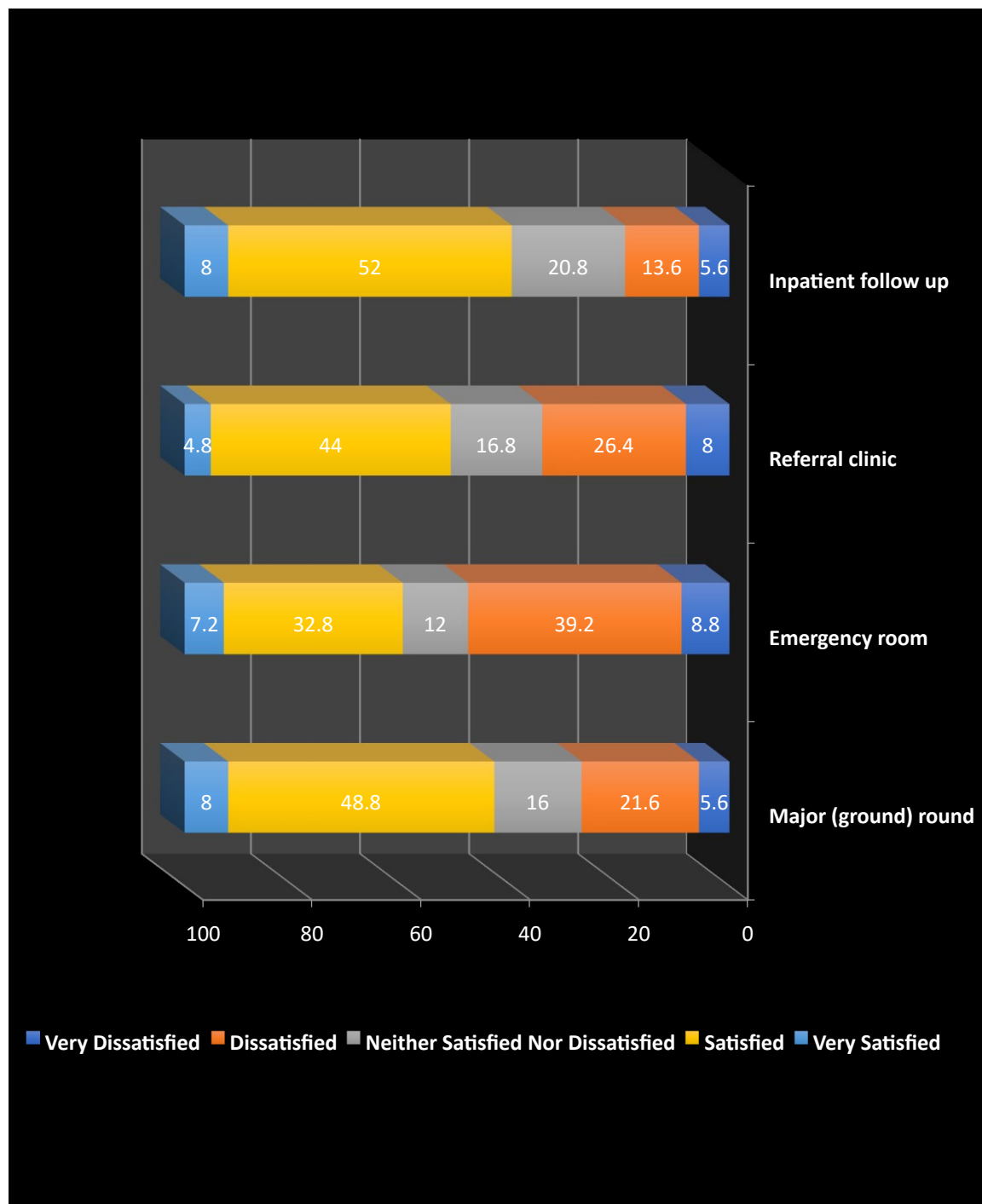
Bar Chart 1: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding the Different Dimensions of Curriculum in Psychiatry Training Program in SMSB



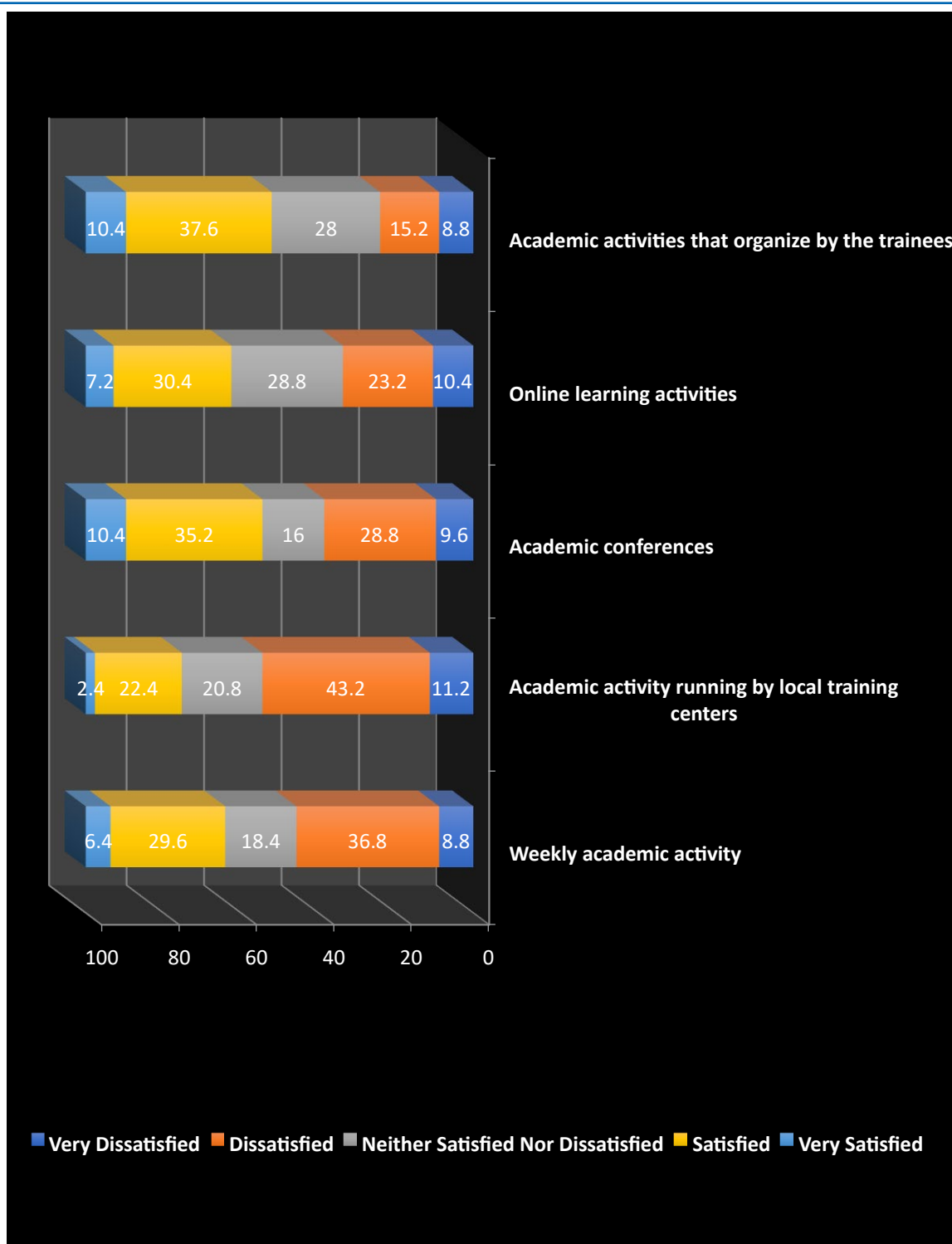
Bar Chart 2: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding Their Research Experiences during Psychiatry Training in SMSB



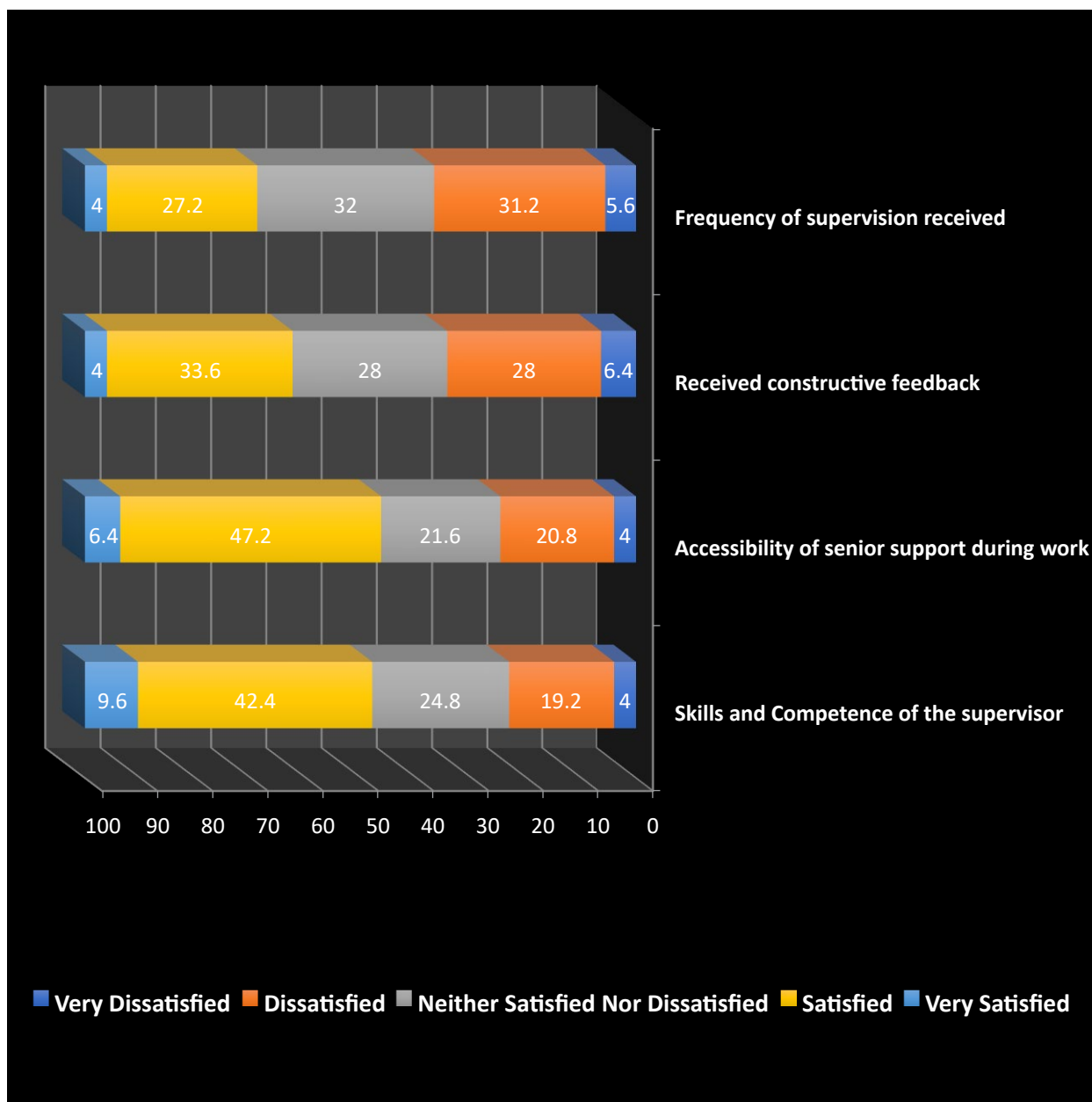
Bar Chart 3: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding the Assessment Methods in the Psychiatry-Training Program in SMSB



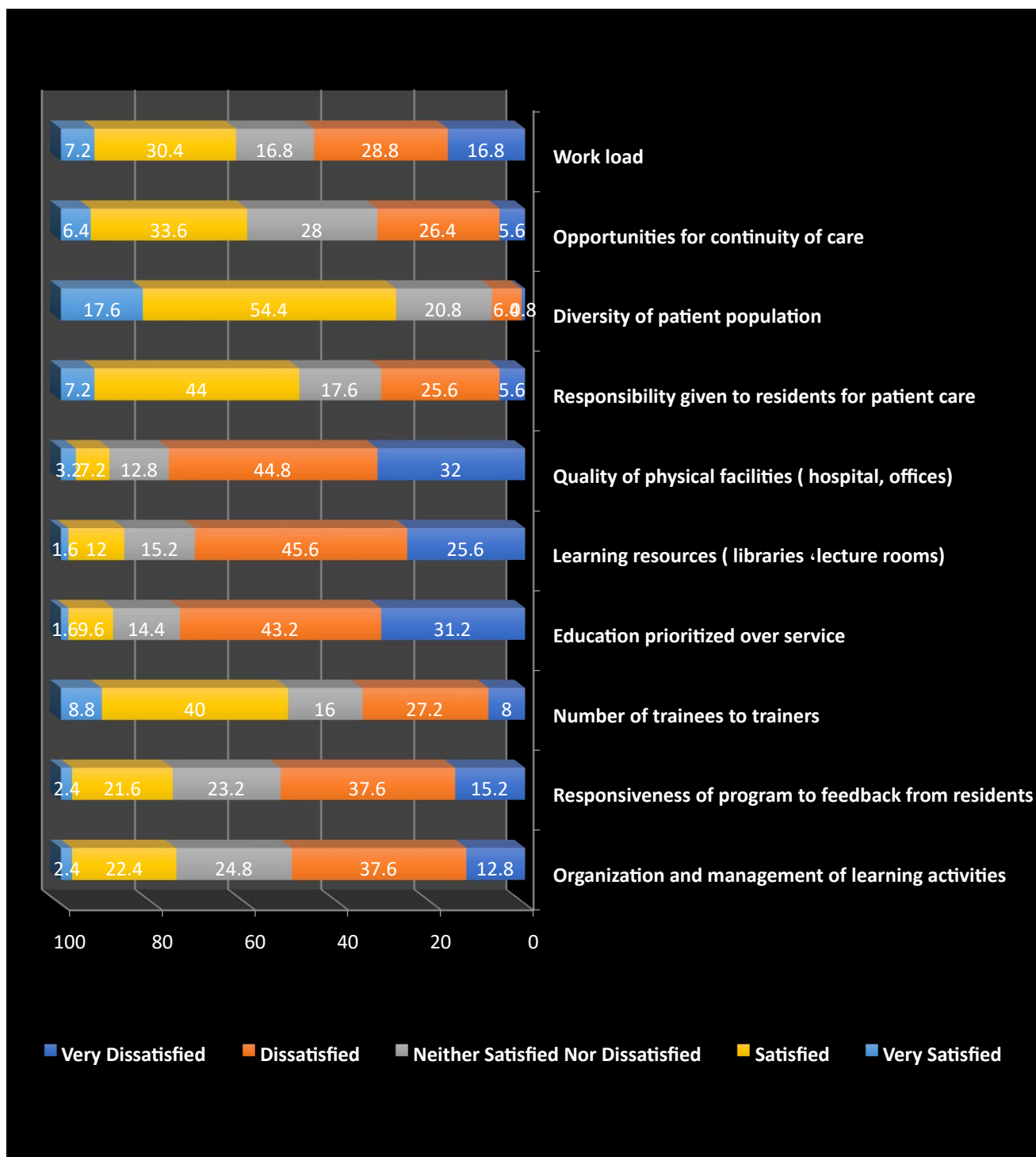
Bar Chart 4: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding the Clinical Activities in the Psychiatry Training Program in SMSB



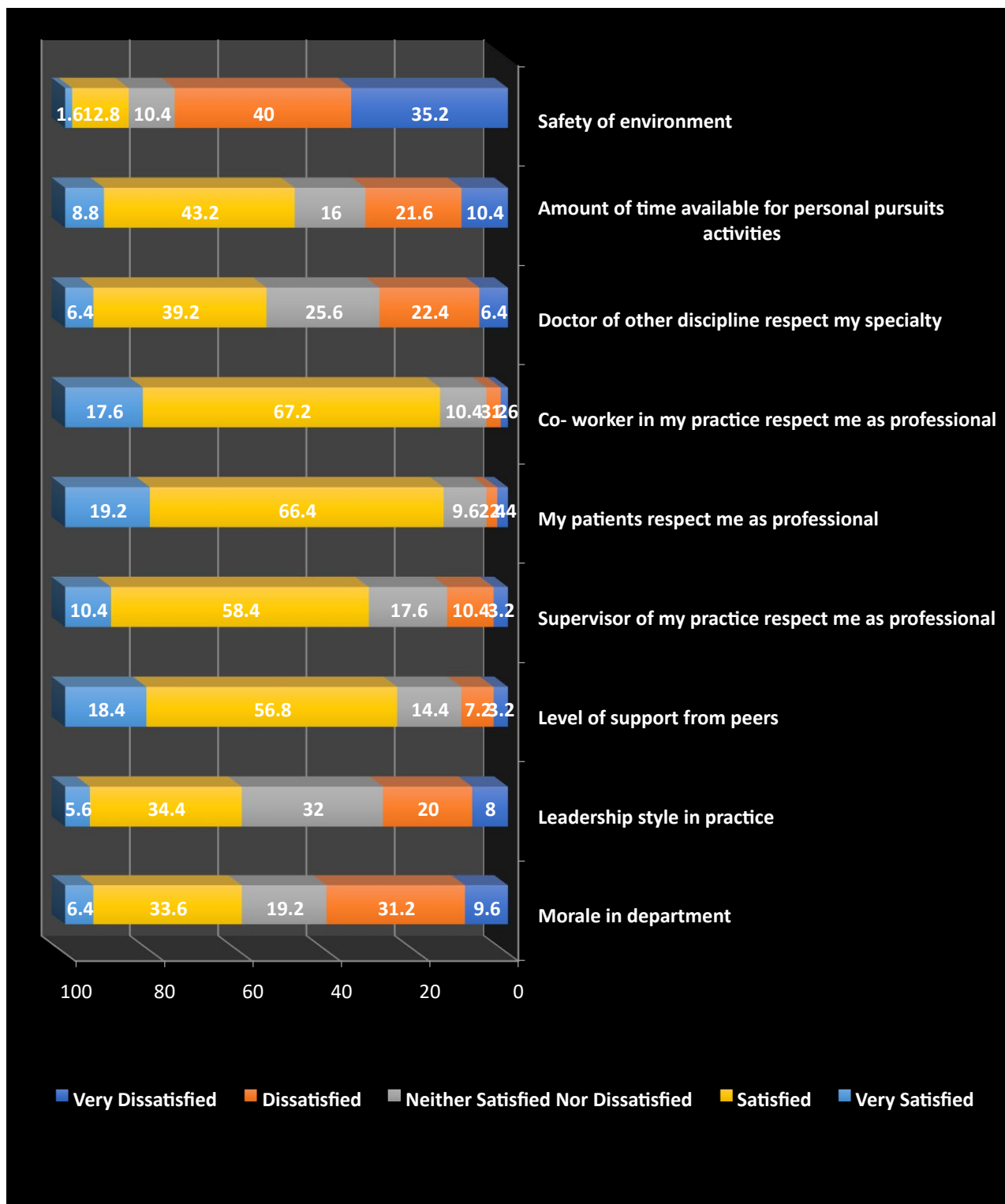
Bar Chart 5: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding the Academic Activities in the Psychiatry Training Program in SMSB



Bar Chart 6: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding the Different Parameters of Supervision in the Psychiatry Training Program in SMSB



Bar Chart 7: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding the Training Support Provided By the Training Centers in Psychiatry Training Program in SMSB



Bar Chart 8: Percentage of Satisfaction Levels among Psychiatry Trainees Regarding Training Environment in the Psychiatry Training Program in SMSB

4. Discussion

This descriptive, cross-sectional study was conducted to measure the satisfaction of psychiatry trainees toward their training program in the Sudan Medical Specialization Board, as well as to study the factors which are associated with the overall satisfaction in terms of socio-demographic characters and training- related factors, at the period between August

2021 – January 2022. The study included the currently enrolled psychiatry trainees, from different phases of training who work in multiple psychiatry training centers across Sudan, and those who graduated from the same program. Our study measured trainees' satisfaction in a variety of constructs that have been emphasized by multiple international and regional studies in this area which includes: overall satisfaction, curriculum coverage,

research, assessment methods, clinical experiences, academic experiences, training centers support and lastly the training environment [9, 16-18]. To our knowledge no formal studies have been conducted in this topic in Sudan, even, globally the views of psychiatry trainees were studied in a narrow scope in relation to their satisfaction with their training programs. Thus, our assessment of the local psychiatry training program was comprehensive and its findings are expected to be of more use by the program directors when planning the training program.

Those who are currently enrolled in the program constituted the majority of participants (59.1%). Only 36.6% of the doctors were overall satisfied and very satisfied about their training program in MD. This result contradicts similar studies that were conducted in pathology and dermatology doctor trainees in Sudan, who showed high level of overall satisfaction with 66.7% and 89.2% respectively [9, 26]. In spite of the fact that the three programs are located in Sudan, there was an obvious discrepancy in the results, which may be explained by two reasons: firstly, the finding that was declared by the Sudan Mental Health report that emphasize the role of inequality in allocation of health resources in Sudan [2]. As the decrease of fund will have a negative impact on the whole process of training. Secondly, the time gap between our study and the other two studies may have contributed to the results differences. As major changes have happened in the country since 2018 such as political and economic changes that could have impacted the training negatively and affected the expectations of participants. This can be supported by our result which found that graduates were more satisfied than the current trainees. Similar results to our study were found which showed low level of satisfaction among medical residents'. As in Northwestern Nigeria, only 12% of doctors were satisfied with their training [22]. And, in 2013 a study in Turkey in 127 Turkish psychiatry residents' found 41.5% were satisfied of their training program [26]. The similarities and discrepancy in results of overall satisfaction reflect the dynamic nature of the concepts and the complexity of variables that influences the satisfaction of the trainees.

As the study revealed that some socio-demographic data and training characteristics can predict the overall satisfaction such as age between 35 and 49 years ($p = 0.014$), marital status (married) ($p=0.008$), being graduated ($p=0.001$), were associated with good overall satisfaction. In contrast to previous study conducted in Nigeria, which found there was no significant association between overall satisfaction and socio demographic and residency training characteristics of respondents. It seems to us from our data that Sudanese trainee doctors who are graduated, married and in the age of 35-49 were associated with increased overall satisfaction in comparison to other groups [22]. This might be related to the social norm in the Sudanese community, that emphasize the role of acquiring high degree and making family as standard for good quality of life, shaping the expectations of the participants.

4.1. Construct of Trainees Satisfaction

Our study measured trainees' satisfaction utilizing variety of constructs that emphasis by different studies in this area which includes: curriculum coverage, research, assessment

methods, clinical experiences, academic experiences, training centers support and lastly the training environment. Regarding curriculum coverage our study showed that most trainees (67.6%) were satisfied with training in general adult psychiatry. In contrast, the majority of trainees (68.6%) were dissatisfied with training in psychiatry subspecialties. These findings were congruent with the fact that most of the psychiatry training centers in Sudan were general psychiatric hospital that target adults. In addition there are a diminished number of trainers who are well trained in psychiatry subspecialties [2]. While a study in India that evaluated young psychiatrist experience in psychiatry subspecialties revealed high levels of satisfaction rates. And only 26.2%, 26.9%, and 45.5% rated their experience as poor/very poor in: Child adolescent psychiatry, geriatric psychiatry and forensic psychiatry respectively [27]. The ability of trainees to conduct and publish their research projects is commonly used as a measure of success in programs with a formal research track [28]. Our study showed only 18.8 % were satisfied regarding this indicator, which suggest there are a lot of challenges in regard of research training in psychiatry program in Sudan. This statement could be supported by relevant results; only 14.9 % were satisfied with required knowledge and skills for conducting research. In contrast, in India only 22.7% of psychiatry residents were dissatisfied about research methodology [27]. In addition, a small percentage of trainees were satisfied regarding the competency of supervisor and level of supervision 36.1%, which is considered as a requirement for the ability for publication. And only 18.3 % satisfied with training opportunity in research, which similar to Saudi medical residents who almost (78.3%) were least satisfied with research opportunities [28]. Perhaps the fact that the training program in Sudan is clinically oriented, and there is little protected time for research makes research practice negligent. On the other hand, in developed countries such the US, the vast majority (87%) of US internal medicine residency programs offered a formal research track or a research rotation/protected time for their residents, consistent with a thematic commitment to research in internal medicine residencies [29]. Furthermore, in Sudan there is no fellowship program in psychiatry which impact negatively on the competency of trainers as fellowship is regarded as a corner stone for improving of quality of training in research [30]. This situation is complicated by the fact that the research practice is a timeconsuming industry and the majority of clinicians in Sudan work in the gulf country and those who are based in Sudan have to work in private clinics to support their families have made that affection for research deeper [5].

Clinical activities in psychiatry training program showed approximately similar responses, where half of participants' were satisfied with major round, in-patients follow-up and refer clinic. The explanation could be that the focus on addressing patients issues rather than leaving time for academic activities, like detailed discussion on the cases. Moreover, the dissatisfaction rates were higher with training in the emergency department (58%). This might be a result of the fact that the training centres, where most participants' where trained, are the only major psychiatric hospitals in Sudan leading to a high demand of services. Also, there is shortage in mental health staff and paramedical, shortage in available beds and psychotropic medication which

is expected to impact the learning environments negatively. This theory can be supported by the finding that most trainees (74%) were dissatisfied regarding education prioritization over service and increased work load as only (37.6%) were satisfied [2, 5]. Sufficient supervision is critical to the educational value of clinical experiences for psychiatry trainees [31]. In this regard our study showed that half of trainees were 53.6 % satisfied with accessibility of senior (consultant-specialist) support during work as well as skills and competence of the supervisor. While there the low level of satisfaction regarding the frequency of supervision 31.2% and constructive feedback 37.6% and number of trainees to trainers 48.8%. Similarly, in Nigeria only 24.3% were satisfied with mentorship by supervising consultants [22]. This may have contributed to the increased dissatisfaction about clinical experiences among psychiatry trainees. As an Australian study found educational neglect by supervisors was considered one of the five most adverse experienced and was experienced by almost 60% of psychiatric residents [32]. Academic activities are one of the major pillars of the training program. Only 26.8% of trainees were satisfied by the activities running by their local training centers, while in study conducted in Saudi Arabia among family medicine trainees only 43% were satisfied with academic activities in the hospital [33]. This low percentage can be attributed to managerial and environmental factors as has been explored by our study which found that only 26.6 % of trainees were satisfied with organization and management of learning activities and responsiveness of program to feedback from residents. In addition, most of trainees were dissatisfied with the available learning resources (libraries < lecture rooms) (71%) and the quality of physical facilities (76%). These results support the finding that services are prioritized over education, we speculate that most of the health facilities and health leaders in Sudan are more concerned with continuity of care rather than improving educational processes.

At the same time, our study showed there was increased in the percentage of satisfied trainees in regard to academic activities that were organized by the trainees independent of Sudan medical specialization board (48%) and academic conferences organized by the psychiatry council in Sudan (45.6%). Also high degree of satisfaction in a study in dermatology trainees in SMSB in 2017 found that most of trainees 67.7% were satisfied for both Keep up / continuing medical education and Style of teaching [26]. Firstly, these academic activities were mostly delivered through the internet which solved the problem of poor physical educational structure. Secondly, it allowed supervision and learning by external trainers from outside Sudan who volunteer to train the indigenous local psychiatry doctors, who also participate in the academic conferences. These results can suggest that the readiness for self-directed learning is high among psychiatry trainees, and need to be improved by postgraduate training curricula. Thus in this situation, effective partnership and collaboration between the SMSB, the ministry of health, trainees, outside doctors and hospital directors are urgently needed to correct this issues. Training atmosphere has evident effect on the overall satisfaction of trainees and the other sub construct of training process consequently it directly impact the quality of healthcare delivered. Our result showed that most of the psychiatry trainees were satisfied with practice

of professionalism in relation with supervisors, colleagues, and worker [34]. A similar result were found in 2015 in a report about family medicine in Sudan which revealed that most of the residents were satisfied with practicing professionalism, 81.5% were satisfied about professional relationship with patients, 84.5% in relationship with collage and 78.5% in relationship with PHC teacher. (24) A growing body of literature stresses the role of the social environment on enhancing students' learning, and many learning theories have also pointed out this issue [35]. In this regard our study showed that most of trainees 75.2 % were satisfied with the level of support from their peers. While in study conducted among medicine resident in SMSB highlighted that perceptions about social support were (21.9 ± 9.2) , which indicated that the residents considered the learning environment unpleasant [36].

One of the highest dissatisfaction scores showed by the study was related to the environment safety (75.2%). Royal College of Psychiatrists' Research Unit in 2005 released a report which indicated that there was high proportions of staff stating that they have been assaulted, threatened or made to feel unsafe, ranging from 29% in forensic units to 43% in acute units and 72% in psychiatric intensive care units [37]. Similarly, in Nigeria there was a study showed that most of the respondents from this study expressed dissatisfaction safety of environment. Also there was study about workplace violence against doctors in Khartoum State 2020 which showed that approximately one in every two doctors had experienced some degree of violence, either physical or nonphysical or both, and it was negatively reflected on their psychological status as well as their work performance [38]. The high level of dissatisfaction was expected as in contrast to other hospital environments, within psychiatric inpatient settings, patient risk is conceptualized as affecting not only the individual, but also other patients, staff and the general public, widening the sphere of risk. This finding requires further investigation. We must reveal the factors behind this problem held by psychiatry trainees and make appropriate strategies to prevent it. As Guthrie et al (1999) found violence to be the job-related stressor that psychiatrists most commonly identified as affecting them. Trainee psychiatrists also cited it as a reason for not choosing a career in general adult psychiatry [39].

Medical education literature described the process of training program evaluation using quantitative and qualitative methods, most of them reported information obtained from educators' point of view and less attention paid to students' perspective. This study is expected to be a base for more change and improvement in medical education in Sudan.

4.2. Limitations

The findings from this study should be considered in light of its limitations. First, the cross-sectional nature of the study limits the possibility for discussion of any meaningful causal mechanisms. Moreover, it relied entirely on self-report data, making it potentially subjective recall biases and vulnerable to the problems of common method variance. However, this study had several strengths. One of the main strengths of the current study was that based on a relatively large and relatively homogeneous sample of trainees. Also, the questionnaire was

standardized at national level to measure satisfaction level of psychiatry trainees in SMSB.

5. Conclusion

Our study has highlighted that the overall satisfaction level was low, especially among the current trainees (38%) compared to the graduates (62%). A strong relationship is evident between the most used variables in the study and overall satisfaction. While the trainees considered changing their specialty program at SMSB due to site-specific training difficulties was associated with overall dissatisfaction. The areas that showed low level of satisfaction were training in psychiatry subspecialties ,overall research experiences, continuous assessment, training in emergency room, academic activity running by local training centers, organization and management of learning activities, responsiveness of program to feedback from residents, frequency of supervision received, received constructive feedback, quality of physical facilities, learning resources, education prioritization over service and safety of environment. A few areas showed a good level of satisfaction which include training in adult general psychiatry, diversity of patients' population, part-1 exam and level of support from Peers. SMSB should carry out measures to improve the quality of the psychiatry training program to increase the satisfaction level among psychiatry trainees in Sudan.

5.1. Recommendations

This study has provided information about areas of strength and weaknesses of the program which should be addressed by program management. This study will also help other programs to work on this dimension of training program quality and calls for other programs to start studying trainees' satisfaction and areas of improvement to overall improve the quality of training program. there is urgent need for SMSB to investigate the deterioration in satisfaction level in current psychiatry compared to graduates, as our study suggested that the social , economic, political and changes that has occurred in Sudan in the past few years ,in addition to current covid-19 pandemic could impact negatively on the medical training program. The Psychiatry council should ensure the balance of the provision of services and educational process, as well the trainees and their educators should review their priorities to ensure balance of the provision of clinical service and clinical supervision, recognizing that clinical supervision positively contribute to trainee satisfaction and probably to higher quality patients care. Employers should ensure that job descriptions, contracts and weekly timetables (job plans) should value and reward professional activities such as clinical supervision in addition to direct patients contact. The study provides a basis for further studies on the understanding trainees' level of satisfaction. We recommend that future studies to utilize a variety of methods including qualitative analysis to explore the following variables in-depth: safety environment in training centers, training in psychiatry subspecialties, supervision, research experiences.

We hope that, in the future, these examinations and others supporting research to be conducted regularly in SMSB to ensure the continuous monitoring of implementation of the new curriculum of psychiatry , as it help in establish well constructive

data that can guide the decision makers in planning of improving the training program.

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