

Using Statistical Methodology: Analyzing Perception and Readiness of Pharmacists to form Cooperative Societies in Akwa Ibom, Nigeria

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Authors' contributions

This work was carried out in collaboration among all the authors. Author SOA designed the study and performed the statistical analyses. Author GB coordinated the field study while JIA wrote the first draft and MSG edited the manuscript and managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

The pharmacists' slogan reads "as men of honour we join hands." This study was aimed at assessing the perception and readiness to forming/running cooperative societies from the perspectives of the pharmacists' technical groups in Akwa-Ibom State, Nigeria. A descriptive survey method was adopted using a structured questionnaire was used to obtain data bordering on respondents' socio-demographic status, perception of concept of cluster/cooperative groups alongside willingness to engage in such formation. A total of 156 respondents (male 61, 39 % and female 95, 61%) participated in the study. The distribution of technical group of respondents were community practice (CP) 65(42.0%), academia (AP) 20 (13.0%), industrial (IP) 25 (16.0%) and hospital practice (HP) 46(29.0%). Respondents who were currently part of a non-pharmacist-member group and pharmacist-member group were 31% and 2%, respectively. 99% of the Respondents agree that persons of same mind/interest should come together to achieve progress. A total of 35% of total respondents believe pharmacists have too many associations/groups already and it is burdensome adding more 93% of total respondents were not aware of any

pharmacists-only group around them while 75% of them believe forming such groups can empower pharmacists but 23% have a negative disposition to this notion. Respondents from CP had significantly favourable disposition to creating the cooperative group than IP ($p=0.0001$), AP ($p=0.023$), HP ($p=0.019$). Pharmacists in CP and AP are more ready to form cooperative society for common interest than their colleagues in other technical groups.

Keywords: Perception of pharmacists; cooperative society; disposition to group formation; readiness of pharmacists.

1. INTRODUCTION

Cooperative society is an association of persons who have formed and joined voluntarily a group to have a common end [1-2]. It is defined by the International Cooperative Alliance's statement on the cooperative identity as autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspiration through jointly owned and democratically controlled enterprise [3]. According to Nweze [4], the United Nations research on social development (1999) has positioned that cooperative societies are organizations legally framed as such, which are subject to organized supervisions which claims to follow cooperative principles. The group is usually a democratically controlled enterprise with members making equitable contributions to the capital required for takeoff and running. This therefore makes members have mutual ownership and with the expectation of joint participation. Persons with same profession, religion, tribal affiliations have formed cooperative societies [5-6]. Members have been reported to enjoy the peculiarities of such unions [7]. Government has also taken steps towards developing the economy by injecting credit into the cooperative subsector of the economy [8-9]. There is the need for a nationwide cooperative awareness campaign emphasizing the importance of forming cooperatives with appropriate socioeconomic characteristics to ensure that such cooperatives benefit from the service of development agencies created by government to serve them [8]. There is limited information in the literature on pharmacists engaged in cluster/cooperative societies.

Cooperative societies have been reported to create an environment of solidarity and accountability that can imbibe in members the confidence to take on leadership roles in various contexts. The importance of cooperative society, exploring different working conditions and as a vital issue in every community of the world has been reported [9]. The major problem confronting both old and young entrepreneurs is the issue of

financial support. Godwin [10] contend that the World Bank (2013) confirmed that a total number of 112 million Nigerians are living below poverty-line and may not be buoyant enough to raise capital for their anticipated business venture. Nigerian economy has a lot of potentials for growth and development but financial limitation incapacitates many prospective entrepreneurs. The untapped resources in Nigeria can be harnessed through the formation of cooperative movements [11].

In Malaysia and Bangladesh, cooperative societies have been reported to help improve the economic indices of these countries. Cooperative societies have been marked as value-led businesses and driven by political and ethical values with people-oriented sustainable developments [10]. The training and laws of pharmacy have not emphasized the need to form cooperative society but from the motto of the profession which says "as men of honour we join hands" this speaks volume in favour of forming unions comprising of pharmacists to foster the professional course, even at the grassroot levels.

There are quite a number of challenges facing pharmacist in terms of establishing a pivotal practice, as a young or older practitioner [12]. A number of limitations have been highlighted that can be overwhelming to a single person in terms of political, economic and social input [12-13]. Finance and moral support appear to be a major and anecdotal factor lacking for each individual that exists as a solo [14]. This study therefore was aimed at assessing the views of pharmacists practicing in the different arms of the profession in Akwa-Ibom state on their disposition to the merits and demerits of forming a pharmacist-centered cooperative society.

2. METHODOLOGY

2.1 Study Area

This prospective and descriptive study was conducted in 6 months (June 2019 to December

2019) in Akwa-Ibom State. The study respondents were accessed from randomly selected community pharmacies and public hospitals in the major cities namely (Ikot-Ekpene, Uyo and Eket) and the only School of Pharmacy (i.e. University of Uyo). A close-ended survey questionnaire was used to describe certain variables in relation to the population. The instrument used contained (A) the socio-demographics of the pharmacists (4 questions); (B) information on the knowledge and disposition of respondents to cooperative society (7 questions). The response options for A and B were scored on a 5-point modified Likert scale of strongly agree (5 points), Agree (4 points), Disagree (3 points), strongly disagree (2 points) and indifferent (1 point) [15-16]. The (C) section featured a set of dyadic [Yes/No] structured questions with 7 representing prioritized advantages/ merit of cooperative group and another 7 representing prioritized challenges/limitations to forming such group. The perspectives of each member of the different technical groups to these set of questions (advantages/benefits versus challenges/limitations) were computed as positive versus negative scores, respectively. The positive scores indicated readiness while the negative scores indicated unreadiness.

2.2 Sampling Method

The number of pharmacists registered in the state with community, industrial, academia and hospital-affiliations were ascertained from the Pharmacists Council of Nigeria (PCN) zonal office and numbers of respondents representing sample size for the different categories were calculated using Taro Yamane [17] sample size formula.

2.2.1 Inclusion and exclusion criteria

All pharmacists practicing in the state were eligible to take part in the study. Pharmacists who were not into community, academia and hospital practice in the state were excluded.

2.2.2 Data collection

Data obtained from the field were collated appropriately.

2.3 Statistical Analysis

The collated data were analyzed using the software, Statistical Product and Service Solutions SPSS Version 20, an IBM (USA)

product since 2009 [18]. Descriptive statistics was employed and arithmetic mean was used to obtain values for responses and compared with a decision point of 3.0 for questions in sections A and B. Mean values above 3.0 were considered significant readiness while below this value was regarded otherwise. Each of the questions was analyzed separately for respondents from each technical group. Similarly, questions in section C were computed and mean scores for the technical groups with respect to the negative or positive indicators were summatively obtained. One way analysis of variance (ANOVA) was employed for the independent variables to compare the means. T-test was subsequently employed to compare each group with the others. Statistical significance with confidence interval at $p < 0.05$ was considered in the study.

3. RESULTS

A total of 156 pharmacists participated in the study. Table 1 shows the socio-demographic characteristics of respondents. It also reveals the percentages of the respondents in each of the technical groups present in the entire study alongside the sub-percentages of the respective parameters. The age and years of experience of respondents in the IP setting was lower than for the other groups ($P < 0.05$). The respondents in the AP revealed significantly higher percentage with postgraduate education than the other groups ($P < 0.05$). Fig. 1 shows the disposition of respondents to the socioeconomic advantages of cooperative society. Similarly, the AP in this study presented a significantly higher (4.47) mean summative value for socioeconomic advantages of cooperative societies than the other technical groups with values for CP, IP and HP being 4.19, 2.67 and 3.47, respectively.

Fig. 2 depicts the respondents' perceived benefits and positive disposition to cluster/cooperative group formation/running. Based on the projected benefits of cooperative society, the AP and CP significantly projects positive indications for cooperative society formation/running than the IP or the HP ($P < 0.05$). With 70% cut off determination for respondents in the technical groups, AP (0.86) and CP (0.57) present responses in favour of forming/running cooperative societies as pharmacist-only groups compared with IP (0.43) and HP (0.43), ($P < 0.05$). Fig. 3 presents the disposition of respondents to the issues of inability/non-capacity of pharmacists to efficiently manage the cooperative society, when it is established.

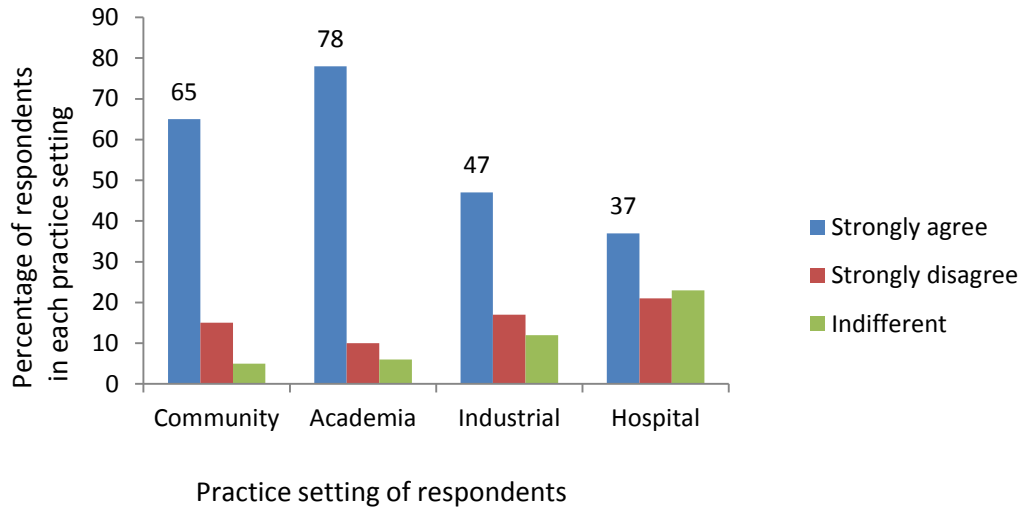


Fig. 1. Disposition of respondents to socioeconomic advantage of cooperative society for pharmacist in their cluster settings

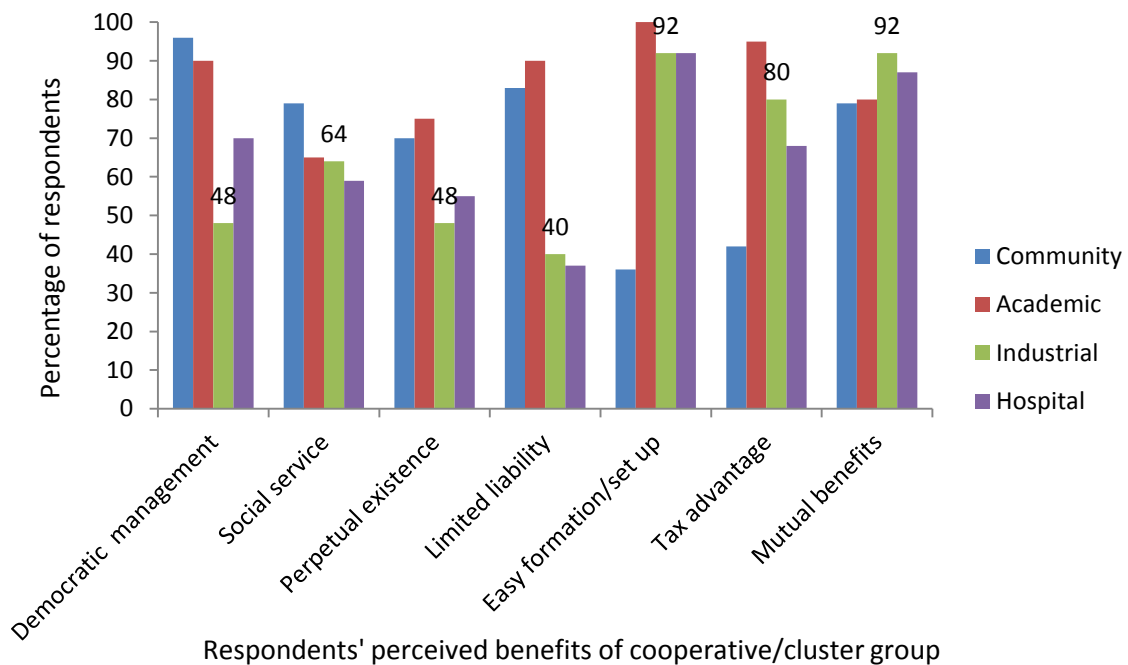


Fig. 2. Respondents perceived benefits and positive disposition to cluster group formation

The mean cumulative score point for CP was 1.87 indicating that CP believe pharmacists can effectively handle and manage the cluster group formed. The CP have significantly lower score than AP (3.14), IP (2.46) and HP (3.38), ($P < 0.05$).

Study depicts the respondents' perceived limitations to the effective and efficient running of the cluster group. At 70 percent cut off, misuse of

funds, joining considered an added burden, inefficiency and possible financial losses were significantly highlighted among other reasons, by at least two technical groups.

4. DISCUSSION

The study was aimed at assessing the perspectives of pharmacists in their technical arms to the concept of creating a pharmacist-

based cluster/cooperative group. The respondent's weighted mean responses on each of the items were considered alongside the grand mean. The outcome for each question was individually considered and thereafter summatively. These alluded to a favourable or otherwise response of yearning for cooperative societies to be formed. This implies that responses are interpreted in favour of formation or otherwise of cluster group. The advantages or demerits of cooperative societies have also been projected for respondents to adjudge, within their respective technical groups.

All the technical groups have favourable response to the formation of pharmacist-borne cooperative society to enhance business/professional promotion by reason of the socioeconomic advantages inherent in the concept. Cooperative societies have been noted to cause significant poverty reduction and promote business activities in Nigeria. A study by Adekola and Dokubo [19] with 2355 respondents, members of one of 21 registered cooperative societies, whose activities cover loans and thrift, expressed an outcome with significant empowerment of members/respondents. This

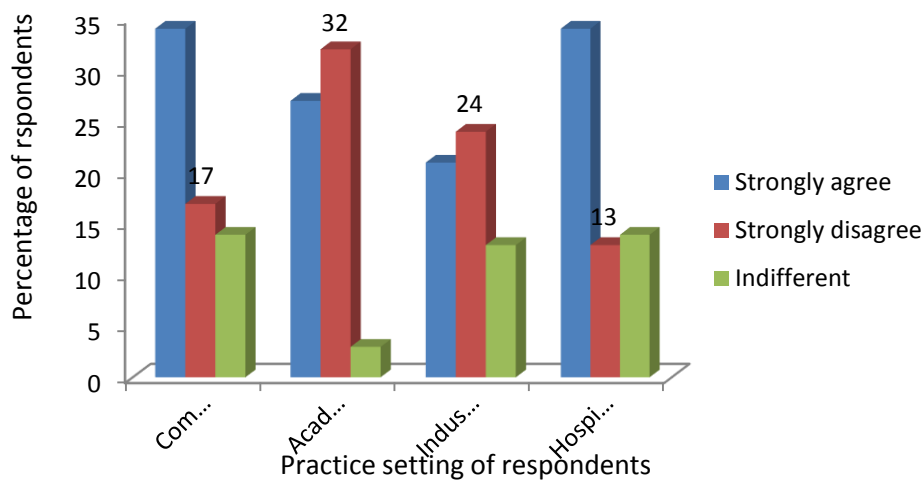


Fig. 3. Disposition of respondents to non-capacity of pharmacists to efficient management of the formed society

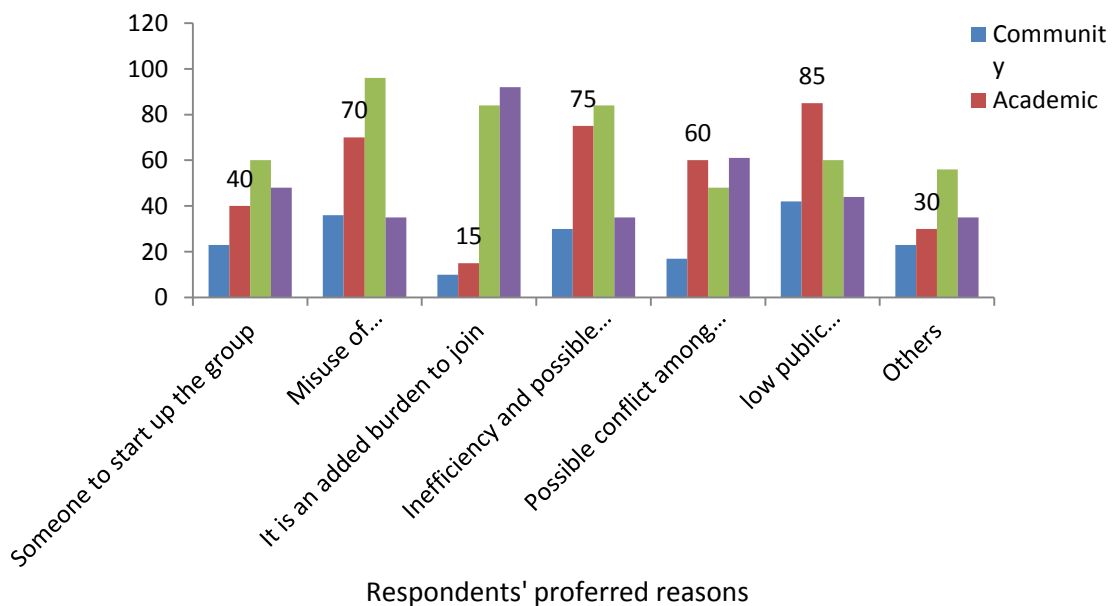


Fig. 4. Limitations to forming cooperative/cluster groups

Table 1. Socio-demographic characteristics of respondents

Parameters n (%)	Total 156(100)	Community 65 (42)	Academia 20(13)	Industrial 25(16)	Hospital 46(29)
Sex n (%)					
Male	84(54)	22 (34)	13(65)	10(40)	39(85)
Female	72(46)	43(66)	7(35)	15(60)	7(15)
Age	46.6±13.9	41.6±11.7	48.4±12.8	35.8±8.6	38.3±10.8
Years of experience	17.8 ±12.9	15.6±10.4	20.3±9.6	9.7 ±7.2	14.3 ± 10.6
Postgraduate education	52(33)	12(18)	18(90)	3(12)	19(41)

**Percentage of subgroup in parenthesis and values to the nearest whole number*

Table 2. Analysis of scores of the sub-population to cluster group formation

Group	Positive score		Negative score	
	Mean Score	SD	Mean Score	SD
Community	69.286	22.149	25.857	11.007
Academic	85.0	12.247	53.571	25.774
Industrial	66.286	21.892	69.714	18.016
Hospital	66.857	18.898	50.0	20.817

study corroborates the findings by Adekola and co-worker in terms of formation of cooperative society and the poverty eradication advantage. There was no statistically significant difference among the groups on their perception of the merits of cluster group with respect to poverty reduction ($P>0.05$). All respondents in this study however responded favourably and believe that empowerment is achievable through the cluster groups. Empowerment and poverty reduction are however synonymous. In this study, the AP has significantly higher percentage of members with postgraduate education than the other groups. Exposure and educational height have been associated with decisions to join a group. Anticipatory socialization has been reported to come from an individual's desire to join a group and this is related to education being an agency of socialization [20].

Fig. 2 predicates on the knowledge base of pharmacists in the different technical groups. The AP showed a well-versed knowledge/perception of the inherent characteristics and advantages of cooperative formations and concept more than the other groups. The AP being the educational and training organ of the profession is expected to provide the lead in favour or otherwise such proposed empowerment tool.

Answers on creating more solidarity among pharmacists revealed a cumulative score of 3.9. This means that respondents believe that forming the cluster group will help pharmacists fraternize more and see things from the same view point. Pharmacists being the acclaimed and widely recognized custodian of drugs have expressed some challenges in discharging this responsibility. Respondents have expressed a cumulative point of 4.5 signifying that forming cluster groups will enhance their potentials to overcome the inherent challenges in this regard. Concerning the response to forming cooperative societies constituting an extra burden to the social responsibilities of pharmacist received a cumulative point of 2.3. This means that respondents do not agree that forming a cooperative group will add extra burden on them. This, therefore, suggests that respondents are willing to embrace the concept of cooperative society in their communities. One of the problems faced by cooperative society includes the challenge of educating, training and retraining of members and officers. A cooperative society with a strong component of education can easily lose its essential character that

distinguishes it as a human and physical character [21].

Some cooperatives have their own internal handicap formed by themselves. The voluntary and democratic nature without sufficient imposed discipline makes members need common consent and persuasion for action [22]. In the light of this fact, respondents believe that clusters so formed may have some inherent limitations in this regard. Some respondents opine that administration of the formed groups will be a serious challenge. According to Yunusa et al [23] and Hansmann [24], it is the quality of leadership that determines the face of the cooperative society. A well-run cooperative may provide a pool of funds from which individual members take loan to meet respective needs. If cooperatives are formed by pharmacists, funds can be made into investments in business ventures, stocks or real property that can generate returns that could be shared as dividend to members.

The mean score for perceived benefits for cluster group formation for the different technical groups were considered and found to have no significant difference among the groups ($P>0.05$). All the technical groups believed in the advantages of cluster/cooperative groups with respect to achieving professional satisfaction as pharmacists. The mean score for perceived challenges to cluster group formation for each group differed widely ($p<0.05$). The community pharmacists had low score to perceived limitation to forming cluster group. While comparing the mean score for community pharmacists with higher propensity to pharmacists in academia (AP) ($p=0.023$), industrial pharmacist (IP) ($p=0.0001$) and hospital pharmacist (HP) ($p=0.019$). All the remaining groups (i.e., academia, industrial and hospital) perceived higher hitches to formation and smooth running of cooperative groups by pharmacists. There was however no statistically significant difference in the perception of limitation/challenges amongst these other groups.

5. CONCLUSION

Based on the outcome of this study, community pharmacists are well disposed to forming cluster or cooperative societies based on their perception of their knowledge and perceived advantages alongside considered challenges to such move. The findings of this study have shown that pharmacists are ready to initiate

pharmacists' clusters or cooperative societies in their environments.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s). All respondents acceded to our consent form as strict confidentiality was assured.

ETHICAL APPROVAL

Ethical approval was given by the University of Uyo Research Ethics Committee.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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